

REPORT N° 700342223

EDITH NEVILLE PRIMARY SCHOOL

ADDENDUM GROUND INVESTIGATION REPORT

CONFIDENTIAL

JUNE 2017

wsp

EDITH NEVILLE PRIMARY SCHOOL

ADDENDUM GROUND INVESTIGATION REPORT

London Borough of Camden

Confidential

Project no: 70034223

Date: June 2017

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1 INTRODUCTION AND OBJECTIVES

1.1 AUTHORISATION

WSP was instructed by the London Borough of Camden ('the client') to undertake a supplementary Ground Investigation Report for Edith Neville School, Kings Cross, London NW1 1DN ('the site'). The site location is illustrated on **Figure 1**.

1.2 SITE INFORMATION

The site comprises the eastern portion of Edith Neville School which includes a playground area, areas of landscaping and an existing single story building. The site is bound by Purchase Street to the east, residential housing to the north and by the remainder of Edith Neville School to the south and west.

A number of previous reports have been prepared concerning geo-environmental and geotechnical risks at the site:

- Pell Frischmann. Phase 1 Geo-Environmental Desk Study. Edith Neville Primary School and Children's Centre. May 2013. Ref: R12794/G001A
- ESG. Factual and Interpretative Report on Ground Investigation (Volumes 1 and 2). Central Somers Town, London. September 2016. Ref: D5061-15/1

This report should be read in conjunction with the above reports, and is provided as an addendum to the Factual and Interpretative Report prepared by ESG.

It is understood that the site will be redeveloped to comprise a new school building following the demolition of existing buildings and removal of playground.

1.3 OBJECTIVES

The scope of the investigation was provided by the client, and was understood to be required as part of a pre-commencement planning condition and to provide further information in the north-east of the site where limited investigation had previously been undertaken.

1.4 SCOPE OF WORKS

The scope of works carried out comprised:

- Five window sample boreholes to a maximum depth of 2m bgl;
- Three hand pits to locate utilities;
- Three trial pits to investigate boundary wall footings;
- Chemical laboratory analysis of eight samples comprising metals, hexavalent chromium, pH, total petroleum hydrocarbons (TPH), poly-aromatic hydrocarbons (PAH), soil organic matter (SOM), volatile and semi-volatile organic compounds (VOCs and SVOCs) and waste assessment criteria (WAC) testing; and;
- Production of an addendum report.

1.5 REGULATORY CONTEXT AND GUIDANCE

This supplementary Ground Investigation Report has been prepared with due regard to Contaminated Land Guidance documents issued by the Department for Environment, Food and Rural Affairs (and its predecessors) including Contaminated Land Report 11 (CLR 11), and in general accordance with the British Standard “Investigation of potentially contaminated sites - Code of practice” BS EN 10175 and the British Standard “Code of practice for ground investigations” BS5930:2015. The methods used follow a risk-based approach, with the potential environmental risk assessed qualitatively using the ‘source-pathway-receptor contaminant linkage’ concept to assess risk as introduced in the Environmental Protection Act 1990 (EPA, 1990).

1.6 CONFIDENTIALITY STATEMENT AND LIMITATIONS

This report is addressed to and may be relied upon by the following parties:

London Borough of Camden

This assessment has been prepared for the sole use and reliance of the above named party as outlined in the previously issued WSP standard terms and conditions. This report needs to be read and used in full.

This report has been prepared in line with the WSP proposal and associated notes. This report shall not be relied upon or transferred to any other parties without the express written authorisation of WSP. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

This report is not intended to comprise a full assessment of the contamination risk at the site and solely provides additional information to be used in conjunction with the “Factual and Interpretative Report on Ground Investigation. Central Somers Town, London” Produced by ESG in September 2016 (Ref: D5061-15/2).

The results of the asbestos testing is factually reported and interpretation is given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment.

No geotechnical information has been gathered during this assessment and no geotechnical interpretation is provided.

General limitations of the assessment are included in **Appendix B**.

2 SITE INFORMATION

2.1 SITE SUMMARY

Site Address	Edith Neville School, Kings Cross, London NW1 1DN
Site Location	The site comprises the eastern portion of Edith Neville School, which includes a playground area, areas of landscaping and an existing single story building. The site is bound by Purchase Street to the east, residential housing to the north and by the remainder of Edith Neville School to the south and west.
Current Site Use	The site is currently used as part of a school including a playground and single storey building.
Site History	Prior to development to a school in the late 1800s the site comprised residential properties. The footprint of the school has been altered a number of times since.

2.2 GEOLOGY AND HYDROGEOLOGY

BGS Map Sheet 256 – North London (1:50,000, 2006) indicates that the geology at the site comprises Made Ground overlying the London Clay Formation.

The aquifer status of the London Clay Formation is designated as an Unproductive Stratum. Groundwater may be present in granular pockets of Made Ground.

2.3 HYDROLOGY

Regents Canal is located to the west of the site, and is culverted beneath Charrington Street and Ossulston Street.

2.4 PREVIOUS INVESTIGATION

The previous investigation undertaken by ESG in September 2016 comprised 11 boreholes to a maximum depth of 30.3m bgl, four trial pits to a maximum depth of 2.2m bgl and 46 window sampler boreholes to a maximum depth of 7.65m bgl. The ESG investigation was undertaken over a larger area than the current investigation.

The ground investigation undertaken by ESG in September 2016 identified Made Ground overlying Alluvium, the London Clay Formation and the Lambeth Group. The Alluvium was only encountered in the west of the site.

ESG encountered groundwater in six of the ten boreholes advanced, at depths between 1.1m and 25.3m within all of the geological units encountered.

Observations of contamination in the exploratory holes advanced historically included potentially asbestos containing materials in a number of the window sampler boreholes (WS7, WS7B, WS9, WS10, WS11A, WS12, WS12A, WS13 WS15, WS17 and WS17A). These exploratory holes were

located in the east of the school area, i.e. the current site, and in the central area. The potentially asbestos containing samples were not submitted for laboratory analysis.

Fifteen soils samples, predominantly from the Made Ground, were submitted for laboratory testing comprising metals, cyanide, phenols, sulphates, total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB) and asbestos.

The samples were screened against Generic Assessment Criteria (GAC) for a residential without plant uptake end-use.

Exceedances of the GAC were recorded for lead, dibenzo(a,h)anthracene, benzo(a)anthracene and TPH (C21-C36) in one sample each. The GAC for benzo(a)pyrene was exceeded in five samples from various locations across the site at depths up to 2.6m bgl.

Asbestos was detected in three of the samples analysed, and were quantified at a maximum of 0.047% by weight.

Indicative waste classification undertaken indicated that the majority of samples analysed would be classified as non-hazardous, apart from one sample which would be classified as hazardous based on elevated TPH concentrations. As asbestos detected was all quantified at <0.1%, the soils would be classified as non-hazardous due to asbestos

However, it was noted that due to the visual evidence of asbestos on-site any asbestos containing materials (ACM) noted on site during earthworks would be likely to be classified as hazardous waste.

3 SITE INVESTIGATION AND ASSESSMENT RATIONALE

3.1 FIELDWORKS

The ground investigation works were completed by WSP from 31 May to 01 June 2017 and comprised the scope of works detailed in **Section 1.4**.

Figure 2 illustrates the locations of the exploratory holes advanced, and the exploratory hole logs are attached in Appendix C.

The ground investigation was undertaken in general accordance with techniques outlined in BS5930:2015 “Code of Practice for Site Investigations” and BS10175:2011 “Investigation of Potentially Contaminated Sites”. The investigation was carried out under the supervision of a qualified and experienced engineer from WSP.

Prior to works commencing, utility service clearance was undertaken by a specialist sub-contractor. Each location was hand pitted in accordance with underground utilities avoidance procedure.

A summary of the ground investigation works are presented in **Table 3.1**.

Table 3.1 Summary of Ground Investigation Works

METHOD	NUMBER	LOCATIONS	AREA	RATIONALE	DEPTH (M BGL)
Window sample boreholes	5	SS1-SS5	Playground area	To collect samples for chemical analysis.	1.60 to 2.00
Hand pits	3	TP1-TP3	Northern boundary wall	To investigate the depth of boundary wall footings.	0.75 to 1.00
Hand pits	3	UT1-UT3	Playground area	To investigate the location of unknown utilities.	0.85 to 1.00

All hand pits and boreholes were reinstated using cold lay tarmac prior to leaving site.

3.2 SAMPLING AND LABORATORY CHEMICAL ANALYSIS

All analysis was undertaken at the UKAS and MCERTS accredited laboratory of ALS and field sampling was undertaken in accordance with industry guidance (BS ISO 10381-2). The results and analysis are presented within **Section 5**.

The sampling was undertaken to provide lateral coverage of the playground area, with samples collected from ground level to 2m bgl. All samples were taken from the Made Ground.

4 GROUND CONDITIONS

4.1 GROUND CONDITIONS ENCOUNTERED

The ground conditions encountered in this investigation are summarised in **Table 4.1**.

Table 4.1 Summary of strata encountered in May/June 2017 investigation

STRATUM NAME	DEPTH TO BASE OF STRATA (MBGL)*	ELEVATION OF BASE OF STRATA (MAOD)*	THICKNESS (M)*	LOCATIONS OBSERVED
Topsoil	0.10	20.14	0.10	SS4 only
Made Ground	1.8 to >2.0	18.28 to <18.08	1.8 to >2.0	Observed in all locations advanced
London Clay Formation	>2.0	<18.08	>0.20	Observed in SS1 only

MADE GROUND

The Made Ground encountered was of variable composition, but generally comprised tarmac at the surface underlain by gravelly sand and gravels of concrete, tarmac, flint and brick. This layer was generally underlain by potential reworked natural material of brown gravelly clay where the gravel is flint.

LONDON CLAY FORMATION

The London Clay Formation was only encountered in one borehole, SS1, and comprised firm brown mottled grey clay. However, the Made Ground noted as potentially reworked material is likely to comprise London Clay.

4.2 GROUNDWATER

No groundwater was encountered during the May/June 2017 investigation.

4.3 OBSERVATIONS OF CONTAMINATION

Although Made Ground was observed in all locations advanced, comprising man-made materials, no visual or olfactory evidence of contamination was noted.

4.4 UTILITIES

Three pits were advanced along service traces identified on-site by remote methods. Two of which were along services identified on drawing 12681UG-01 produced by Survey Solutions and provided by the client. The third service trace investigated was not shown on drawing 12681UG-01 and was identified during site works.

The location of the service traces and utility pits are illustrated on **Figure 2**. Details of the utilities identified are shown in **Table 4.2**.

Table 4.2 Details of utilities identified

EXPLORATORY HOLE	DEPTH TO CONCRETE (M BGL)	APPROXIMATE CASEMENT WIDTH (MM)
UT1	0.85	150
UT2	0.95	200
UT3	0.75	150

Photographs of the utilities pits are attached to the exploratory hole logs in **Appendix C**. No identification of the utilities could be undertaken due to the concrete surround. It appeared that the three services investigated were disconnected; however, this would require confirmation from the utility providers.

The utility trace associated with UT1 appeared to cross the playground and enter the existing building via a pipe up the wall into the school building.

Live services appear to come into the building from the north-west as shown in drawing 12681UG-01. It is thought these services have replaced the three service lines detected running across the playground.

4.5 BOUNDARY WALL FOUNDATIONS

Three pits were undertaken along the northern boundary wall as shown in **Figure 2**. Photographs of the trial pits are attached to the exploratory hole logs in **Appendix C**. Details of the wall height and base are provided in **Table 4.3** and illustrated in **Figure 3**.

Table 4.3 Wall dimensions

EXPLORATORY HOLE	BASE OF WALL (M BGL)	TOP OF WALL (M ABOVE GROUND LEVEL)	TOTAL HEIGHT OF WALL (M)
TP1	0.94	1.89	2.83
TP2	0.56	1.82	2.32
TP3	0.70	1.83	2.63

5

CHEMICAL RESULTS

5.1

GENERIC QUANTITATIVE RISK ASSESSMENT

HUMAN HEALTH GQRA

In order to undertake a GQRA (Stage 2), contaminant concentrations need to be compared to appropriate generic assessment criteria. Current UK industry practice is to use, as first preference, UK SGVs which are generic assessment criteria published by the Environment Agency and derived using the Contaminated Land Exposure Assessment model (CLEA). Where these are not available and in order to provide a consistent methodology for the assessment of various contaminants, a series of Generic Assessment Criteria (GAC) screening values have been calculated by WSP using CLEA V1.071, a computer modelling tool designed to assess human health related risks posed by contaminated soil.

The contaminant concentrations have also been screened against Category 4 Screening Levels (C4SL) as outlined by Defra. The C4SLs provide a less conservative toxicological/exposure assumption. The impact assessment was agreed during the revision of the Part 2A Statutory Guidance and was developed on the basis that C4SLs could be used under the planning regime as well as within Part 2A.

COMPLIANCE CRITERIA

The proposed development comprises a new school building. Based on the proposed future use, and the criteria used in previous reporting, soil contaminant concentrations have been compared against a SGV/GAC/C4SL value for a residential without plant uptake scenario.

Two samples were tested for soil organic matter (SOM). The SOM contents were 1.53% and 6.02% in the two samples tested. Therefore, the samples from this site have been compared to the values relating to a conservative SOM of 1%.

It should be noted that the GAC used in this supplementary investigation differ slightly to those used by ESG in September 2016.

ANALYSIS OF DATA

The ground investigation comprised the excavation of window sample exploratory holes across the playground area. A direct comparison of the GAC/SGV/C4SLs to the analytical results of selected soil samples has been undertaken. Laboratory certificates for the recent investigation are attached in **Appendix D**.

The exceedances are shown in **Table 5.1**.

Table 5.1 Exceedances against residential without plant uptake criteria

ANALYTE	POINT ID	DEPTH	RESULT (MG/KG)	GAC (MG/KG)	C4SL (MG/KG)	UNITS	STRATUM
Benzo (a) pyrene	SS2	0.5 - 0.5	6.97	-	5.3	mg/kg	Made Ground Granular
	SS3	0.5 - 0.5	13.1	-	5.3	mg/kg	Made Ground Granular
Beryllium	SS3	0.5 - 0.5	3.76	1.7	N/A	mg/kg	Made Ground Granular
Lead	SS2	0.5 - 0.5	725	-	310	mg/kg	Made Ground Granular
	SS2	1.2 - 1.2	313	-	310	mg/kg	Made Ground Cohesive

ASBESTOS

Eight soil samples were screened for asbestos during the investigation. Two samples of Made Ground tested positive for asbestos. The results are presented in **Table 5.2**.

Table 5.2 Summary of Asbestos Results

EXPLORATORY HOLE	DEPTH (M BGL)	STRATUM	FIBRE TYPE	RESULTS OF ASBESTOS QUANTIFICATION
SS1	0.40	Made Ground	Amosite (Brown)	Gravimetric % - <0.001 PCM % - <0.001 Total % - <0.001
SS3	0.50	Made Ground	Amosite (Brown)	Gravimetric % - <0.001 PCM % - <0.001 Total % - <0.001

5.2 PRELIMINARY WASTE CLASSIFICATION

HAZARDOUS WASTE ASSESSMENT

Dry soil test results have been entered into HazWasteOnline in order to complete a hazardous properties assessment. The output sheets are presented in **Appendix E**.

Due to chromium VI being below the limit of detection (LOD) and, based on the current and previous site uses, the species of zinc chromate has been altered to zinc sulphate, which reduces SS2 from hazardous to non-hazardous waste.

It has been assumed that the old/weathered hydrocarbons in a soil matrix are unlikely to be flammable and have therefore increased the threshold of TPH to 1,000mg/kg, which changes all samples from potentially hazardous to non-hazardous.

It should be noted that asbestos was detected in two of the samples, with a quantification result less than 0.001%.

If there is intent to discard the soil (i.e. remove the soil from site) then the material would be classified as non-hazardous on the basis of asbestos, although liaison with a waste broker / receiving landfill regarding acceptance criteria will be required.

In summary, the eight samples tested and analysed on HazWasteOnline were all returned as non-hazardous.

WASTE ASSESSMENT CRITERIA (WAC) ANALYSIS

An initial WAC analysis has been completed on two samples as part of this assessment to provide a preliminary classification of soils destined for off-site disposal to a suitably licensed landfill. The results are presented within the chemical laboratory certificates in **Appendix D**. Based on the WAC analysis for SS4 at 0.5m bgl the soil would likely be accepted to an inert landfill. WAC analysis for sample SS2 at 0.5m bgl could not be designated as inert due to elevated total organic carbon, antimony, sulphate and total dissolved solids. This material is therefore likely to be designated to a non-hazardous landfill.

WASTE CLASSIFICATION CONCLUSIONS

All samples have been classified as non-hazardous waste using HazWasteOnline. WAC analysis has indicated that should the soil be disposed of off-site soil from sample SS4 is likely to be accepted to an inert landfill and soil from sample SS4 is likely to be designated to a non-hazardous landfill.

This information should be used in conjunction with that gathered and report during the ESG Factual and Interpretative Ground Investigation Report.

Disposing of these soils off-site as non-hazardous waste is at the Landfill Operator's discretion based on the above soil classification data and Waste Assessment Criteria (WAC) data.

If there is a requirement to re-use the material on site then its suitability and certainty of use become key factors due to the asbestos detections. Attention is drawn to the publication The Definition of Waste: Development Industry Code of Practice, Contaminated Land: Applications in Real Environments (CL:AIRE), Version 2, March 2011. Should soils be retained on site in their current condition and position then the site owner has a duty of care under CAR to implement an asbestos management plan.

6 CONCLUSIONS AND RECOMMENDATIONS

GROUND INVESTIGATION

The ground conditions encountered in the exploratory holes advanced were consistent both with the expected geological sequence from BGS mapping and with the previous investigation undertaken by ESG in September 2016.

The ground conditions encountered in this investigation comprised Made Ground overlying the London Clay Formation. Although man-made materials were noted in Made Ground no visual or olfactory evidence of contamination was identified.

No groundwater was identified during the investigation.

HUMAN HEALTH RISK ASSESSMENT

Exceedances of residential without plant uptake Generic Assessment Criteria (GAC) and Category 4 Screening Levels (C4SLs) were recorded for benzo(a)pyrene, beryllium and lead. Asbestos was detected in two of the eight samples analysed, and was identified as amosite. Quantification determined that the samples contained less than 0.001% asbestos.

The human health risk assessment results are similar to those reported by ESG, it is considered that the recommendations made in the ESG September 2016 Interpretative Ground Investigation Report remain valid. Primarily, the risk to human health and controlled waters was thought to be mitigated by the installation of hardstanding over the majority of the site. ESG recommended:

- Use of a clean cover layer and geotextile membrane in areas of soft landscaping;
- Further assessment of asbestos containing materials and asbestos quantities is likely to be required in order to establish appropriate methods of management/mitigation during the construction phase. An asbestos in soils management plan may be required to detail how groundworks should be carried out;
- Short term risks to construction workers should be managed by appropriate PPE, hygiene measures and risk assessment. These measures should account for the presence of asbestos at the site;
- An asbestos management plan should be put in place for the construction phase as a minimum precaution; and
- The potential presence of carbon dioxide in the ground associated with Made Ground should be taken into account when planning potential work in enclosed spaces including excavations.

PRELIMINARY WASTE CLASSIFICATION

Generally, the samples analysed during this investigation were classified as non-hazardous based on both the HazWasteOnline assessment, and laboratory WAC testing. However, as noted by ESG during their investigation potentially asbestos containing materials were observed on site and not submitted for laboratory testing. If asbestos containing materials are noted during earthworks it is likely that the material would be classified as hazardous.

Regarding asbestos, if there is a requirement to re-use the material on site then its suitability and certainty of use become key factors. Attention is drawn to the publication The Definition of Waste:

Development Industry Code of Practice, Contaminated Land: Applications in Real Environments (CL:AIRE), Version 2, March 2011.

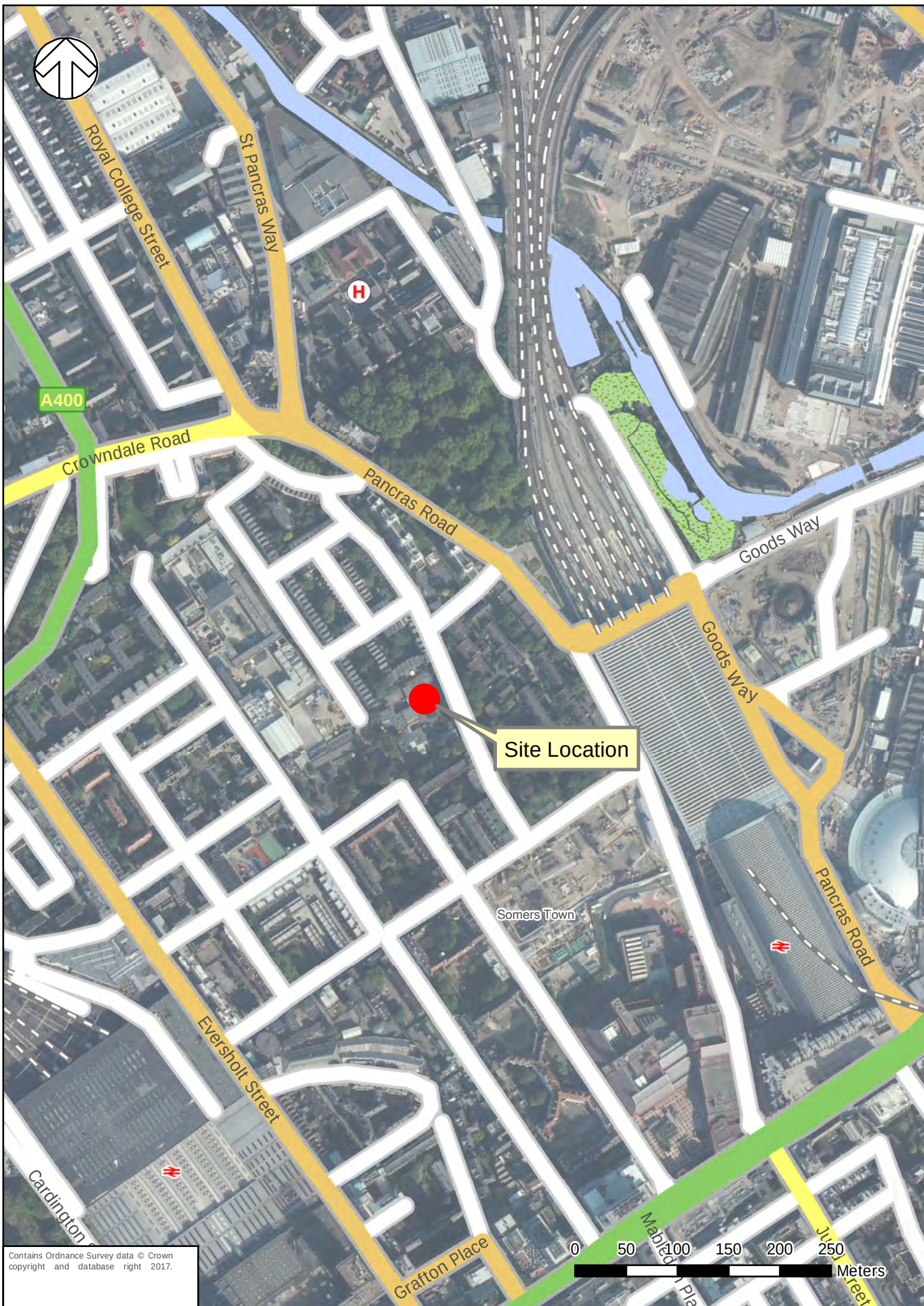
Disposing of these soils off-site as non-hazardous waste is at the Landfill Operator's discretion based on the above soil classification data and Waste Assessment Criteria (WAC) data.

Appendix A

FIGURES

APPENDIX A-1

FIGURE 1



Contains Ordnance Survey data © Crown copyright and database right 2017.



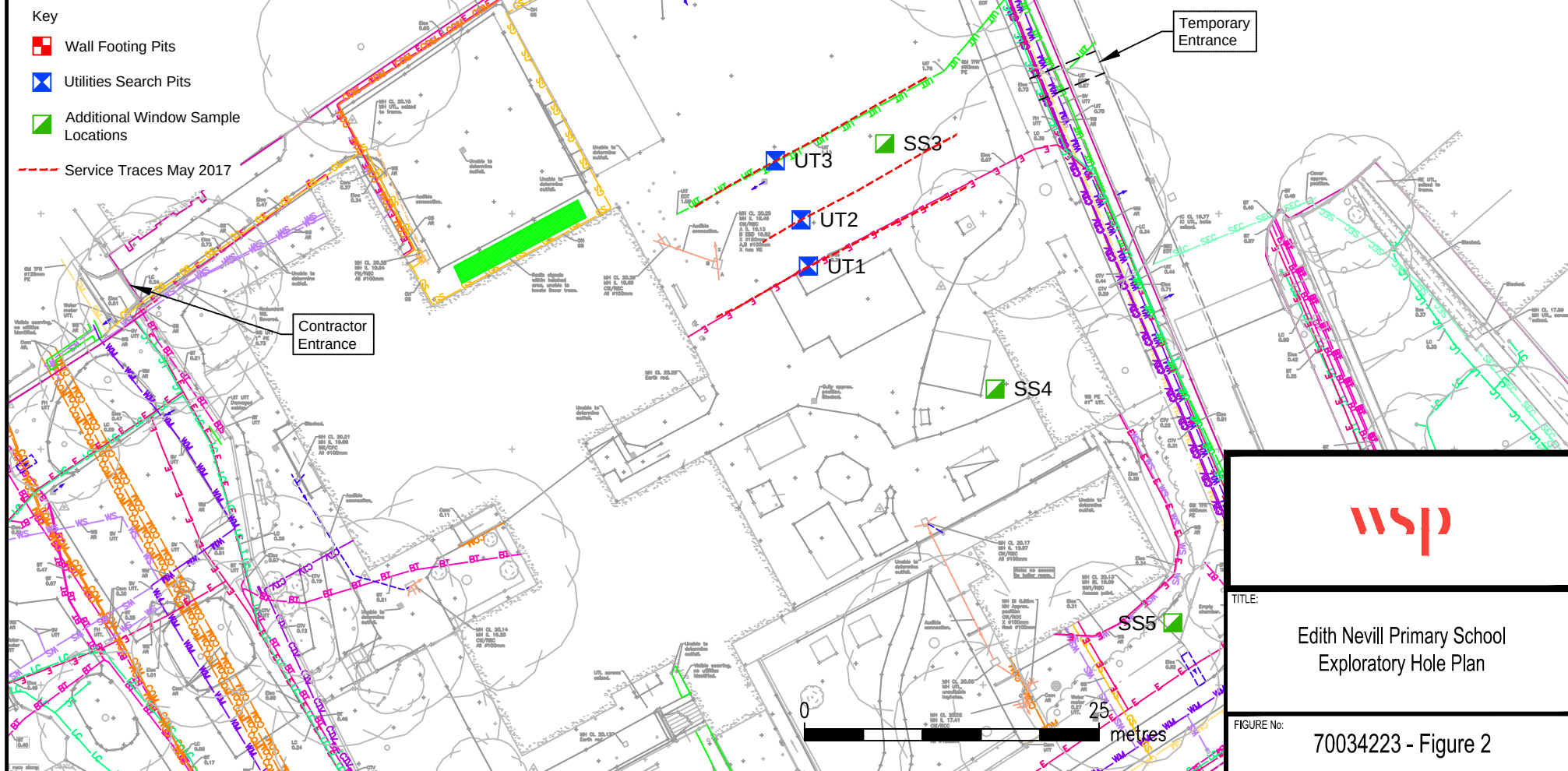
TITLE:
 Edith Nevill Primary School
 Site Location Plan

FIGURE No:
 70034223 - Figure 1

APPENDIX A-2

FIGURE 2

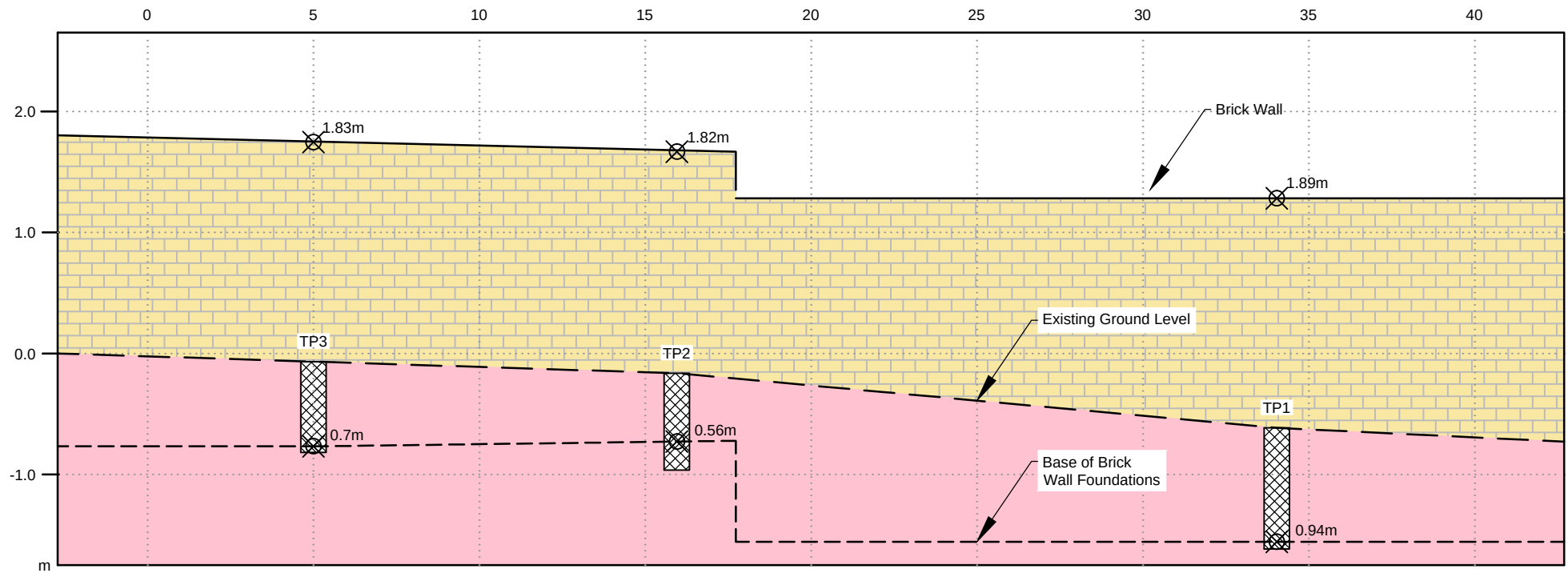
ID	EASTINGS	NORTHINGS	LEVEL
SS1	529749.202	183251.788	20.081
SS1A	529750.686	183253.663	19.894
SS2	529739.634	183240.751	20.148
SS3	529751.649	183225.953	20.084
SS4	529761.009	183205.127	20.242
SS5	529776.103	183185.281	Overgrown
TP1	529749.458	183258.012	19.733
TP2	529733.85	183248.874	20.185
TP3	529724.779	183242.716	20.281
UTP1	529745.163	183215.561	20.257
UTP2	529744.541	183219.481	20.175
UTP3	529742.343	183224.496	20.105



APPENDIX A-3

FIGURE 3

This is a generalised section based on ground conditions encountered in exploratory holes.
Actual ground conditions including depths and the properties of strata may vary.



Key
 Made Ground

Not to Scale

wsp

TITLE:

Edith Nevill Primary School
Section A-A

FIGURE No:

70034223 - Figure 3

Appendix B

GENERAL LIMITATIONS

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.
2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.
3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.
4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.
6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.
7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.
8. WSP UK Limited does not warrant work / data undertaken / provided by others.

INTRUSIVE INVESTIGATION REPORTS

Coverage: *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

9. The investigation has been undertaken to provide information concerning either:
 - i. The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
 - ii. Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.
10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.
11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.
12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.
13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.
14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.
15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.
16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.
17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.
19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.
20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.
22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.
24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.
25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All

costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

GEOTECHNICAL DESIGN REPORT (GDR)

- 26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

- 27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.
- 28. The data is presented and will be compared with assessment criteria.

Appendix C

EXPLORATORY HOLE LOGS

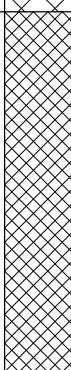
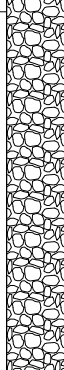
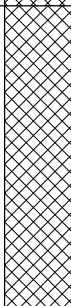
 WSP Parsons Brinckerhoff Telephone: Fax:		WINDOW SAMPLE LOG		Hole No. SS1	
Project Edith Neville		Sheet 1 of 1			
Job No 70034223		Client London Borough of Camden		Date 01-06-17 01-06-17	
Contractor / Driller CJA		Method/Plant Used Terrier		Logged By AEM	
Co-Ordinates (NGR) E 529749.202 N 183251.788		Ground Level (m AOD) 20.081			

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kNm2)	P. Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. mm
0.40-0.40	ES	.					19.98	(0.10) 0.10	MADE GROUND. Hard red/grey TARMAC.		TARMAC	
							19.93	0.15	MADE GROUND. Dark brown gravelly SAND. Coarse gravel of cement and tarmac.		GMG	
									MADE GROUND. Brown sandy GRAVEL of flint, brick and concrete.		GMG	
1.50-1.50	ES	.					19.38	0.70	MADE GROUND. Firm brown/grey slightly sandy slightly gravelly CLAY. Coarse gravel of brick and flint. (Possible reworked natural),		CMG	
							18.28	1.80	WEATHERED LONDON CLAY. Firm brown mottled grey CLAY.		LC	
							18.08	2.00				

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing
						General Remarks Hole terminated at 2.0m bgl. No groundwater encountered. No visual or olfactory contamination identified.					
Scale 1:12.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

08 WSP WINDOW SAMPLE LOG EDITH NEVILLE LOGS.GPJ WSPTEMPLATE1.03.GDT 7/6/17

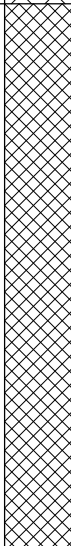
 WSP Parsons Brinckerhoff Telephone: Fax:		Project Edith Neville		Hole No. SS2	
Job No 70034223		Client London Borough of Camden		Date 01-06-17 01-06-17	
Contractor / Driller CJA		Method/Plant Used Terrier	Logged By AEM	Co-Ordinates (NGR) E 529739.634 N 183240.751	Ground Level (m AOD) 20.148

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kNm2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. mm
0.50-0.50	ES	.					20.05	(0.10) 0.10	MADE GROUND. TARMAC.		TARMAC	
							19.95	(0.10) 0.20	MADE GROUND. Brick GRAVEL.		GMG	
							19.25	0.90	MADE GROUND. Brown clayey gravelly SAND. Coarse gravel of brick and slag.		GMG	
1.20-1.20	ES	.					18.65	(0.60)	MADE GROUND. Soft grey green sandy gravelly CLAY. Coarse gravel of flint. (Possible reworked natural).		CMG	
							18.15	2.00	MADE GROUND. Soft brown mottled grey sandy slightly gravelly CLAY. Coarse gravel of flint. (Possible reworked natural).		CMG	

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing
						General Remarks Hole terminated at 2.0m bgl. No groundwater encountered. No visual or olfactory contamination identified.					
Scale 1:12.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

08 WSP WINDOW SAMPLE LOG EDITH NEVILLE LOGS.GPJ WSPTEMPLATE1.03.GDT 7/6/17

 WSP Parsons Brinckerhoff Telephone: Fax:		Project Edith Neville		Hole No. SS3	
Job No 70034223		Client London Borough of Camden		Date 01-06-17 01-06-17	
Contractor / Driller CJA		Method/Plant Used Terrier	Logged By AEM	Co-Ordinates (NGR) E 529751.649 N 183225.953	Ground Level (m AOD) 20.084

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kNm2)	P. Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. mm
0.50-0.50	ES						19.98	(0.10) 0.10	MAD GROUND. TARMAC.		TARMAC	
							19.78	(0.20) 0.30	MADE GROUND. Brown / yellow slightly clayey gravelly SAND. Coarse gravel of concrete.		GMG	
							19.58	(0.20) 0.50	MADE GROUND. Tarmac and road sub-base GRAVEL.		GMG	
							18.98	(0.60) 1.10	MADE GROUND. Brown gravelly SAND. Coarse gravel of flint, brick, concrete and slag.		GMG	
							18.08	(0.90) 2.00	MADE GROUND. Stiff brown slightly gravelly CLAY. Medium to coarse gravel of flint. (Possible reworked natural).		CMG	

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing
						General Remarks Hole terminated at 2.0m bgl. No groundwater encountered. No visual or olfactory contamination identified.					
Scale 1:12.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

08 WSP WINDOW SAMPLE LOG EDITH NEVILLE LOGS.GPJ WSPTEMPLATE1.03.GDT 7/6/17

 WSP Parsons Brinckerhoff Telephone: Fax:		Project Edith Neville		Hole No. SS4	
Job No 70034223		Client London Borough of Camden		Date 01-06-17 01-06-17	
Contractor / Driller CJA		Method/Plant Used Terrier	Logged By AEM	Co-Ordinates (NGR) E 529761.009 N 183205.127	Ground Level (m AOD) 20.242

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kNm2)	P. Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. mm
0.50-0.50	ES						20.14	(0.10) 0.10	TOPSOIL.		TS	
								(0.60)	MADE GROUND. Brown slightly clayey SAND. Coarse gravel of brick, concrete and flint with occasional tiles.		CMG	
							19.54	0.70	MADE GROUND. Brick GRAVEL.		CMG	
							18.64	1.60	Refusal at 1.6m			

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing
						General Remarks Hole terminated at 1.6m bgl due to refusal. No groundwater encountered. No visual or olfactory contamination identified.					
Scale 1:12.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

08 WSP WINDOW SAMPLE LOG EDITH NEVILLE LOGS.GPJ WSPTEMPLATE1.03 GDT 7/6/17

 WSP Parsons Brinckerhoff Telephone: Fax:		Project Edith Neville		Hole No. SS5	
Job No 70034223		Client London Borough of Camden		Date 01-06-17 01-06-17	
Contractor / Driller CJA		Method/Plant Used Terrier	Logged By AEM	Co-Ordinates (NGR) E 529776.103 N 183185.281	Ground Level (m AOD)

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kNm2)	P Pen (kNm2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. mm
0.50-0.50	ES							0.05	MADE GROUND. Grey sandstone GRAVEL.		GMG	
									Felt liner at 0.05m. MADE GROUND. Brown sandy GRAVEL with frequent cobbles of brick and concrete and occasional tiles.		GMG	
								(0.65)			GMG	
1.50-1.50	ES							0.70	MADE GROUND. Firm brown gravelly slightly sandy CLAY. Coarse gravel of brick and flint with frequent tree roots.		CMG	
								(0.60)			CMG	
								1.30	MADE GROUND. Firm stiff brown slightly gravelly CLAY. Fine gravel of flint. (possible reworked natural).		CMG	
								(0.70)			CMG	
								2.00				

Hole Diameter			Recovery			Water Strikes					
Depth	Diameter (mm)	Remarks	Core Top (m)	Core Base (m)	% Recovery	Date	Time	Strike	Minutes	Standing	Casing
						General Remarks Hole terminated at 2.0m bgl. No groundwater encountered. No visual or olfactory contamination identified.					
Scale 1:12.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

08 WSP WINDOW SAMPLE LOG EDITH NEVILLE LOGS.GPJ WSPTEMPLATE1.03.GDT 7/6/17

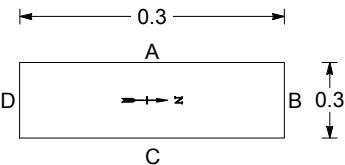
WSP PARSONS BRINCKERHOFF WSP Parsons Brinckerhoff		TRIAL PIT LOG							STRATA					
Telephone:		Depth	Type	PID (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill	
Project Edith Neville		Job No 70034223								MADE GROUND. Brown slightly gravelly slightly clayey SAND. Coarse gravel of concrete, brick and flint. 0.25 - 0.25 m bgl Step of wall at 0.25m (1.00) 18.73 1.00 0.94 - 0.94 m bgl Base of wall at 0.94		GMG		
General Remarks Total height of wall 2.83m. GL to base of wall was 0.94m. GL to top of wall was 1.89m. No groundwater encountered. No visual of olfactory contamination identified. Shoring/Support: None Stability: Stable Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.				Length 0.30m		Logged By AEM		Client London Borough of Camden		Sheet 1 of 1				
				Width 0.30m		Ground Level (m AOD) 19.733		Co-Ordinates (NGR) E 529749 N 183258		Date 01-06-17 01-06-17	Trial Hole No. TP1			
				Orientation 90 degrees from north		Method/Plant Used None		Contractor CJA		Scale 1:33.3				

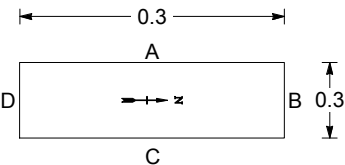
WSP PARSONS BRINCKERHOFF WSP Parsons Brinckerhoff		TRIAL PIT LOG		Depth	Type	PID (ppmV)	HSV (kN/m2)	P. Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	STRATA					
Telephone:												Description	Legend	Geology	Install / Backfill		
Project Edith Neville		Job No 70034223										MADE GROUND. Brown gravelly SAND. Coarse gravel of brick, cement and flint with occasional whole bricks and pockets of light brown fine medium sand. 0.03 - 0.03 m bgl Step of wall at 0.03m bgl		GMG			
										(0.80)	0.56 - 0.56 m bgl Base of wall at 0.56m bgl						
										19.39	0.80						
																	
General Remarks Total height of wall 2.32m. GL to base of wall was 0.56m. GL to top of wall was 1.82m. No groundwater encountered. No visual of olfactory contamination identified.		0.3 A D C 0.3 B		Length 0.30m		Logged By AEM		Client London Borough of Camden		Sheet 1 of 1							
Width 0.30m				Ground Level (m AOD) 20.185		Co-Ordinates (NGR) E 529734 N 183249		Date 01-06-17 01-06-17		Trial Hole No. TP2							
Orientation 90 degrees from north				Method/Plant Used None		Contractor CJA		Scale 1:33.3									
Shoring/Support: None Stability: Stable																	
Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.																	

08 WSP TP LOG LS 1 PHOTO EDITH NEVILLE LOGS.GPJ WSPTEMPLATE1.03.GDT 7/6/17

WSP PARSONS BRINCKERHOFF WSP Parsons Brinckerhoff Telephone:		TRIAL PIT LOG							STRATA					
Project Edith Neville		Job No 70034223	Depth	Type	PID (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill
											MADE GROUND. Brown clayey gravelly SAND becoming clayey with depth. Coarse gravel of brick, cement and flint. 0.00 - 0.10 m bgl Step of wall at 0.1m bgl		GMG	
								(0.75)	0.35 - 0.35 m bgl Base of wall at 0.35m bgl					
								19.53 0.75	0.70 - 0.70 m bgl Base of concrete footing at 0.7mgl					

WSP PARSONS BRINCKERHOFF WSP Parsons Brinckerhoff Telephone:		TRIAL PIT LOG		Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	STRATA							
Project Edith Neville		Job No 70034223										Description	Legend	Geology	Install / Backfill				
										20.21	0.05	MADE GROUND. TARMAC.		ARMAC					
												(0.35)	MADE GROUND. CONCRETE.		CONC				
												19.86	0.40	MADE GROUND. Brown gravelly slightly clayey SAND. Coarse gravel of brick and concrete.		GMG			
												(0.40)							
												19.46	0.80	MADE GROUND. Soft brown sandy gravelly CLAY. Coarse gravel of brick and tiles. 0.85 - 0.85 m bgl Pipe encased in concrete at 0.85m. Casement approx 150mm in diameter.		CMG			
								19.36	0.90										
General Remarks Pipe encased in concrete at 0.85m. Casement approx 150mm in diameter. No groundwater encountered. No visual of olfactory contamination identified. Shoring/Support: None Stability: Stable Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.																			

WSP PARSONS BRINCKERHOFF WSP Parsons Brinckerhoff		Telephone:		TRIAL PIT LOG		Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	STRATA		Legend	Geology	Install / Backfill
Project Edith Neville				Job No 70034223								20.08	0.10	MADE GROUND. TARMAC.		ARMAC		
												19.98	0.20	MADE GROUND. Brick GRAVEL.		GMG		
												19.93	0.25	MADE GROUND. TARMAC.		ARMAC		
												19.73	0.45	MADE GROUND. CONCRETE.		CONC		
												(0.55)	MADE GROUND. Soft brown slightly sandy gravelly CLAY. Coarse gravel of brick and concrete.		CMG			
												19.18	1.00	0.95 - 1.00 m bgl Pipe encased in concrete at 0.95m. Casement approx 200mm in diameter.				
General Remarks Pipe encased in concrete at 0.95m. Casement approx 200mm in diameter. No groundwater encountered. No visual of olfactory contamination identified.						Length 0.30m		Logged By AEM		Client London Borough of Camden			Sheet 1 of 1					
Shoring/Support: None Stability: Stable						Width 0.30m		Ground Level (m AOD) 20.175		Co-Ordinates (NGR) E 529745 N 183219		Date 01-06-17 01-06-17		Trial Hole No. UT2				
Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.						Orientation 90 degrees from north		Method/Plant Used None		Contractor CJA		Scale 1:33.3						

WSP PARSONS BRINCKERHOFF WSP Parsons Brinckerhoff Telephone:		TRIAL PIT LOG					Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	STRATA		Legend	Geology	Install / Backfill
Project Edith Neville		Job No 70034223											20.01	0.10	MADE GROUND. TARMAC.			TARMAC	
													(0.45)		MADE GROUND. Black ashy gravelly SAND. Coarse gravel of brick, concrete and limestone			GMG	
													19.56	0.55	MADE GROUND. Orange brown sandy gravelly CLAY. Coarse gravel of brick, flint and tile.			CMG	
													19.26	0.85	0.75 - 0.85 m bgl Pipe encased in concrete at 0.75m. Casement approx 150mm in diameter.				
General Remarks Pipe encased in concrete at 0.75m. Casement approx 150mm in diameter. No groundwater encountered. No visual of olfactory contamination identified.								Length 0.30m		Logged By AEM		Client London Borough of Camden			Sheet 1 of 1				
Shoring/Support: None Stability: Stable								Width 0.30m		Ground Level (m AOD) 20.105		Co-Ordinates (NGR) E 529742 N 183224		Date 01-06-17 01-06-17		Trial Hole No. UT3			
Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.				Orientation 90 degrees from north				Method/Plant Used None		Contractor CJA		Scale 1:33.3							

08 WSP TP LOG LS 1 PHOTO EDITH NEVILLE LOGS.GPJ WSPTEMPLATE1.03.GDT 7/6/17

Appendix D

LABORATORY CERTIFICATES



Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US

Tel: (01244) 528700

Fax: (01244) 528701

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

WSP PB LBH
WSP PB
4th Floor
6 Devonshire Square
London
EC2M 4YE

Attention: Alex Mann

CERTIFICATE OF ANALYSIS

Date: 19 June 2017
Customer: H_WSP_LON
Sample Delivery Group (SDG): 170603-8
Your Reference: Edith Neville
Location: Edith Neville
Report No: 412932

We received 8 samples on Saturday June 03, 2017 and 8 of these samples were scheduled for analysis which was completed on Monday June 19, 2017. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Environmental Hawarden (Method codes TM) or ALS Environmental Aberdeen (Method codes S).

Approved By:

Sonia McWhan

Operations Manager





CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
15625353	SS1	ESSS	0.40 - 0.40	03/05/2017
15625360	SS1	ESSS	1.50 - 1.50	03/05/2017
15625365	SS2	ESSS	0.50 - 0.50	03/05/2017
15625370	SS2	ESSS	1.20 - 1.20	03/05/2017
15625376	SS3	ESSS	0.50 - 0.50	03/05/2017
15625381	SS4	ESSS	0.50 - 0.50	03/05/2017
15625386	SS5	ESSS	0.50 - 0.50	03/05/2017
15625393	SS5	ES	1.50 - 1.50	03/05/2017

Maximum Sample/Coolbox Temperature (°C) :

12.8

ISO5667-3 Water quality - Sampling - Part3 -

During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of (5±3)°C.

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

Results Legend



Test



No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Results Legend	Lab Sample No(s)		Customer Sample Reference		AGS Reference		Depth (m)		Container		Sample Type	
	15625381		SS4		ESSS		0.50 - 0.50		250g Amber Jar (ALE210)	S	S	
	15625376		SS3		ESSS		0.50 - 0.50		60g VOC (ALE215)	S	S	
	15625370		SS2		ESSS		1.20 - 1.20		1kg TUB	S	S	
	15625365		SS2		ESSS		0.50 - 0.50		250g Amber Jar (ALE210)	S	S	
	15625360		SS1		ESSS		1.50 - 1.50		60g VOC (ALE215)	S	S	
	15625353		SS1		ESSS		0.40 - 0.40		250g Amber Jar (ALE210)	S	S	
ANC at pH4 and ANC at pH 6	All	NDPs: 0 Tests: 2										
Anions by Kone (w)	All	NDPs: 0 Tests: 2										
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 8										
Asbestos Quantification - Full	All	NDPs: 0 Tests: 2										
Boron Water Soluble	All	NDPs: 0 Tests: 8										
CEN Readings	All	NDPs: 0 Tests: 2										
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 8										
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2										
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 2										
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 8										
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 8										
Fluoride	All	NDPs: 0 Tests: 2										
GRO by GC-FID (S)	All	NDPs: 0 Tests: 8										
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 8										
Loss on Ignition in soils	All	NDPs: 0 Tests: 2										



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

Results Legend



Test


No Determination
Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

	Lab Sample No(s)		Customer Sample Reference		AGS Reference		Depth (m)		Container		Sample Type	
	15625381		SS4		ESSS		0.50 - 0.50		250g Amber Jar (ALE210)	1kg TUB	S	S
	15625376		SS3		ESSS		0.50 - 0.50		60g VOC (ALE215)	250g Amber Jar (ALE210)	S	S
	15625370		SS2		ESSS		1.20 - 1.20		60g VOC (ALE215)	1kg TUB	S	S
	15625365		SS2		ESSS		0.50 - 0.50		60g VOC (ALE215)	250g Amber Jar (ALE210)	S	S
	15625363		SS1		ESSS		0.40 - 0.40		60g VOC (ALE215)	250g Amber Jar (ALE210)	S	S
Mercury Dissolved	All	NDPs: 0 Tests: 2										
Metals in solid samples by OES	All	NDPs: 0 Tests: 8										
Mineral Oil	All	NDPs: 0 Tests: 2										
PAH by GCMS	All	NDPs: 0 Tests: 8										
PCBs by GCMS	All	NDPs: 0 Tests: 2										
pH	All	NDPs: 0 Tests: 8										
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2										
Sample description	All	NDPs: 0 Tests: 8										
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 2										
Total Dissolved Solids	All	NDPs: 0 Tests: 2										
Total Organic Carbon	All	NDPs: 0 Tests: 4										
TPH CWG GC (S)	All	NDPs: 0 Tests: 8										
VOC MS (S)	All	NDPs: 0 Tests: 8										



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

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Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
15625353	SS1	0.40 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
15625360	SS1	1.50 - 1.50	Dark Brown	Sandy Clay	Brick	Vegetation
15625365	SS2	0.50 - 0.50	Dark Brown	Loamy Sand	Brick	Stones
15625370	SS2	1.20 - 1.20	Dark Brown	Loamy Sand	Stones	Vegetation
15625376	SS3	0.50 - 0.50	Dark Brown	Sandy Loam	Brick	Stones
15625381	SS4	0.50 - 0.50	Dark Brown	Sandy Loam	Brick	Stones
15625386	SS5	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
15625393	SS5	1.50 - 1.50	Dark Brown	Clay	Tar	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

Results Legend		Customer Sample Ref. Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	SS1	SS1	SS2	SS2	SS3	SS4
#	ISO17025 accredited.		0.40 - 0.40	1.50 - 1.50	0.50 - 0.50	1.20 - 1.20	0.50 - 0.50	0.50 - 0.50
M	mCERTS accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq	Aqueous / settled sample.		03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.		03/06/2017	03/06/2017	03/06/2017	03/06/2017	03/06/2017	03/06/2017
*	Subcontracted test.		170603-8	170603-8	170603-8	170603-8	170603-8	170603-8
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		15625353	15625360	15625365	15625370	15625376	15625381
(F)	Trigger breach confirmed		ESSS	ESSS	ESSS	ESSS	ESSS	ESSS
1-5&+5@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
Moisture Content Ratio (% of as received sample)	%	PM024	11	19	18	30	14	9.3
Loss on ignition	<0.7 %	TM018			5.15			3.26
Mineral oil >C10-C40	<1 mg/kg	TM061			63.2			35.5
Mineral Oil Surrogate % recovery**	%	TM061			85.2			84.8
Organic Carbon, Total	<0.2 %	TM132			7.32			1.42
Soil Organic Matter (SOM)	<0.35 %	TM132	1.53				6.02	
pH	1 pH Units	TM133	8.43	8.61	8.22	8.51	8.96	9
Chromium, Hexavalent	<0.6 mg/kg	TM151	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Cyanide, Free	<1 mg/kg	TM153	<1	<1	<1	<1	<1	<1
PCB congener 28	<0.003 mg/kg	TM168			0.00795			<0.003
PCB congener 52	<0.003 mg/kg	TM168			0.00355			<0.003
PCB congener 101	<0.003 mg/kg	TM168			<0.003			<0.003
PCB congener 118	<0.003 mg/kg	TM168			<0.003			<0.003
PCB congener 138	<0.003 mg/kg	TM168			<0.003			<0.003
PCB congener 153	<0.003 mg/kg	TM168			<0.003			<0.003
PCB congener 180	<0.003 mg/kg	TM168			<0.003			<0.003
Sum of detected PCB 7 Congeners	<0.021 mg/kg	TM168			<0.021			<0.021
Arsenic	<0.6 mg/kg	TM181	13.4	15.4	14.1	11	13.2	15
Barium	<0.6 mg/kg	TM181	124	126	289	127	322	69.9
Beryllium	<0.01 mg/kg	TM181	0.469	0.849	1.05	0.973	3.76	0.491
Cadmium	<0.02 mg/kg	TM181	0.894	<0.02	0.09	<0.02	<0.02	<0.02
Chromium	<0.9 mg/kg	TM181	12.5	15.6	17.1	16.6	22.2	9.88
Copper	<1.4 mg/kg	TM181	40.7	63.7	76.7	61.3	31.8	16.8
Lead	<0.7 mg/kg	TM181	213	261	725	313	220	84
Mercury	<0.14 mg/kg	TM181	0.848	2.03	1.43	2.11	0.573	0.602
Nickel	<0.2 mg/kg	TM181	15.8	21.4	22.9	20.7	16	22.2
Selenium	<1 mg/kg	TM181	<1	<1	<1	<1	<1	<1
Vanadium	<0.2 mg/kg	TM181	38.9	55.5	60.2	62.1	62.5	31.9
Zinc	<1.9 mg/kg	TM181	129	99.1	461	97.1	104	68.1
ANC @ pH 4	<0.03 mol/kg	TM182			0.621			0.16
ANC @ pH 6	<0.03 mol/kg	TM182			0.0993			0.0543
Boron, water soluble	<1 mg/kg	TM222	<1	<1	1.56	7.07	<1	<1
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304	<0.001				<0.001	



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

Semi Volatile Organic Compounds

Results Legend		Customer Sample Ref.	SS2	SS4				
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-5&+5@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
Phenol	<0.1 mg/kg	TM157	<0.1	<0.1				
Pentachlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1				
n-Nitroso-n-dipropylamine	<0.1 mg/kg	TM157	<0.1	<0.1				
Nitrobenzene	<0.1 mg/kg	TM157	<0.1	<0.1				
Isophorone	<0.1 mg/kg	TM157	<0.1	<0.1				
Hexachloroethane	<0.1 mg/kg	TM157	<0.1	<0.1				
Hexachlorocyclopentadiene	<0.1 mg/kg	TM157	<0.1	<0.1				
Hexachlorobutadiene	<0.1 mg/kg	TM157	<0.1	<0.1				
Hexachlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1				
n-Dioctyl phthalate	<0.1 mg/kg	TM157	<0.1	<0.1				
Dimethyl phthalate	<0.1 mg/kg	TM157	<0.1	<0.1				
Diethyl phthalate	<0.1 mg/kg	TM157	<0.1	<0.1				
n-Dibutyl phthalate	<0.1 mg/kg	TM157	<0.1	<0.1				
Dibenzofuran	<0.1 mg/kg	TM157	0.256	<0.1				
Carbazole	<0.1 mg/kg	TM157	0.695	<0.1				
Butylbenzyl phthalate	<0.1 mg/kg	TM157	<0.1	<0.1				
bis(2-Ethylhexyl) phthalate	<0.1 mg/kg	TM157	<0.1	<0.1				
bis(2-Chloroethoxy)methane	<0.1 mg/kg	TM157	<0.1	<0.1				
bis(2-Chloroethyl)ether	<0.1 mg/kg	TM157	<0.1	<0.1				
Azobenzene	<0.1 mg/kg	TM157	<0.1	<0.1				
4-Nitrophenol	<0.1 mg/kg	TM157	<0.1	<0.1				
4-Nitroaniline	<0.1 mg/kg	TM157	<0.1	<0.1				
4-Methylphenol	<0.1 mg/kg	TM157	<0.1	<0.1				
4-Chlorophenylphenylether	<0.1 mg/kg	TM157	<0.1	<0.1				
4-Chloroaniline	<0.1 mg/kg	TM157	<0.1	<0.1				
4-Chloro-3-methylphenol	<0.1 mg/kg	TM157	<0.1	<0.1				
4-Bromophenylphenylether	<0.1 mg/kg	TM157	<0.1	<0.1				
3-Nitroaniline	<0.1 mg/kg	TM157	<0.1	<0.1				
2-Nitrophenol	<0.1 mg/kg	TM157	<0.1	<0.1				
2-Nitroaniline	<0.1 mg/kg	TM157	<0.1	<0.1				
2-Methylphenol	<0.1 mg/kg	TM157	<0.1	<0.1				
1,2,4-Trichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1				
2-Chlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1				



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

Semi Volatile Organic Compounds

Results Legend		Customer Sample Ref.	SS2	SS4			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference					
M	mCERTS accredited.						
aq	Aqueous / settled sample.						
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
1-5&\$\$@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
2,6-Dinitrotoluene	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4-Dinitrotoluene	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4-Dimethylphenol	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4-Dichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4,6-Trichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4,5-Trichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1			
1,4-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1			
1,3-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1			
1,2-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1			
2-Chloronaphthalene	<0.1 mg/kg	TM157	<0.1	<0.1			
2-Methylnaphthalene	<0.1 mg/kg	TM157	0.134	<0.1			
Acenaphthylene	<0.1 mg/kg	TM157	<0.1	<0.1			
Acenaphthene	<0.1 mg/kg	TM157	0.232	<0.1			
Anthracene	<0.1 mg/kg	TM157	1.79	0.121			
Benzo(a)anthracene	<0.1 mg/kg	TM157	3.34	0.583			
Benzo(b)fluoranthene	<0.1 mg/kg	TM157	2.71	0.484			
Benzo(k)fluoranthene	<0.1 mg/kg	TM157	2.28	0.429			
Benzo(a)pyrene	<0.1 mg/kg	TM157	2.73	0.594			
Benzo(g,h,i)perylene	<0.1 mg/kg	TM157	1.95	0.385			
Chrysene	<0.1 mg/kg	TM157	3.36	0.528			
Fluoranthene	<0.1 mg/kg	TM157	8.24	1.13			
Fluorene	<0.1 mg/kg	TM157	0.464	<0.1			
Indeno(1,2,3-cd)pyrene	<0.1 mg/kg	TM157	2.56	0.451			
Phenanthrene	<0.1 mg/kg	TM157	5.1	0.418			
Pyrene	<0.1 mg/kg	TM157	6.67	1.06			
Naphthalene	<0.1 mg/kg	TM157	0.134	<0.1			
Dibenzo(a,h)anthracene	<0.1 mg/kg	TM157	0.403	<0.1			
Bis(2-chloroisopropyl) ether	<0.1 mg/kg	TM157	<0.1	<0.1			



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample Ref.	SS1	SS1	SS2	SS2	SS3	SS4
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.40 - 0.40	1.50 - 1.50	0.50 - 0.50	1.20 - 1.20	0.50 - 0.50	0.50 - 0.50
M	mCERTS accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq	Aqueous / settled sample.		03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017
diss.filt	Dissolved / filtered sample.		03/06/2017	03/06/2017	03/06/2017	03/06/2017	03/06/2017	03/06/2017
tot.unfilt	Total / unfiltered sample.		170603-8	170603-8	170603-8	170603-8	170603-8	170603-8
*	Subcontracted test.		15625353	15625360	15625365	15625370	15625376	15625381
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		ESSS	ESSS	ESSS	ESSS	ESSS	ESSS
(F)	Trigger breach confirmed							
1-5&+5@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM089	49 @	47 @	40 @	27 @	46 @	81 @
GRO TOT (Moisture Corrected)	<0.044 mg/kg	TM089	<0.044 @ #	<0.044 @ #	0.205 @ #	<0.044 @ #	0.148 @ #	<0.044 @ #
Methyl tertiary butyl ether (MTBE)	<0.005 mg/kg	TM089			<0.005 @ #			<0.005 @ #
Benzene	<0.01 mg/kg	TM089			0.0659 @ #			<0.01 @ #
Toluene	<0.002 mg/kg	TM089			0.00976 @ #			<0.002 @ #
Ethylbenzene	<0.003 mg/kg	TM089			<0.003 @ #			<0.003 @ #
m,p-Xylene	<0.006 mg/kg	TM089			0.00732 @ #			<0.006 @ #
o-Xylene	<0.003 mg/kg	TM089			<0.003 @ #			<0.003 @ #
sum of detected mpo xylene by GC	<0.009 mg/kg	TM089			<0.009 @			<0.009 @
sum of detected BTEX by GC	<0.024 mg/kg	TM089			0.0757 @			<0.024 @
Aliphatics >C5-C6	<0.01 mg/kg	TM089	<0.01 @	<0.01 @	<0.01 @	<0.01 @	<0.01 @	<0.01 @
Aliphatics >C6-C8	<0.01 mg/kg	TM089	<0.01 @	<0.01 @	0.0195 @	<0.01 @	0.0151 @	<0.01 @
Aliphatics >C8-C10	<0.01 mg/kg	TM089	<0.01 @	<0.01 @	0.0268 @	<0.01 @	0.0186 @	<0.01 @
Aliphatics >C10-C12	<0.01 mg/kg	TM089	<0.01 @	<0.01 @	0.0268 @	<0.01 @	0.0476 @	<0.01 @
Aliphatics >C12-C16	<0.1 mg/kg	TM173	1.92	0.813	0.436	<0.1	2.08	4.27
Aliphatics >C16-C21	<0.1 mg/kg	TM173	21.6	6.4	9.18	<0.1	11.1	13
Aliphatics >C21-C35	<0.1 mg/kg	TM173	120	11.6	34.3	3.37	82.9	20
Aliphatics >C35-C44	<0.1 mg/kg	TM173	93.6	1.16	15.1	<0.1	88.7	9.34
Total Aliphatics >C12-C44	<0.1 mg/kg	TM173	237	20	59	3.37	185	46.6
Aromatics >EC5-EC7	<0.01 mg/kg	TM089	<0.01 @	<0.01 @	0.0659 @	<0.01 @	0.0174 @	<0.01 @
Aromatics >EC7-EC8	<0.01 mg/kg	TM089	<0.01 @	<0.01 @	<0.01 @	<0.01 @	<0.01 @	<0.01 @
Aromatics >EC8-EC10	<0.01 mg/kg	TM089	<0.01 @	<0.01 @	0.0293 @	<0.01 @	0.0128 @	<0.01 @
Aromatics >EC10-EC12	<0.01 mg/kg	TM089	<0.01 @	<0.01 @	0.0171 @	<0.01 @	0.0313 @	<0.01 @
Aromatics >EC12-EC16	<0.1 mg/kg	TM173	<0.1	0.511	2.36	0.376	14.5	1.61
Aromatics >EC16-EC21	<0.1 mg/kg	TM173	9.14	0.662	51.5	0.126	166	17
Aromatics >EC21-EC35	<0.1 mg/kg	TM173	148	15.5	131	15.1	382	52.7
Aromatics >EC35-EC44	<0.1 mg/kg	TM173	178	8.91	54.7	7.62	206	38.7
Aromatics >EC40-EC44	<0.1 mg/kg	TM173	86.5	2.71	19.5	2.86	81.1	16.6
Total Aromatics >EC12-EC44	<0.1 mg/kg	TM173	335	25.6	240	23.2	768	110
Total Aliphatics & Aromatics >C5-C44	<0.1 mg/kg	TM173	573	45.6	299	26.6	953	157
Aromatics >EC16-EC35	<0.1 mg/kg	TM173	158	16.2	183	15.2	547	69.7



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample Ref.	SS1	SS1	SS2	SS2	SS3	SS4
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.40 - 0.40	1.50 - 1.50	0.50 - 0.50	1.20 - 1.20	0.50 - 0.50	0.50 - 0.50	
M	mCERTS accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	
aq	Aqueous / settled sample.		03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017	03/05/2017	
diss.filt	Dissolved / filtered sample.								
tot.unfilt	Total / unfiltered sample.								
*	Subcontracted test.								
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery								
(F)	Trigger breach confirmed								
1-5&*\$@	Sample deviation (see appendix)								
			ESSS	ESSS	ESSS	ESSS	ESSS	ESSS	
Component	LOD/Units	Method							
Dibromofluoromethane**	%	TM116			103			109	
					@			@	
Toluene-d8**	%	TM116			100			103	
					@			@	
4-Bromofluorobenzene**	%	TM116			99.6			89.4	
					@			@	
Dichlorodifluoromethane	<0.006 mg/kg	TM116			<0.06			<0.06	
					@ #			@ #	
Chloromethane	<0.007 mg/kg	TM116			<0.07			<0.07	
					@ #			@ #	
Vinyl Chloride	<0.006 mg/kg	TM116			<0.06			<0.06	
					@ #			@ #	
Bromomethane	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
Chloroethane	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
Trichlorofluoromethane	<0.006 mg/kg	TM116			<0.06			<0.06	
					@ #			@ #	
1,1-Dichloroethene	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
Carbon Disulphide	<0.007 mg/kg	TM116			<0.07			<0.07	
					@ #			@ #	
Dichloromethane	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
			@ #	@ #	@ #	@ #	@ #	@ #	
trans-1,2-Dichloroethene	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
1,1-Dichloroethane	<0.008 mg/kg	TM116			<0.08			<0.08	
					@ #			@ #	
cis-1,2-Dichloroethene	<0.006 mg/kg	TM116			<0.06			<0.06	
					@ #			@ #	
2,2-Dichloropropane	<0.01 mg/kg	TM116			<0.1			<0.1	
					@			@	
Bromochloromethane	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
Chloroform	<0.008 mg/kg	TM116			<0.08			<0.08	
					@ #			@ #	
1,1,1-Trichloroethane	<0.007 mg/kg	TM116			<0.07			<0.07	
					@ #			@ #	
1,1-Dichloropropene	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
Carbontetrachloride	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
1,2-Dichloroethane	<0.005 mg/kg	TM116			<0.05			<0.05	
					@ #			@ #	
Benzene	<0.009 mg/kg	TM116	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	
			@ #	@ #	@ #	@ #	@ #	@ #	
Trichloroethene	<0.009 mg/kg	TM116			<0.09			<0.09	
					@ #			@ #	
1,2-Dichloropropane	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
Dibromomethane	<0.009 mg/kg	TM116			<0.09			<0.09	
					@ #			@ #	
Bromodichloromethane	<0.007 mg/kg	TM116			<0.07			<0.07	
					@ #			@ #	
cis-1,3-Dichloropropene	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
Toluene	<0.007 mg/kg	TM116	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	
			@ #	@ #	@ #	@ #	@ #	@ #	
trans-1,3-Dichloropropene	<0.01 mg/kg	TM116			<0.1			<0.1	
					@			@	
1,1,2-Trichloroethane	<0.01 mg/kg	TM116			<0.1			<0.1	
					@ #			@ #	
1,3-Dichloropropane	<0.007 mg/kg	TM116			<0.07			<0.07	
					@ #			@ #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample Ref.	SS1	SS1	SS2	SS2	SS3	SS4
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference							
M	mCERTS accredited.								
aq	Aqueous / settled sample.								
diss.filt	Dissolved / filtered sample.								
tot.unfilt	Total / unfiltered sample.								
*	Subcontracted test.								
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery								
(F)	Trigger breach confirmed								
1-5&*\$@	Sample deviation (see appendix)								
Component	LOD/Units		Method						
Tetrachloroethene	<0.005 mg/kg	TM116			<0.05 @ #		<0.05 @ #		
Dibromochloromethane	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
1,2-Dibromoethane	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
Chlorobenzene	<0.005 mg/kg	TM116			<0.05 @ #		<0.05 @ #		
1,1,1,2-Tetrachloroethane	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
Ethylbenzene	<0.004 mg/kg	TM116	<0.04 @ #	<0.04 @ #	<0.04 @ #	<0.04 @ #	<0.04 @ #		
p/m-Xylene	<0.01 mg/kg	TM116	<0.1 @ #	<0.1 @ #	<0.1 @ #	<0.1 @ #	<0.1 @ #		
o-Xylene	<0.01 mg/kg	TM116	<0.1 @ #	<0.1 @ #	<0.1 @ #	<0.1 @ #	<0.1 @ #		
Styrene	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
Bromoform	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
Isopropylbenzene	<0.005 mg/kg	TM116			<0.05 @ #		<0.05 @ #		
1,1,2,2-Tetrachloroethane	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
1,2,3-Trichloropropane	<0.016 mg/kg	TM116			<0.16 @ #		<0.16 @ #		
Bromobenzene	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
Propylbenzene	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
2-Chlorotoluene	<0.009 mg/kg	TM116			<0.09 @ #		<0.09 @ #		
1,3,5-Trimethylbenzene	<0.008 mg/kg	TM116			<0.08 @ #		<0.08 @ #		
4-Chlorotoluene	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
tert-Butylbenzene	<0.014 mg/kg	TM116			<0.14 @ #		<0.14 @ #		
1,2,4-Trimethylbenzene	<0.009 mg/kg	TM116			<0.09 @ #		<0.09 @ #		
sec-Butylbenzene	<0.01 mg/kg	TM116			<0.1 @		<0.1 @		
4-Isopropyltoluene	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
1,3-Dichlorobenzene	<0.008 mg/kg	TM116			<0.08 @ #		<0.08 @ #		
1,4-Dichlorobenzene	<0.005 mg/kg	TM116			<0.05 @ #		<0.05 @ #		
n-Butylbenzene	<0.011 mg/kg	TM116			<0.11 @		<0.11 @		
1,2-Dichlorobenzene	<0.01 mg/kg	TM116			<0.1 @ #		<0.1 @ #		
1,2-Dibromo-3-chloropropane	<0.014 mg/kg	TM116			<0.14 @ #		<0.14 @ #		
Tert-amyl methyl ether	<0.01 mg/kg	TM116	<0.1 @ #	<0.1 @ #	<0.1 @ #	<0.1 @ #	<0.1 @ #		
1,2,4-Trichlorobenzene	<0.02 mg/kg	TM116			<0.2 @		<0.2 @		
Hexachlorobutadiene	<0.02 mg/kg	TM116			<0.2 @		<0.2 @		
Naphthalene	<0.013 mg/kg	TM116			<0.13 @ #		<0.13 @ #		
1,2,3-Trichlorobenzene	<0.02 mg/kg	TM116			<0.2 @ #		<0.2 @ #		



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8 Client Reference: Edith Neville Report Number: 412932
Location: Edith Neville Order Number: 70034223-S01 Superseded Report:

Asbestos Identification - Solid Samples

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS1 ES SS 0.40 - 0.40 SOLID 03/05/2017 00:00:00 03/06/2017 13:10:55 170603-8 15625353 TM048	07/06/17	Kevin Bowron	Loose fibres in soil	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS1 ES SS 1.50 - 1.50 SOLID 03/05/2017 00:00:00 03/06/2017 13:02:25 170603-8 15625360 TM048	07/06/17	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS2 ES SS 0.50 - 0.50 SOLID 03/05/2017 00:00:00 03/06/2017 13:38:03 170603-8 15625365 TM048	07/06/17	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS2 ES SS 1.20 - 1.20 SOLID 03/05/2017 00:00:00 03/06/2017 13:36:46 170603-8 15625370 TM048	07/06/17	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS3 ES SS 0.50 - 0.50 SOLID 03/05/2017 00:00:00 03/06/2017 13:14:19 170603-8 15625376 TM048	07/06/17	Kevin Bowron	Loose fibres in soil	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS4 ES SS 0.50 - 0.50 SOLID 03/05/2017 00:00:00 03/06/2017 13:12:35 170603-8 15625381 TM048	07/06/17	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

SDG: 170603-8
Location: Edith Neville**Client Reference:** Edith Neville
Order Number: 70034223-S01**Report Number:** 412932
Superseded Report:

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS5 ES SS 0.50 - 0.50 SOLID 03/05/2017 00:00:00 03/06/2017 13:15:41 170603-8 15625386 TM048	07/06/17	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS5 ES 1.50 - 1.50 SOLID 03/05/2017 00:00:00 03/06/2017 13:00:23 170603-8 15625393 TM048	07/06/17	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

Asbestos Quantification - Full

Additional Asbestos Components (Using TM048)	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM Evaluation - %	Asbestos Quantification - Total - %
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Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS1 ES SS 0.40 - 0.40 SOLID 03/05/2017 00:00:00 09/06/2017 09:12:03 170603-8 15625353 TM304	None (#)	N/C	<0.001 (#)	<0.001 (#)	<0.001 (#)
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS3 ES SS 0.50 - 0.50 SOLID 03/05/2017 00:00:00 09/06/2017 09:10:04 170603-8 15625376 TM304	None (#)	N/C	<0.001 (#)	<0.001 (#)	<0.001 (#)



Validated

CERTIFICATE OF ANALYSIS

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference

Mass Sample taken (kg)	0.110
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

Site Location

Natural Moisture Content (%)	22
Dry Matter Content (%)	82

Case

SDG	170603-8
Lab Sample Number(s)	15625365
Sampled Date	03-May-2017
Customer Sample Ref.	SS2 ESSS
Depth (m)	0.50 - 0.50

Landfill Waste Acceptance
Criteria Limits

Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non- Hazardous Landfill	Hazardous Waste Landfill
3	5	6
-	-	10
6	-	-
1	-	-
500	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis

Result

Total Organic Carbon (%)	7.32
Loss on Ignition (%)	5.15
Sum of BTEX (mg/kg)	0.0757
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg)	63.2
PAH Sum of 17 (mg/kg)	112
pH (pH Units)	8.22
ANC to pH 6 (mol/kg)	0.0993
ANC to pH 4 (mol/kg)	0.621

Eluate Analysis

C₂Concⁿ in 10:1 eluate (mg/l)A₂10:1 concⁿ leached (mg/kg)Limit values for compliance leaching test
using BS EN 12457-3 at L/S 10 l/kg

	Result	Limit of Detection	Result	Limit of Detection			
Arsenic	0.00404	<0.0005	0.0404	<0.005	0.5	2	25
Barium	0.0458	<0.0002	0.458	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.0043	<0.0003	0.043	<0.003	2	50	100
Mercury Dissolved (CVAf)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.0212	<0.0005	0.212	<0.005	0.5	10	30
Nickel	0.000627	<0.0004	0.00627	<0.004	0.4	10	40
Lead	0.00161	<0.0002	0.0161	<0.002	0.5	10	50
Antimony	0.0193	<0.0001	0.193	<0.001	0.06	0.7	5
Selenium	0.00187	<0.0005	0.0187	<0.005	0.1	0.5	7
Zinc	0.00668	<0.001	0.0668	<0.01	4	50	200
Chloride	4.4	<2	44	<20	800	15000	25000
Fluoride	0.567	<0.5	5.67	<5	10	150	500
Sulphate (soluble)	413	<2	4130	<20	1000	20000	50000
Total Dissolved Solids	567	<5	5670	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	<3	<3	<30	<30	500	800	1000

Leach Test Information

Date Prepared	07-Jun-2017
pH (pH Units)	8.34
Conductivity (µS/cm)	746.00
Temperature (°C)	19.60
Volume Leachant (Litres)	0.880

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALS Environmental cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates

19/06/2017 12:42:03

12:41:54 19/06/2017



Validated

CERTIFICATE OF ANALYSIS

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

CEN 10:1 SINGLE STAGE LEACHATE TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference

Mass Sample taken (kg) 0.099

Mass of dry sample (kg) 0.090

Particle Size <4mm >95%

Site Location

Edith Neville

Natural Moisture Content (%) 10.3

Dry Matter Content (%) 90.7

Case

SDG 170603-8

Lab Sample Number(s) 15625381

Sampled Date 03-May-2017

Customer Sample Ref. SS4 ESSS

Depth (m) 0.50 - 0.50

Landfill Waste Acceptance
Criteria Limits

Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non- Hazardous Landfill	Hazardous Waste Landfill
3	5	6
-	-	10
6	-	-
1	-	-
500	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis

Result

Total Organic Carbon (%) 1.42

Loss on Ignition (%) 3.26

Sum of BTEX (mg/kg) <0.024

Sum of 7 PCBs (mg/kg) <0.021

Mineral Oil (mg/kg) 35.5

PAH Sum of 17 (mg/kg) 11.7

pH (pH Units) 9

ANC to pH 6 (mol/kg) 0.0543

ANC to pH 4 (mol/kg) 0.16

Eluate Analysis

C₂Concⁿ in 10:1 eluate (mg/l)A₂10:1 concⁿ leached (mg/kg)Limit values for compliance leaching test
using BS EN 12457-3 at L/S 10 l/kg

	Result	Limit of Detection	Result	Limit of Detection			
Arsenic	0.0226	<0.0005	0.226	<0.005	0.5	2	25
Barium	0.00707	<0.0002	0.0707	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.0186	<0.0003	0.186	<0.003	2	50	100
Mercury Dissolved (CVAf)	0.0000944	<0.00001	0.000944	<0.0001	0.01	0.2	2
Molybdenum	0.00567	<0.0005	0.0567	<0.005	0.5	10	30
Nickel	0.00183	<0.0004	0.0183	<0.004	0.4	10	40
Lead	0.000971	<0.0002	0.00971	<0.002	0.5	10	50
Antimony	0.00395	<0.0001	0.0395	<0.001	0.06	0.7	5
Selenium	0.00197	<0.0005	0.0197	<0.005	0.1	0.5	7
Zinc	<0.001	<0.001	<0.01	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.663	<0.5	6.63	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	88.6	<5	886	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	8	<3	80	<30	500	800	1000

Leach Test Information

Date Prepared 07-Jun-2017

pH (pH Units) 9.80

Conductivity (µS/cm) 107.00

Temperature (°C) 19.80

Volume Leachant (Litres) 0.891

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Stated limits are for guidance only and ALS Environmental cannot be held responsible for any discrepancies with current legislation

Mcerts Certification does not apply to leachates

19/06/2017 12:42:03

12:41:54 19/06/2017



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8 Client Reference: Edith Neville Report Number: 412932
Location: Edith Neville Order Number: 70034223-S01 Superseded Report:

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step		
TM018	BS 1377: Part 3 1990	Determination of Loss on Ignition		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM061	Method for the Determination of EPH,Massachusetts Dept. of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM123	BS 2690: Part 121:1981	The Determination of Total Dissolved Solids in Water		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM182	CEN/TC 292 - WI 292046-characterization of waste-leaching Behaviour Tests- Acid and Base Neutralization Capacity Test	Determination of Acid Neutralisation Capacity (ANC) Using Autotitration in Soils		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM218	Determination of PAH by GCMS Microwave extraction	The determination of PAH in soil samples by microwave extraction and GC-MS		
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Environmental Hawarden (Method codes TM) or ALS Environmental Aberdeen (Method codes S).



CERTIFICATE OF ANALYSIS

Validated

SDG: 170603-8
Location: Edith Neville

Client Reference: Edith Neville
Order Number: 70034223-S01

Report Number: 412932
Superseded Report:

Test Completion Dates

Lab Sample No(s)	15625353	15625360	15625365	15625370	15625376	15625381	15625386	15625393
Customer Sample Ref.	SS1	SS1	SS2	SS2	SS3	SS4	SS5	SS5
AGS Ref.	ESSS	ESSS	ESSS	ESSS	ESSS	ESSS	ESSS	ES
Depth	0.40 - 0.40	1.50 - 1.50	0.50 - 0.50	1.20 - 1.20	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
ANC at pH4 and ANC at pH 6			09-Jun-2017			09-Jun-2017		
Anions by Kone (w)			12-Jun-2017			12-Jun-2017		
Asbestos ID in Solid Samples	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017
Asbestos Quantification - Full	19-Jun-2017				19-Jun-2017			
Boron Water Soluble	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017
CEN 10:1 Leachate (1 Stage)			07-Jun-2017			07-Jun-2017		
CEN Readings			08-Jun-2017			08-Jun-2017		
Cyanide Comp/Free/Total/Thiocyanate	12-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017
Dissolved Metals by ICP-MS			13-Jun-2017					
Dissolved Organic/Inorganic Carbon			09-Jun-2017			09-Jun-2017		
EPH CWG (Aliphatic) GC (S)	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017
EPH CWG (Aromatic) GC (S)	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017
Fluoride			12-Jun-2017			12-Jun-2017		
GRO by GC-FID (S)	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017
Hexavalent Chromium (s)	08-Jun-2017	09-Jun-2017	09-Jun-2017	09-Jun-2017	06-Jun-2017	09-Jun-2017	09-Jun-2017	09-Jun-2017
Loss on Ignition in soils			08-Jun-2017			08-Jun-2017		
Mercury Dissolved			13-Jun-2017			13-Jun-2017		
Metals in solid samples by OES	08-Jun-2017	08-Jun-2017	09-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017
Mineral Oil			08-Jun-2017			08-Jun-2017		
PAH by GCMS	07-Jun-2017	07-Jun-2017	07-Jun-2017	09-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017	07-Jun-2017
PCBs by GCMS			09-Jun-2017			09-Jun-2017		
pH	09-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	09-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017
Phenols by HPLC (W)			12-Jun-2017			12-Jun-2017		
Sample description	03-Jun-2017	03-Jun-2017	03-Jun-2017	03-Jun-2017	03-Jun-2017	03-Jun-2017	03-Jun-2017	03-Jun-2017
Semi Volatile Organic Compounds			07-Jun-2017			07-Jun-2017		
Total Dissolved Solids			12-Jun-2017			12-Jun-2017		
Total Organic Carbon	09-Jun-2017		08-Jun-2017		09-Jun-2017	08-Jun-2017		
TPH CWG GC (S)	07-Jun-2017	07-Jun-2017	07-Jun-2017	08-Jun-2017	08-Jun-2017	07-Jun-2017	07-Jun-2017	08-Jun-2017
VOC MS (S)	08-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017	06-Jun-2017	08-Jun-2017	08-Jun-2017	08-Jun-2017



CERTIFICATE OF ANALYSIS

SDG:	170603-8	Client Reference:	Edith Neville	Report Number:	412932
Location:	Edith Neville	Order Number:	70034223-S01	Superseded Report:	

Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICs and SVOC TICs.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP - No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals - total metals must be requested separately.

11. Results relate only to the items tested.

12. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** - Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

General

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

24. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
§	Sampled on date not provided
◆	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Appendix E

HAZWASTE ONLINE CLASSIFICATION



Waste Classification Report



E2PSP-8EZFQ-HSR6F

Job name

Edith Neville Primary School

Description/Comments

Project

Edith Neville Primary School / 70034223

Site

Waste Stream Template

Contaminated Soil and Asbestos GRR Template

Classified by

Name:

Alice Waylett

Date:

21/06/2017 13:04:51 UTC

Telephone:

01992 526 000

Company:

WSP | Parsons Brinckerhoff**Unit 9, The Chase****John Tate Road, Foxholes Business Park****Hertford****SG13 7NN**

Report

Created by: Alice Waylett

Created date: 21/06/2017 13:04 UTC

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	SS1	0.40-0.40	Non Hazardous		2
2	SS1[1]	1.50-1.50	Non Hazardous		4
3	SS2	0.50-0.50	Non Hazardous		6
4	SS2[1]	1.20-1.20	Non Hazardous		9
5	SS3	0.50-0.50	Non Hazardous		11
6	SS4	0.50-0.50	Non Hazardous		13
7	SS5	0.50-0.50	Non Hazardous		16
8	SS5[1]	1.50-1.50	Non Hazardous		18

Appendices

	Page
Appendix A: Classifier defined and non CLP determinands	20
Appendix B: Rationale for selection of metal species	21
Appendix C: Version	22

Classification of sample: SS1

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

Sample details

Sample Name:	LoW Code:	
SS1	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)
0.40-0.40 m		

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				13.4 mg/kg	1.32	17.692 mg/kg	0.00177 %			
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				0.469 mg/kg	2.775	1.302 mg/kg	0.00013 %			
	004-003-00-8	215-133-1	1304-56-9								
3	cadmium { cadmium oxide }				0.894 mg/kg	1.142	1.021 mg/kg	0.000102 %			
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]								
4	chromium in chromium(III) compounds { chromium(III) oxide }				12.5 mg/kg	1.462	18.269 mg/kg	0.00183 %			
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
6	copper { dicopper oxide; copper (I) oxide }				40.7 mg/kg	1.126	45.824 mg/kg	0.00458 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	213 mg/kg	1.56	332.241 mg/kg	0.0213 %			
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				0.848 mg/kg	1.353	1.148 mg/kg	0.000115 %			
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { nickel chromate }				15.8 mg/kg	2.976	47.025 mg/kg	0.0047 %			
	028-035-00-7	238-766-5	14721-18-7								
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	034-002-00-8										
11	zinc { zinc sulphate }				129 mg/kg	2.469	318.539 mg/kg	0.0319 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
12	TPH (C6 to C40) petroleum group		TPH		573 mg/kg		573 mg/kg	0.0573 %			
13	pH		PH		8.43 pH		8.43 pH	8.43 pH			
14	naphthalene				0.055 mg/kg		0.055 mg/kg	0.0000055 %			
	601-052-00-2	202-049-5	91-20-3								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	acenaphthylene	205-917-1	208-96-8		0.0527 mg/kg		0.0527 mg/kg	0.00000527 %		
16	acenaphthene	201-469-6	83-32-9		0.0598 mg/kg		0.0598 mg/kg	0.00000598 %		
17	fluorene	201-695-5	86-73-7		0.0463 mg/kg		0.0463 mg/kg	0.00000463 %		
18	phenanthrene	201-581-5	85-01-8		0.652 mg/kg		0.652 mg/kg	0.0000652 %		
19	anthracene	204-371-1	120-12-7		0.194 mg/kg		0.194 mg/kg	0.0000194 %		
20	fluoranthene	205-912-4	206-44-0		1.26 mg/kg		1.26 mg/kg	0.000126 %		
21	pyrene	204-927-3	129-00-0		1.12 mg/kg		1.12 mg/kg	0.000112 %		
22	benzo[a]anthracene	601-033-00-9	200-280-6		0.761 mg/kg		0.761 mg/kg	0.0000761 %		
23	chrysene	601-048-00-0	205-923-4		0.544 mg/kg		0.544 mg/kg	0.0000544 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.983 mg/kg		0.983 mg/kg	0.0000983 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.394 mg/kg		0.394 mg/kg	0.0000394 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.792 mg/kg		0.792 mg/kg	0.0000792 %		
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.485 mg/kg		0.485 mg/kg	0.0000485 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.151 mg/kg		0.151 mg/kg	0.0000151 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		0.638 mg/kg		0.638 mg/kg	0.0000638 %		
30	asbestos	650-013-00-6	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		10 mg/kg		10 mg/kg	0.001 %		
Total:								0.126 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: Force this Hazardous property to non hazardous because It is assumed that flammability of old/weathered hydrocarbons in a soil matrix are unlikely to be flammable.

Classification of sample: SS1[1]

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

Sample details

Sample Name:	LoW Code:
SS1[1]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.50-1.50 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				15.4	mg/kg	1.32	20.333	mg/kg	0.00203 %		
	033-003-00-0	215-481-4	1327-53-3									
2	beryllium { beryllium oxide }				0.849	mg/kg	2.775	2.356	mg/kg	0.000236 %		
	004-003-00-8	215-133-1	1304-56-9									
3	cadmium { cadmium oxide }				<0.02	mg/kg	1.142	<0.0228	mg/kg	<0.00000228 %		<LOD
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]									
4	chromium in chromium(III) compounds { chromium(III) oxide }				15.6	mg/kg	1.462	22.8	mg/kg	0.00228 %		
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6	mg/kg	1.923	<1.154	mg/kg	<0.000115 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
6	copper { dicopper oxide; copper (I) oxide }				63.7	mg/kg	1.126	71.719	mg/kg	0.00717 %		
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	261	mg/kg	1.56	407.112	mg/kg	0.0261 %		
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				2.03	mg/kg	1.353	2.748	mg/kg	0.000275 %		
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				21.4	mg/kg	2.976	63.692	mg/kg	0.00637 %		
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	034-002-00-8											
11	zinc { zinc sulphate }				99.1	mg/kg	2.469	244.707	mg/kg	0.0245 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
12	TPH (C6 to C40) petroleum group		TPH		45.6	mg/kg		45.6	mg/kg	0.00456 %		
13	pH		PH		8.61	pH		8.61	pH	8.61 pH		
14	naphthalene				0.0314	mg/kg		0.0314	mg/kg	0.00000314 %		
	601-052-00-2	202-049-5	91-20-3									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
16	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
17	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		0.147 mg/kg		0.147 mg/kg	0.0000147 %		
19	anthracene	204-371-1	120-12-7		0.0378 mg/kg		0.0378 mg/kg	0.00000378 %		
20	fluoranthene	205-912-4	206-44-0		0.142 mg/kg		0.142 mg/kg	0.0000142 %		
21	pyrene	204-927-3	129-00-0		0.122 mg/kg		0.122 mg/kg	0.0000122 %		
22	benzo[a]anthracene	601-033-00-9	200-280-6		0.215 mg/kg		0.215 mg/kg	0.0000215 %		
23	chrysene	601-048-00-0	205-923-4		0.157 mg/kg		0.157 mg/kg	0.0000157 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.421 mg/kg		0.421 mg/kg	0.0000421 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.138 mg/kg		0.138 mg/kg	0.0000138 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.311 mg/kg		0.311 mg/kg	0.0000311 %		
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.21 mg/kg		0.21 mg/kg	0.000021 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.0764 mg/kg		0.0764 mg/kg	0.00000764 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		0.282 mg/kg		0.282 mg/kg	0.0000282 %		
Total:								0.0741 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: Force this Hazardous property to non hazardous because It is assumed that flammability of old/weathered hydrocarbons in a soil matrix are unlikely to be flammable.

Classification of sample: SS2

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

Sample details

Sample Name:	LoW Code:
SS2	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50-0.50 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				14.1	mg/kg	1.32	18.617	mg/kg	0.00186 %		
	033-003-00-0	215-481-4	1327-53-3									
2	beryllium { beryllium oxide }				1.05	mg/kg	2.775	2.914	mg/kg	0.000291 %		
	004-003-00-8	215-133-1	1304-56-9									
3	cadmium { cadmium oxide }				0.09	mg/kg	1.142	0.103	mg/kg	0.0000103 %		
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]									
4	chromium in chromium(III) compounds { chromium(III) oxide }				17.1	mg/kg	1.462	24.993	mg/kg	0.0025 %		
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6	mg/kg	1.923	<1.154	mg/kg	<0.000115 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
6	copper { dicopper oxide; copper (I) oxide }				76.7	mg/kg	1.126	86.356	mg/kg	0.00864 %		
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	725	mg/kg	1.56	1130.866	mg/kg	0.0725 %		
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				1.43	mg/kg	1.353	1.935	mg/kg	0.000194 %		
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				22.9	mg/kg	2.976	68.156	mg/kg	0.00682 %		
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	034-002-00-8											
11	zinc { zinc sulphate }				461	mg/kg	2.469	1138.346	mg/kg	0.114 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
12	TPH (C6 to C40) petroleum group				299	mg/kg		299	mg/kg	0.0299 %		
			TPH									
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
14	benzene				0.0659 mg/kg		0.0659 mg/kg	0.00000659 %		
	601-020-00-8	200-753-7	71-43-2							
15	toluene				0.0097 mg/kg		0.0097 mg/kg	0.00000097 %		
	601-021-00-3	203-625-9	108-88-3							
16	ethylbenzene				<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
17	xylene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
18	pH				8.22 pH		8.22 pH	8.22 pH		
			PH							
19	naphthalene				0.291 mg/kg		0.291 mg/kg	0.0000291 %		
	601-052-00-2	202-049-5	91-20-3							
20	acenaphthylene				0.122 mg/kg		0.122 mg/kg	0.0000122 %		
		205-917-1	208-96-8							
21	acenaphthene				0.706 mg/kg		0.706 mg/kg	0.0000706 %		
		201-469-6	83-32-9							
22	fluorene				1.45 mg/kg		1.45 mg/kg	0.000145 %		
		201-695-5	86-73-7							
23	phenanthrene				16.8 mg/kg		16.8 mg/kg	0.00168 %		
		201-581-5	85-01-8							
24	anthracene				3.67 mg/kg		3.67 mg/kg	0.000367 %		
		204-371-1	120-12-7							
25	fluoranthene				23.5 mg/kg		23.5 mg/kg	0.00235 %		
		205-912-4	206-44-0							
26	pyrene				16.5 mg/kg		16.5 mg/kg	0.00165 %		
		204-927-3	129-00-0							
27	benzo[a]anthracene				8.1 mg/kg		8.1 mg/kg	0.00081 %		
	601-033-00-9	200-280-6	56-55-3							
28	chrysene				7.44 mg/kg		7.44 mg/kg	0.000744 %		
	601-048-00-0	205-923-4	218-01-9							
29	benzo[b]fluoranthene				9.45 mg/kg		9.45 mg/kg	0.000945 %		
	601-034-00-4	205-911-9	205-99-2							
30	benzo[k]fluoranthene				3.85 mg/kg		3.85 mg/kg	0.000385 %		
	601-036-00-5	205-916-6	207-08-9							
31	benzo[a]pyrene; benzo[def]chrysene				6.97 mg/kg		6.97 mg/kg	0.000697 %		
	601-032-00-3	200-028-5	50-32-8							
32	indeno[123-cd]pyrene				5.02 mg/kg		5.02 mg/kg	0.000502 %		
		205-893-2	193-39-5							
33	dibenz[a,h]anthracene				1.45 mg/kg		1.45 mg/kg	0.000145 %		
	601-041-00-2	200-181-8	53-70-3							
34	benzo[ghi]perylene				5.15 mg/kg		5.15 mg/kg	0.000515 %		
		205-883-8	191-24-2							
35	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
36	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3							
37	tetrachloroethylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	602-028-00-4	204-825-9	127-18-4							
38	carbon tetrachloride; tetrachloromethane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	602-008-00-5	200-262-8	56-23-5							
39	trichloroethylene; trichloroethene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %		<LOD
	602-027-00-9	201-167-4	79-01-6							
40	vinyl chloride; chloroethylene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<LOD
	602-023-00-7	200-831-0	75-01-4							
41	hexachlorobenzene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	602-065-00-6	204-273-9	118-74-1							

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
42	polychlorobiphenyls; PCB					<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
	602-039-00-4	215-648-1	1336-36-3								
Total:									0.248 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because It is assumed that flammability of old/weathered hydrocarbons in a soil matrix are unlikely to be flammable.**

Classification of sample: SS2[1]

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

Sample details

Sample Name:	LoW Code:	
SS2[1]	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)
1.20-1.20 m		

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				11 mg/kg	1.32	14.524 mg/kg	0.00145 %			
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				0.973 mg/kg	2.775	2.7 mg/kg	0.00027 %			
	004-003-00-8	215-133-1	1304-56-9								
3	cadmium { cadmium oxide }				<0.02 mg/kg	1.142	<0.0228 mg/kg	<0.00000228 %			<LOD
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]								
4	chromium in chromium(III) compounds { chromium(III) oxide }				16.6 mg/kg	1.462	24.262 mg/kg	0.00243 %			
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
6	copper { dicopper oxide; copper (I) oxide }				61.3 mg/kg	1.126	69.017 mg/kg	0.0069 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	313 mg/kg	1.56	488.222 mg/kg	0.0313 %			
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				2.11 mg/kg	1.353	2.856 mg/kg	0.000286 %			
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { nickel chromate }				20.7 mg/kg	2.976	61.609 mg/kg	0.00616 %			
	028-035-00-7	238-766-5	14721-18-7								
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	034-002-00-8										
11	zinc { zinc sulphate }				97.1 mg/kg	2.469	239.769 mg/kg	0.024 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
12	TPH (C6 to C40) petroleum group		TPH		26.6 mg/kg		26.6 mg/kg	0.00266 %			
13	pH		PH		8.51 pH		8.51 pH	8.51 pH			
14	naphthalene				0.0299 mg/kg		0.0299 mg/kg	0.00000299 %			
	601-052-00-2	202-049-5	91-20-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
16	acenaphthene	201-469-6	83-32-9		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<LOD
17	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		0.163 mg/kg		0.163 mg/kg	0.0000163 %		
19	anthracene	204-371-1	120-12-7		0.159 mg/kg		0.159 mg/kg	0.0000159 %		
20	fluoranthene	205-912-4	206-44-0		0.15 mg/kg		0.15 mg/kg	0.000015 %		
21	pyrene	204-927-3	129-00-0		0.137 mg/kg		0.137 mg/kg	0.0000137 %		
22	benzo[a]anthracene	601-033-00-9	200-280-6		0.132 mg/kg		0.132 mg/kg	0.0000132 %		
23	chrysene	601-048-00-0	205-923-4		0.11 mg/kg		0.11 mg/kg	0.000011 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.206 mg/kg		0.206 mg/kg	0.0000206 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.0751 mg/kg		0.0751 mg/kg	0.00000751 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.152 mg/kg		0.152 mg/kg	0.0000152 %		
27	indeno[123-cd]pyrene	205-893-2	193-39-5		0.0943 mg/kg		0.0943 mg/kg	0.00000943 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.0416 mg/kg		0.0416 mg/kg	0.00000416 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		0.135 mg/kg		0.135 mg/kg	0.0000135 %		
Total:								0.076 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because**
It is assumed that flammability of old/weathered hydrocarbons in a soil matrix are unlikely to be flammable.

Classification of sample: SS3

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

Sample details

Sample Name:	LoW Code:	
SS3	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)
0.50-0.50 m		

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number					
1	arsenic { arsenic trioxide }							
	033-003-00-0	215-481-4	1327-53-3		13.2 mg/kg	1.32	17.428 mg/kg	0.00174 %
2	beryllium { beryllium oxide }							
	004-003-00-8	215-133-1	1304-56-9		3.76 mg/kg	2.775	10.435 mg/kg	0.00104 %
3	cadmium { cadmium oxide }							
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]		<0.02 mg/kg	1.142	<0.0228 mg/kg	<0.00000228 %
4	chromium in chromium(III) compounds { chromium(III) oxide }							
		215-160-9	1308-38-9		22.2 mg/kg	1.462	32.447 mg/kg	0.00324 %
5	chromium in chromium(VI) compounds { chromium(VI) oxide }							
	024-001-00-0	215-607-8	1333-82-0		<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %
6	copper { dicopper oxide; copper (I) oxide }							
	029-002-00-X	215-270-7	1317-39-1		31.8 mg/kg	1.126	35.803 mg/kg	0.00358 %
7	lead { lead chromate }							
	082-004-00-2	231-846-0	7758-97-6	1	220 mg/kg	1.56	343.159 mg/kg	0.022 %
8	mercury { mercury dichloride }							
	080-010-00-X	231-299-8	7487-94-7		0.573 mg/kg	1.353	0.776 mg/kg	0.0000776 %
9	nickel { nickel chromate }							
	028-035-00-7	238-766-5	14721-18-7		16 mg/kg	2.976	47.62 mg/kg	0.00476 %
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }							
	034-002-00-8				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %
11	zinc { zinc sulphate }							
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		104 mg/kg	2.469	256.807 mg/kg	0.0257 %
12	TPH (C6 to C40) petroleum group							
			TPH		953 mg/kg		953 mg/kg	0.0953 %
13	pH							
			PH		8.96 pH		8.96 pH	8.96 pH
14	naphthalene							
	601-052-00-2	202-049-5	91-20-3		0.773 mg/kg		0.773 mg/kg	0.0000773 %

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	acenaphthylene	205-917-1	208-96-8		0.212 mg/kg		0.212 mg/kg	0.0000212 %		
16	acenaphthene	201-469-6	83-32-9		2.88 mg/kg		2.88 mg/kg	0.000288 %		
17	fluorene	201-695-5	86-73-7		2.85 mg/kg		2.85 mg/kg	0.000285 %		
18	phenanthrene	201-581-5	85-01-8		32.4 mg/kg		32.4 mg/kg	0.00324 %		
19	anthracene	204-371-1	120-12-7		10.8 mg/kg		10.8 mg/kg	0.00108 %		
20	fluoranthene	205-912-4	206-44-0		48.5 mg/kg		48.5 mg/kg	0.00485 %		
21	pyrene	204-927-3	129-00-0		33.9 mg/kg		33.9 mg/kg	0.00339 %		
22	benzo[a]anthracene	601-033-00-9	200-280-6		15.2 mg/kg		15.2 mg/kg	0.00152 %		
23	chrysene	601-048-00-0	205-923-4		14.2 mg/kg		14.2 mg/kg	0.00142 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9		16.2 mg/kg		16.2 mg/kg	0.00162 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6		7.46 mg/kg		7.46 mg/kg	0.000746 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		13.1 mg/kg		13.1 mg/kg	0.00131 %		
27	indeno[123-cd]pyrene	205-893-2	193-39-5		9.2 mg/kg		9.2 mg/kg	0.00092 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		2.71 mg/kg		2.71 mg/kg	0.000271 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		9.86 mg/kg		9.86 mg/kg	0.000986 %		
30	asbestos	650-013-00-6	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5		10 mg/kg		10 mg/kg	0.001 %		
Total:								0.181 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because**
It is assumed that flammability of old/weathered hydrocarbons in a soil matrix are unlikely to be flammable.

Classification of sample: SS4

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

Sample details

Sample Name:	SS4	LoW Code:	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	0.50-0.50 m	Entry:		17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	15 mg/kg	1.32	19.805 mg/kg	0.00198 %		
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9	0.491 mg/kg	2.775	1.363 mg/kg	0.000136 %		
3	cadmium { cadmium oxide }	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]	<0.02 mg/kg	1.142	<0.0228 mg/kg	<0.00000228 %		<LOD
4	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9	9.88 mg/kg	1.462	14.44 mg/kg	0.00144 %		
5	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	16.8 mg/kg	1.126	18.915 mg/kg	0.00189 %		
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	84 mg/kg	1.56	131.024 mg/kg	0.0084 %		
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	0.602 mg/kg	1.353	0.815 mg/kg	0.0000815 %		
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	22.2 mg/kg	2.976	66.073 mg/kg	0.00661 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
11	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]	68.1 mg/kg	2.469	168.159 mg/kg	0.0168 %		
12	TPH (C6 to C40) petroleum group		TPH		157 mg/kg		157 mg/kg	0.0157 %		
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
14	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %			<LOD
	601-022-00-9	202-422-2 [1]	95-47-6 [1]								
		203-396-5 [2]	106-42-3 [2]								
		203-576-3 [3]	108-38-3 [3]								
		215-535-7 [4]	1330-20-7 [4]								
18	pH				9 pH		9 pH	9pH			
			PH								
19	naphthalene				0.0898 mg/kg		0.0898 mg/kg	0.00000898 %			
	601-052-00-2	202-049-5	91-20-3								
20	acenaphthylene				0.0708 mg/kg		0.0708 mg/kg	0.00000708 %			
		205-917-1	208-96-8								
21	acenaphthene				0.0443 mg/kg		0.0443 mg/kg	0.00000443 %			
		201-469-6	83-32-9								
22	fluorene				0.0483 mg/kg		0.0483 mg/kg	0.00000483 %			
		201-695-5	86-73-7								
23	phenanthrene				0.875 mg/kg		0.875 mg/kg	0.0000875 %			
		201-581-5	85-01-8								
24	anthracene				0.223 mg/kg		0.223 mg/kg	0.0000223 %			
		204-371-1	120-12-7								
25	fluoranthene				2.05 mg/kg		2.05 mg/kg	0.000205 %			
		205-912-4	206-44-0								
26	pyrene				1.75 mg/kg		1.75 mg/kg	0.000175 %			
		204-927-3	129-00-0								
27	benzo[a]anthracene				0.975 mg/kg		0.975 mg/kg	0.0000975 %			
	601-033-00-9	200-280-6	56-55-3								
28	chrysene				0.872 mg/kg		0.872 mg/kg	0.0000872 %			
	601-048-00-0	205-923-4	218-01-9								
29	benzo[b]fluoranthene				1.22 mg/kg		1.22 mg/kg	0.000122 %			
	601-034-00-4	205-911-9	205-99-2								
30	benzo[k]fluoranthene				0.611 mg/kg		0.611 mg/kg	0.0000611 %			
	601-036-00-5	205-916-6	207-08-9								
31	benzo[a]pyrene; benzo[def]chrysene				1.13 mg/kg		1.13 mg/kg	0.000113 %			
	601-032-00-3	200-028-5	50-32-8								
32	indeno[123-cd]pyrene				0.723 mg/kg		0.723 mg/kg	0.0000723 %			
		205-893-2	193-39-5								
33	dibenz[a,h]anthracene				0.22 mg/kg		0.22 mg/kg	0.000022 %			
	601-041-00-2	200-181-8	53-70-3								
34	benzo[ghi]perylene				0.832 mg/kg		0.832 mg/kg	0.0000832 %			
		205-883-8	191-24-2								
35	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
36	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3								
37	tetrachloroethylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	602-028-00-4	204-825-9	127-18-4								
38	carbon tetrachloride; tetrachloromethane				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-008-00-5	200-262-8	56-23-5								
39	trichloroethylene; trichloroethene				<0.09 mg/kg		<0.09 mg/kg	<0.000009 %			<LOD
	602-027-00-9	201-167-4	79-01-6								
40	vinyl chloride; chloroethylene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
	602-023-00-7	200-831-0	75-01-4								
41	hexachlorobenzene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-065-00-6	204-273-9	118-74-1								



#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
42	polychlorobiphenyls; PCB					<0.021 mg/kg		<0.021 mg/kg	<0.0000021 %		<LOD
	602-039-00-4	215-648-1	1336-36-3								
Total:								0.0547 %			

Key

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

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because It is assumed that flammability of old/weathered hydrocarbons in a soil matrix are unlikely to be flammable.**

Classification of sample: SS5

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

Sample details

Sample Name:	LoW Code:
SS5	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50-0.50 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				12.8	mg/kg	1.32	16.9	mg/kg	0.00169 %		
	033-003-00-0	215-481-4	1327-53-3									
2	beryllium { beryllium oxide }				1.03	mg/kg	2.775	2.859	mg/kg	0.000286 %		
	004-003-00-8	215-133-1	1304-56-9									
3	cadmium { cadmium oxide }				0.112	mg/kg	1.142	0.128	mg/kg	0.0000128 %		
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]									
4	chromium in chromium(III) compounds { chromium(III) oxide }				19.9	mg/kg	1.462	29.085	mg/kg	0.00291 %		
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6	mg/kg	1.923	<1.154	mg/kg	<0.000115 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
6	copper { dicopper oxide; copper (I) oxide }				40.5	mg/kg	1.126	45.598	mg/kg	0.00456 %		
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	143	mg/kg	1.56	223.054	mg/kg	0.0143 %		
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				1.36	mg/kg	1.353	1.841	mg/kg	0.000184 %		
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				22.2	mg/kg	2.976	66.073	mg/kg	0.00661 %		
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	034-002-00-8											
11	zinc { zinc sulphate }				150	mg/kg	2.469	370.394	mg/kg	0.037 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
12	TPH (C6 to C40) petroleum group		TPH		123	mg/kg		123	mg/kg	0.0123 %		
13	pH		PH		8.3	pH		8.3	pH	8.3 pH		
14	naphthalene				0.053	mg/kg		0.053	mg/kg	0.0000053 %		
	601-052-00-2	202-049-5	91-20-3									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	acenaphthylene	205-917-1	208-96-8		0.149 mg/kg		0.149 mg/kg	0.0000149 %		
16	acenaphthene	201-469-6	83-32-9		0.0306 mg/kg		0.0306 mg/kg	0.00000306 %		
17	fluorene	201-695-5	86-73-7		0.0379 mg/kg		0.0379 mg/kg	0.00000379 %		
18	phenanthrene	201-581-5	85-01-8		0.748 mg/kg		0.748 mg/kg	0.0000748 %		
19	anthracene	204-371-1	120-12-7		0.246 mg/kg		0.246 mg/kg	0.0000246 %		
20	fluoranthene	205-912-4	206-44-0		2.75 mg/kg		2.75 mg/kg	0.000275 %		
21	pyrene	204-927-3	129-00-0		2.39 mg/kg		2.39 mg/kg	0.000239 %		
22	benzo[a]anthracene	601-033-00-9	200-280-6		1.78 mg/kg		1.78 mg/kg	0.000178 %		
23	chrysene	601-048-00-0	205-923-4		1.29 mg/kg		1.29 mg/kg	0.000129 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9		2.52 mg/kg		2.52 mg/kg	0.000252 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.948 mg/kg		0.948 mg/kg	0.0000948 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		2 mg/kg		2 mg/kg	0.0002 %		
27	indeno[123-cd]pyrene	205-893-2	193-39-5		1.16 mg/kg		1.16 mg/kg	0.000116 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.354 mg/kg		0.354 mg/kg	0.0000354 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		1.32 mg/kg		1.32 mg/kg	0.000132 %		
Total:								0.082 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: Force this Hazardous property to non hazardous because It is assumed that flammability of old/weathered hydrocarbons in a soil matrix are unlikely to be flammable.

Classification of sample: SS5[1]

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

Sample details

Sample Name:	LoW Code:
SS5[1]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.50-1.50 m	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				13.6 mg/kg	1.32	17.956 mg/kg	0.0018 %			
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				1.45 mg/kg	2.775	4.024 mg/kg	0.000402 %			
	004-003-00-8	215-133-1	1304-56-9								
3	cadmium { cadmium oxide }				<0.02 mg/kg	1.142	<0.0228 mg/kg	<0.00000228 %			<LOD
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]								
4	chromium in chromium(III) compounds { chromium(III) oxide }				28.7 mg/kg	1.462	41.947 mg/kg	0.00419 %			
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
6	copper { dicopper oxide; copper (I) oxide }				30.8 mg/kg	1.126	34.677 mg/kg	0.00347 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	32.1 mg/kg	1.56	50.07 mg/kg	0.00321 %			
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				0.552 mg/kg	1.353	0.747 mg/kg	0.0000747 %			
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { nickel chromate }				57.5 mg/kg	2.976	171.135 mg/kg	0.0171 %			
	028-035-00-7	238-766-5	14721-18-7								
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	034-002-00-8										
11	zinc { zinc sulphate }				76 mg/kg	2.469	187.667 mg/kg	0.0188 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
12	TPH (C6 to C40) petroleum group		TPH		11 mg/kg		11 mg/kg	0.0011 %			
13	pH		PH		7.64 pH		7.64 pH	7.64 pH			
14	naphthalene				<0.009 mg/kg		<0.009 mg/kg	<0.0000009 %			<LOD
	601-052-00-2	202-049-5	91-20-3								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
15	acenaphthylene	205-917-1	208-96-8		<0.012 mg/kg		<0.012 mg/kg	<0.0000012 %		<LOD
16	acenaphthene	201-469-6	83-32-9		0.0296 mg/kg		0.0296 mg/kg	0.00000296 %		
17	fluorene	201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
18	phenanthrene	201-581-5	85-01-8		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
19	anthracene	204-371-1	120-12-7		<0.016 mg/kg		<0.016 mg/kg	<0.0000016 %		<LOD
20	fluoranthene	205-912-4	206-44-0		<0.017 mg/kg		<0.017 mg/kg	<0.0000017 %		<LOD
21	pyrene	204-927-3	129-00-0		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
22	benzo[a]anthracene	601-033-00-9	200-280-6		<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
23	chrysene	601-048-00-0	205-923-4		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
24	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
25	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.014 mg/kg		<0.014 mg/kg	<0.0000014 %		<LOD
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.015 mg/kg		<0.015 mg/kg	<0.0000015 %		<LOD
27	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.018 mg/kg		<0.018 mg/kg	<0.0000018 %		<LOD
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.023 mg/kg		<0.023 mg/kg	<0.0000023 %		<LOD
29	benzo[ghi]perylene	205-883-8	191-24-2		<0.024 mg/kg		<0.024 mg/kg	<0.0000024 %		<LOD
Total:								0.0505 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because It is assumed that flammability of old/weathered hydrocarbons in a soil matrix are unlikely to be flammable.**

Appendix A: Classifier defined and non CLP determinands

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

Conversion factor: 1.462

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: 17/07/2015

Risk Phrases: R20 , R22 , R36 , R37 , R38 , R42 , R43 , R50/53 , R60 , R61

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

■ **dicopper oxide; copper (I) oxide** (EC Number: 215-270-7, CAS Number: 1317-39-1)

CLP index number: 029-002-00-X

Data source: Regulation (EU) 2016/1179 of 19 July 2016 (ATP9)

Additional Risk Phrases: N R50/53 , N R50/53 >= 0.25 %

Additional Hazard Statement(s): None.

Reason for additional Hazards Statement(s)/Risk Phrase(s):

10/10/2016 - N R50/53 risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

10/10/2016 - N R50/53 >= 0.25 % risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

■ **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: 25/05/2015

Risk Phrases: R10 , R45 , R46 , R51/53 , R63 , R65

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

■ **pH** (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25/05/2015

Risk Phrases: None.

Hazard Statements: None.

■ **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: 17/07/2015

Risk Phrases: R22 , R26 , R27 , R36 , R37 , R38

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: 17/07/2015

Risk Phrases: R36 , R37 , R38 , N R50/53 , N R51/53

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: 06/08/2015

Risk Phrases: N R50/53

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: 06/08/2015

Risk Phrases: R22 , R36 , R37 , R38 , R40 , R43 , N R50/53

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: 17/07/2015

Risk Phrases: R36 , R37 , R38 , R43 , N R50/53

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: 21/08/2015

Risk Phrases: Xn R22 , N R50/53

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: 21/08/2015

Risk Phrases: Xi R36/37/38 , N R50/53

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: 06/08/2015

Risk Phrases: R40

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: 23/07/2015

Risk Phrases: N R50/53

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

• **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

CLP index number: 601-023-00-4

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Risk Phrases: None.

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s)/Risk Phrase(s):

03/06/2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

• **1,1-dichloroethane and 1,2-dichloroethane (combined)** (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane

Data source: N/a

Data source date: 14/10/2016

Risk Phrases: F R11 , Xn R22 , Xi R36/37/38 , Carc Cat 2 R45 , R52/53

Hazard Statements: Flam. Liq. 2 H225 , Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 1B H350 , Aquatic Chronic 3 H412

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

CLP index number: 602-039-00-4

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

Additional Risk Phrases: None.

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

Reason for additional Hazards Statement(s)/Risk Phrase(s):

29/09/2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history

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

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass

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

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. Worst case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight

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

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil.

zinc {zinc sulphate}

Changed from Zinc Chromate as Chromium VI is not present within the sample. The previous site use comprised residential properties and the current site use comprises a school therefore, the next most conservative species has been used - Zinc Sulphate.

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition, May 2015**

HazWasteOnline Classification Engine Version: 2017.170.3346.6744 (19 Jun 2017)

HazWasteOnline Database: 2017.170.3346.6744 (19 Jun 2017)

This classification utilises the following guidance and legislation:

WM3 - Waste Classification - May 2015

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 Wastes 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

POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004

1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010

2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010