Geo-Environmental

REMEDIATION STRATEGY & VERIFICATION PLAN

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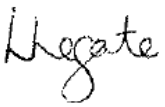
CHALK PIT AREA (CP), WOODCROFT FARM,

WOODCROFT LANE, LOVEDEAN, PO8 9QA

on behalf of

VISTRY HOMES SOUTHERN



Report:	**REMEDIATION STRATEGY & VERIFICATION PLAN**
Site:	**CHALK PIT AREA (CP), WOODCROFT FARM, WOODCROFT LANE, LOVEDEAN, PO8 9QA**
Client:	**VISTRY HOMES SOUTHERN**
Date:	**22/12/20**
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AMENDMENT RECORD

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1.0	28/06/2018	First issue	FG	GR	GR
2.0	26/10/2018	Accounts for findings of Detailed Quantitative Gas Risk Assessment	FG/GR	GR	GR
3.0	13/02/2020	Revision to reflect clarification of development levels	GR	GR	GR
4.0	27/03/2020	Revision to reflect proposed development levels	GR	GR	GR
5.0	24/08/2020	Revision to reflect proposed development levels	FG	LL	GE
6.0	22/12/2020	Revision to reflect amended proposed development levels	FG	LL	GR

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1.0 INTRODUCTION

1.1 General

Following a Phase I and Phase II assessment of the site undertaken by third parties, detailed within reports listed below, Geo-Environmental was appointed by Grainger PLC and subsequently Vistry Homes, to undertake supplementary investigation and formulate a Remediation Strategy in relation to the proposed development at Woodcroft Farm, Woodcroft Lane, Lovedean, PO8 9QA herein referred to as 'the site' (Figures 1 and 2). Three distinct areas of the development site were identified as being impacted by contamination. Separate Remediation Strategies will be written for each of these distinct areas, therefore this Remediation Strategy is specific to the area of the development site known as the former chalk pit and landfill area, as shown in Figure 2.

This Remediation Strategy & Verification Plan for the Chalk Pit and Landfill Area (RSVP-CP v6.0), should be read in conjunction with the Remediation Strategy & Verification Plans for the former farmyard (RSVP-FY v6.0) and horse arena (RSVP-HA v5.0), dated December 2020.

The site as a whole, has been the subject to Phase I Ground Condition Report, ref 21834, dated 2010 prepared by Peter Brett Associates (PBA), which included a desk study and preliminary risk assessment for the overall Woodcroft Farm site; a Factual Report, ref RML 4750, dated October 2011 prepared by Risk Management Limited, which included ground investigation and laboratory test results; and a Geoenvironmental and Geotechnical Ground Investigation Report, ref 21834-030-R02, dated July 2013 prepared by PBA, which presented an interpretative assessment of the overall Woodcroft Farm site.

In addition to the above reports, Geo-Environmental was commissioned in 2017 to undertake a review of these reports, and supplementary testing and assessment. This was reported within a Soil Contamination Assessment ref. GE16662-FG02-170929, dated 29th September 2017. An additional phase of investigation, testing and monitoring was also commissioned in 2018 and reported on herein. Subsequently, a Detailed Quantitative Gas Risk Assessment (DQGRA) was commissioned from The Environmental Protection Group Ltd (EPG), ref. EPG/8938/2018/DQGRA/V1 dated October 2018, in relation to the infilled former chalk pit. The findings of the DQGRA have informed this RSVP.

The remedial strategy presented herein has been developed to reflect the findings from all phases of the assessments undertaken on this site, in respect to the chalk pit area. Based on the findings of the investigations it is considered that remediation works would be required with respect to soil contamination identified within the Made Ground within the chalk pit area on the site.

The revised strategy (V6.0) reflects clarification of development ground levels, as discussed with the Client and the Developer, and presented on Odyssey's engineering layout drawing ref: 17-110/2210, prepared July 2020 and Ardent's development levels plans ref: 192931-073, 192931-074 and 192931-075, prepared November 2020.

1.2 Objectives

The Remediation Strategy & Verification Plan (RSVP) sets out the proposed remedial works to be undertaken on the subject site to support its development for a proposed residential end use with private gardens.

1.3 Planning Permission

It is understood that a planning application has been approved for the site by Havant Borough Council under Planning Reference APP/13/00804. The following pre-commencement planning conditions have been attached to the application which relate to the remediation and validation of land contamination on the site.

11. Prior to the commencement of construction within any specified phase or defined area the development approved by this Planning Permission (as may be agreed in writing by the Local Planning Authority), a scheme to deal with the risks associated with contamination of the site shall be submitted to and approved in writing by the Local Planning Authority. That scheme shall include all of the following elements unless specifically excluded in writing by the Local Planning Authority.

1. *A scheme of further investigation, based on the previously submitted GeoEnvironmental & Geotechnical report. The scope of the investigation shall be sufficient to:*
   - *confirm the preliminary assessment of the nature and extent of contamination at the site,*
   - *inform an appropriate assessment of the risks to all receptors that may be affected, including controlled waters, and;*
   - *enable the appropriate design of remediation and/or risk mitigation measures (if required).*
2. *The results of the further investigation and risk assessment (1) and if appropriate, a method statement based on these results giving full details of the remediation and/or risk mitigation measures required, and how they are to be undertaken.*
3. *A verification report or statement (as appropriate) upon completion of the works set out in (2) [if any], confirming that measures undertaken have been implemented in accordance with the method statement, and have achieved the required performance standards. The verification report / statement shall provide details of any measures necessary for maintenance, further monitoring and reporting.*

All elements shall be adhered to unless agreed in writing by the Local Planning Authority.

Reason: To prevent future occupants of proposed residential properties being exposed to unacceptable risks from identified contamination & soil gas associated with automotive repair and landfill activity previously undertaken at the site, and to ensure that the site does not pose an unacceptable risk to the groundwater Source Protection Zone 1; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

12. Prior to the commencement of construction of any part of the development approved by this Planning Permission, a protocol for the identification & assessment of any unforeseen ground conditions shall be submitted to and approved in writing by the Local Planning Authority. The provisions of the approved protocol shall be observed throughout the undertaking of all relevant construction activities.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

13. If, during development, contamination not previously identified at the site is found to be present, then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted, and obtained written approval from the Local Planning Authority for an addendum to the Method Statement required under Condition 1, (2). This addendum shall detail how this unexpected contamination shall be dealt with, and the development shall not be carried out other than in accordance with the approved details.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

2.0 BACKGROUND

This Remediation Strategy & Verification Plan (RSVP) has been developed from the findings of the various phases of assessment.

A brief overview of salient findings of the reports is presented below. For further information, the individual reports should be referred to directly.

2.1 Overview

The wider site's previous uses included use as a farm with associated barns and buildings, scrapyard and the former chalk pit being infilled as an inert landfill. The portion of the site considered specifically herein comprised the former chalk pit and landfill area, as shown in Figure 2.

The ground conditions encountered within the former chalk pit and landfill area comprised a variable thickness of Topsoil overlying Made Ground, overlying gravelly clay and sandy clay on the northern boundary of this area and overlying the Chalk in the main body of the former chalk pit/landfill. On the periphery of the former chalk pit Made Ground was not encountered and the ground conditions were found to comprise a mantle of Topsoil overlying gravelly clay and sandy clay with flint gravel.

Made Ground was encountered within the majority of investigation locations at depths between 0.50m bgl and 5.00m+ bgl, and was found to comprise, sandy clay with brick, chalk gravel, concrete, tile, decaying roots, ashy deposits, plastic, wood and charcoal; sandy gravelly clay with brick, tile, slate, wood and glass; firm clay with brick, wood, rope, flint gravel, chalk gravel, plastic chipboard and cement; clayey sandy chalk and flint gravel with tarmac, chalk fragments, brick, tile, charcoal, wood, concrete and glass.

Within the main body of the former chalk pit/landfill the Made Ground was underlain directly by the Chalk. Around the outer edges of the chalk pit the Made Ground was found to be underlain by soft to firm clay, gravelly clay and sandy clay with occasional bands of flint cobbles.

Previous investigation and testing by third parties identified the presence of asbestos within the Made Ground in the former chalk pit and landfill area of the site. Previous investigation by Geo-Environmental identified elevated concentrations of Beryllium and the PAH compound Dibenzo(a,h)anthracene along with the presence of Asbestos, as well as identifying the need for a detailed ground gas risk assessment based on the presence of Made Ground/landfill deposits of variable composition and limited monitoring data. Therefore, further investigation and testing was undertaken to inform this RSVP and is presented herein.

The recent investigation and testing of soils identified contaminant concentrations of concern primarily within the Made Ground in relation to Beryllium, the PAH compound Dibenzo(a,h)anthracene and Asbestos. On the basis of the testing conducted to date, it is considered that remedial action would be warranted to protect end users of a residential development from the soil based contaminants identified.

Groundwater was not encountered within any of the investigation locations and is anticipated to be present at depths in excess of 25.00m bgl.

Some of the phases of investigation included limited periods of ground gas monitoring and a requirement for more detailed investigation and assessment was identified, which was subsequently completed and report with the detailed ground gas risk assessment for the site.

2.2 Supplementary Intrusive Investigation Works – Chalk Pit and Landfill Area

As part of the formulation of a remedial strategy further intrusive investigation works were undertaken between 14th May 2018 and 18th May 2018, in order to install ground gas monitoring wells, establish the extent of the landfill/Made Ground and gather forensic information of encountered materials to inform the detailed ground gas risk assessment. In relation to the former chalk pit and landfill area these works comprised the excavation of 5No. trial pits to depths of up to 3.00m bgl and 7No. window sampler boreholes to depths of up to 5.00m bgl with gas monitoring well installations, forensic description/analysis of the encountered Made Ground and associated environmental sampling for total organic matter content, along with 4No. trial trenches to depths of up to 2.00m bgl to establish the extent of the area of landfill/Made Ground. Gas monitoring wells were installed at varying depths within 7No. locations to target the landfill/Made Ground and natural ground on the periphery, to facilitate both spot and continuous gas monitoring. The location of the trial pits, boreholes and trenches are presented in Figure 3 and Figure 4, with the exploratory hole logs presented in Appendix A and results of the geochemical analysis and statistical assessments presented in Appendix B.

Subsequent to the several phases of intrusive investigation and ground gas monitoring, and a surface emissions survey, a Detailed Quantitative Gas Risk Assessment was undertaken by EPG, dated October 2018 in relation to the infilled chalk pit. The DQGRA concluded that ground gas protection measures were not required for the proposed residential development.

Further discussion relating to the implications of these supplementary investigation works is presented in Section 3 of this report.

2.3 Proposed Site Use

The proposed development is understood to comprise the development of 288No. residential units, associated car parking, open space and landscaping. The former chalk pit and landfill area covers c. 30-40 houses and associated private gardens.

2.4 Conceptual Site Model

Assessment of the investigation findings have identified particular hazards, or potential hazards which were considered to require intervention (remediation) to mitigate the risk of harm. Remediation works are proposed to break the identified plausible pollutant linkages associated with respect to contaminants of concern above respective assessment criteria within residential buildings and private garden areas proposed within the former chalk pit and landfill area, thereby mitigating the associated risk of harm to human health.

This would be undertaken as several phases of works on site and reflects the proposed development levels and requirement for a variable depth of reduced dig to accommodate a soil cover system. Reference should be made to Figures 8-9 which show proposed changes in ground level to achieve the development levels and associated reduced dig depths on individual plots:

1) Reduced dig to the minimum depths indicated on Figures 8-9 to achieve the required formation level to accommodate the required soil cover system thickness, or the full extent of the Made Ground where Made Ground is shallower. (Plots requiring a reduced dig are listed in Section 4.2).
2) It is proposed to retain and re-use the excavated soils where suitable for use (without treatment) within garden plots (under the soil cover system) where levels require raising and hence a requirement for the volume of excavated soil being generated from the reduced dig. (Figures 10-11 present the required volumes within specific Plots). These works would be undertaken in line with a Materials Management

Plan (MMP), subject to the appropriate documentation, Definition of Waste Code of Practice (DoWCoP) assessment, Qualified Person (QP as defined in DoWCoP) declaration and agreement of the Regulators.

3) If excavated soils are to be stored on site prior to their removal they will need to be placed on and covered with sheeting to prevent the spread of any asbestos or asbestos containing material. It is preferable for excavated soils from the reduced dig to be relocate directly to the final placement/re-use location without stockpiling so as to avoid double handling, stockpile controls and the like. In addition, the placed/re-used soils can then be covered at the earliest practicable opportunity.
4) Material re-use is subject to the requirements of this and associated remedial strategies which apply to the development within the overall site boundary and no materials are to be excavated or moved until a Materials Management Plan is in place and the required QP Declaration has been submitted to and accepted by CL:AIRE who subsequently notify the Environment Agency (EA). Movement of materials outside of these protocols would be considered an illegal waste process and subject to legal action and financial penalties applied by the regulators to the developer and/or groundworks contractor.
5) Installation of a soil cover system in garden areas and areas of soft landscaping to break the pollutant linkage for the contaminants identified within the Made Ground soils in the farmyard area, and to also provide suitable growing media. Where the reduced dig does not remove all of the Made Ground and hence the cover system is to be laid over Made Ground, or where development levels dictate that no reduced dig is required and Made Ground is to remain, the soil cover system shall incorporate a 150mm thick break layer formed of stone or crushed concrete with a geotextile membrane laid above and beneath, and overlain by a deter to dig geofabric to act as a visible deterrent overlain by a minimum 300mm thickness of subsoil and a minimum of 300mm of Topsoil. Where the reduced dig removes all Made Ground and exposes uncontaminated natural strata (and is validated as such), the soil cover system shall comprise clean subsoil and a minimum 300mm of suitable Topsoil, the thickness of subsoil in this scenario will be defined by the difference between the finished garden level (minus 300mm Topsoil) and the reduced dig level. The cover system is likely to be completed with Topsoil placement towards the end of plot specific development with the placement of Topsoil.

The aim of the remediation is not to remove all contamination identified on site but to reduce the identified risk to an acceptable level with respect to human health, the built environment and controlled waters.

It should be noted that the NHBC would not accept the deposition of asbestos impacted soils beneath house footprints as part of development related works on this site. In addition, the EA may not accept the deposition of asbestos impacted soils under roads where such soils then require compaction as this can potentially cause breakdown of the asbestos containing materials.

3.0 GROUND GAS

Intrusive ground investigation works undertaken over several phases identified the presence of deep Made Ground and/or landfill material within the former chalk pit located adjacent to the farmyard area. A maximum depth of c. 5.00m of Made Ground was established through intrusive investigation. The most recent intrusive investigation included forensic examination and description of the Made Ground infill within the chalk pit and Total Organic Carbon testing of Made Ground samples recovered from exploratory hole. The investigations have included several phases of ground gas monitoring and most recently, a surface emissions survey.

The findings of the various phases of investigation and monitoring have been assessed in detail by EPG as part of completion of a DQGRA, which concluded that no ground gas protection measures were required for the proposed residential development on the chalk pit area.

4.0 SOILS

The ground conditions within the chalk pit/landfill area have been established through several phases of intrusive investigation. Encountered soils comprised a mantle of Topsoil overlying Made Ground overlying gravelly clay and sandy clay on the northern boundary of this area and overlying the Chalk in the main body of landfill/Made Ground. On the outer edges of the former chalk pit Made Ground was not encountered and the ground conditions were found to comprise a thickness of Topsoil overlying gravelly clay and sandy clay with flint gravel.

Made Ground was encountered within the majority of investigation locations at depths between 0.50m bgl and 5.00m+ bgl, and was found to comprise, sandy clay with brick, chalk gravel, concrete, tile, decaying roots, ashy deposits, plastic, wood and charcoal; sandy gravelly clay with brick, tile, slate, wood and glass; firm clay with brick, wood, rope, flint gravel, chalk gravel, plastic chipboard and cement; clayey sandy chalk and flint gravel with tarmac, chalk fragments, brick, tile, charcoal, wood, concrete and glass. Possible asbestos was noted to be present within TP213 between 0.80m and 1.70m bgl and within TP303 between 0.10m and 0.35m bgl.

A review of chemical analysis of the soil samples from the chalk pit/landfill area was undertaken, and the results compared individually against the relevant GAC, SSAC or C4SL for a proposed residential end use (with plant uptake). Individual exceedances above the respective assessment criteria were identified for Beryllium, and PAH as summarised in Table 1.

Determinand	Tier 1 Criteria mg/kg	Depth m bgl	Concentration mg/kg	Geology
Beryllium	S4UL – 1.7 SSAC – 1.72	TP217 at 0.2	2.5	Topsoil
Dibenzo(a,h)anthracene	S4UL – 0.24 SSAC – 0.39	TP213 at 1.0	0.5	Made Ground

Table 1 Summary of exceedances against Tier 1 assessment criteria

The tier 1 exceedances where screened against the Site Specific Assessment Criteria (SSAC) calculated for the site. All of the exceedances identified were also found to exceed the calculated SSAC for residential end use with plant uptake. The noted exceedances of the calculated SSAC have all been identified as being within the Topsoil and Made Ground within the former chalk pit/landfill area.

Therefore the results were assessed further through statistical assessment as described below.

Statistical analysis of the samples within the dataset was undertaken in accordance with guidance contained in the CIEH/CL:AIRE report 'Comparing Soil Contamination Data with a Critical Concentration' (May 2008). If the contamination status of the soils is considered in a planning context, the null hypothesis tested by the analysis is whether the true mean concentration is equal to or greater than the critical concentration for a given determinand, with the critical concentration being the relevant SSAC or GAC (the soil screening value) for that determinand in the context of the intended end use of the site. If the analysis shows that the true mean concentration is less than the critical concentration the null hypothesis can be rejected. The guidance recommends that for the null hypothesis to be rejected the analysis should show that there is a 95% (or higher) likelihood that the true mean concentration is below the critical concentration. Where this is the case the site is considered to be acceptable for the planned end use without any necessary remedial measures.

Statistical assessment was undertaken on all results of geochemical testing undertaken by Geo-Environmental, for heavy metals and PAH from within the former chalk pit and landfill area of the site only. Due to the depth and extent of Made Ground encountered within the former chalk pit/ landfill area, it was deemed appropriate to assess

the results from this area in isolation as they were not representative of the Made Ground or natural soils encountered elsewhere on site.

The dataset of soils sampled for chemical analysis from within the former chalk pit and landfill area was limited. However, initial assessment of the datasets for both Beryllium and Dibenzo(a,h)anthracene indicated that the null hypothesis could not be rejected. Whilst statistical outliers were identified for a number for other substances, all reported concentrations (and statistical upper confidence limit concentrations) were below the relevant SSAC. The results of the statistical assessments are presented within Appendix B.

In addition, all samples were submitted for asbestos screening and where asbestos was identified quantification testing was carried out. The locations where asbestos was identified are summarised in Table 2.

Location and Depth (m bgl)	Type	Free Fibres (%)	Total (%)
TP213 at 1.0	Chrysotile and Crocidolite	<0.001	2.66
TP302 at 0.2	Chrysotile	<0.001	0.726
WS407 at 3.0 – 4.0	Chrysotile	<0.001	0.147

Table 2 Summary of locations of asbestos identified

Due to the extent and variation of the Made Ground/landfill encountered it is considered prudent to assume the potential for sporadic presence of ACM within the Made Ground across the former chalk pit/landfill area. In addition, previous investigations undertaken by third parties also identified the presence of asbestos within the Made Ground in the former chalk pit and landfill area.

Based on the above assessment it is considered that remedial action would be warranted to protect end users of a residential development on this site in relation to the concentrations of Asbestos, Beryllium and Dibenzo(a,h)anthracene identified within the Made Ground within the former chalk pit and landfill area, as shown on Figure 7. Remedial action to protect end users from impacted soil is discussed in Section 4.2 below.

4.1 Site Workers

It is the responsibility of the Principal Contractor and their appointed sub-contractors to implement and manage safe systems of work, prepare their own risk assessments in accordance with Health and Safety legislation in order to protect persons in their employ, as well as mitigate the risk of harm to others due to works in their control. Special consideration should be given to the provisions of the Construction (Design & Management) Regulations 2015, Health and Safety at Work Act and the Control of Substances Hazardous to Human Health regulations to protect the safety of persons in their employment. Additional guidance can be sought from the CIRIA publications entitled "A Guide for Safe Working on Contaminated Sites" and “Environmental Good Practice on site guide (fourth edition)”.

In addition to the safe systems of works to be implemented alongside appropriate risk assessments and method statements, all site personnel shall benefit from on-site hygiene facilities including wash area, toilets and drying room.

Separate canteen area and welfare facilities should be provided. All eating and drinking should be restricted to the canteen area and only once site personnel have removed outer PPE and washed exposed skin.

In the event of dry spells, or where the exposed surface becomes dry, regular damping down of the surface of the site will be required to prevent the release of soil dust which could impact on site operatives or migrate off-site, thereby mitigating both off-site exposure and nuisance for neighbours.

4.2 End Users

Asbestos containing materials (ACM) and asbestos fibres have been identified both visually and within chemical analysis to be present within the Made Ground/landfill material within the former chalk pit/landfill area along with elevated concentrations of both Beryllium and Dibenzo(a,h)anthracene.

The installation of a clean cover system within private gardens and areas of soft landscaping will be required within the former chalk pit/landfill area.

A combination of a reduced dig (as shown in Figures 8-11), to accommodate the soil cover system in the finished level, or complete removal of the Made Ground where Made Ground is found to be shallower, and the installation of a clean cover system within private gardens and areas of communal soft landscaping will be required within the Chalk Pit area. Table 3 below presents minimum reduced dig depths required to accommodate the soil cover system and achieve the development levels for specific plots within the Chalk Pit area.

Plot Number	Minimum Depth of Reduced Dig (m bgl)
100	0.01
101	0.10
102-103	0.23
104	1.11 or full extent of Made Ground if Made Ground shallower than reduced dig depth
105	1.04 or full extent of Made Ground if Made Ground shallower than reduced dig depth
106	1.34 or full extent of Made Ground if Made Ground shallower than reduced dig depth
107	0.85
108	0.62
109-111	0.89
112	0.59
114	0.21
115	0.17
133-135	0.41
136-138	0.44

Table 3 Specific Plots in Chalk Pit area requiring reduced dig

In order to achieve the development levels, soils won from reduced dig areas are to be relocated to garden plots where they can be accommodated below the soil cover system. The movement of materials shall not commence until such time as an MMP is in place and QP Declaration submitted to, and accepted CL:AIRE who subsequently notify the EA. It is preferable, and thus proposed, that the excavated soils shall be relocated directly from the reduced dig area to their final placement location without any requirement for stockpiling.

Validation inspections will be undertaken at the base and sides of the excavation to demonstrate that a reduced dig has been undertaken and where the full extent of the Made Ground has been removed.

Given the nature of the contaminants identified within the Made Ground across the former chalk pit/landfill area (principal risk driver is Asbestos) a soil cover system will be installed within all gardens and soft landscaping areas. The cover systems should comprise certifiably 'clean' Topsoil and subsoil. Both aspects of the cover system should be both chemically and physically suitable for the proposed end use. Given the presence of asbestos a BRE Soil

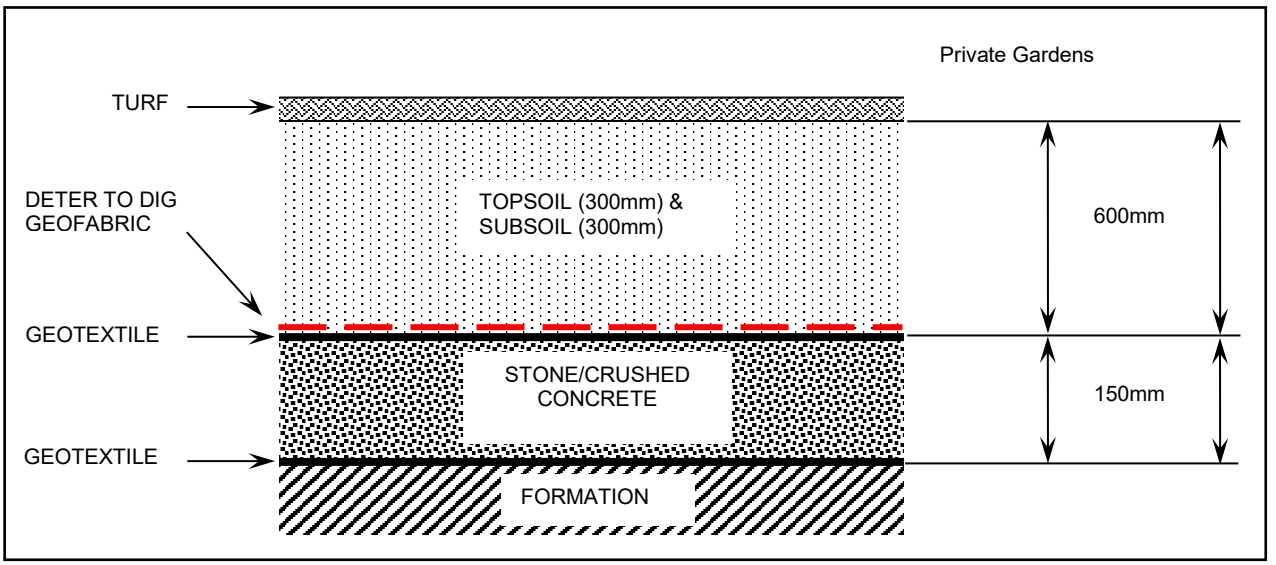
Cover system with a minimum soil cover thickness of 600mm would be required in proposed gardens and 450mm in areas of soft landscaping. The upper 300mm of a cover system should comprise Topsoil.

Where the reduced dig removes all of the Made Ground, subject to verification inspection and testing if required, the cover system shall comprise subsoil and a minimum 300mm thickness of Topsoil.

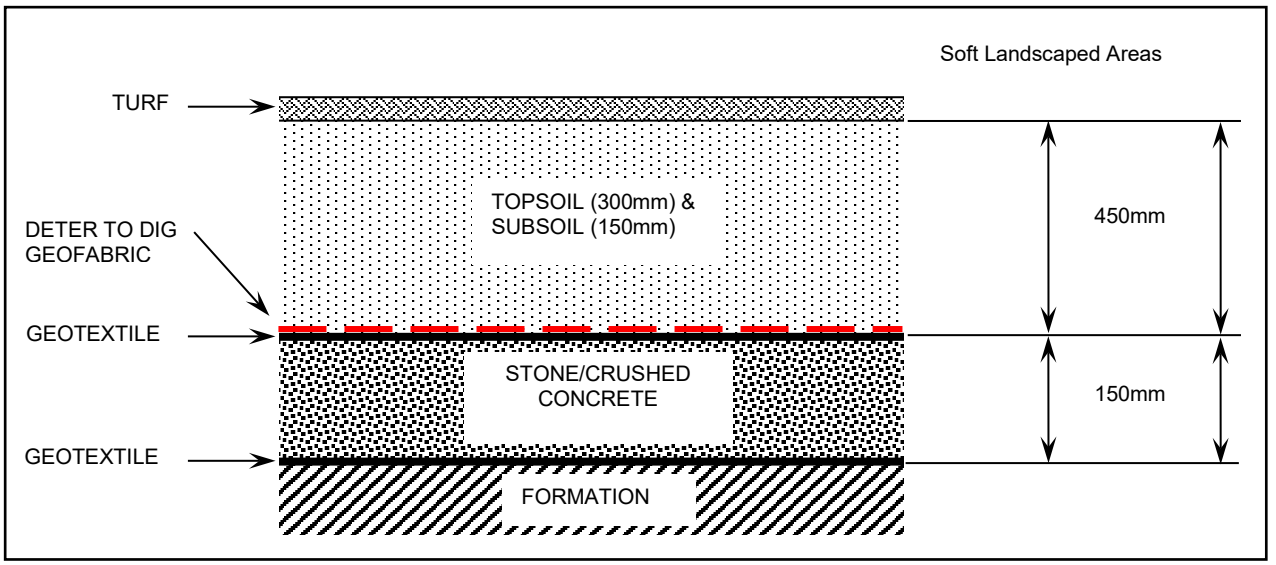
Where Made Ground remains in place following the reduced dig, or where a reduced dig is not required due to proposed final site levels, the cover system should incorporate a capillary break layer comprising 150mm depth of stone or crushed concrete, between two layers of geotextile. A high visibility deter to dig geofabric shall be laid over the upper geotextile to provide a visible deterrent to excavation. Any soils imported onto the site should be verified free from contamination with chemical testing undertaken to confirm their suitability for use within private gardens and areas of soft landscaping.

The reduced dig areas, anticipated depths and approximate volumes are presented on Figures 8-11.

An example of the recommended cover system for use in private gardens where Made Ground is to remain in-situ is provided below:



An example of the recommended cover system for use in areas of communal soft landscaping where Made Ground is to remain in-situ is provided below:



With regards to private gardens and areas of communal soft landscaping, it is recommended that Topsoil is placed to provide a suitable growing medium for proposed planting areas as part of the cover system described above.

It is anticipated that site won Topsoil stripped from uncontaminated areas of the wider site will be available for deposition as part of the cover system in gardens and soft landscaping. Thus, it is considered unlikely that it will be necessary to import Topsoil to the site, however if it is necessary to import topsoil on to the development then, prior to importation, the chemical, physical and nutritional suitability is to be verified by the Contractor. Importation of Topsoil or subsoil from unverified or unsuitable sources would require their removal from site and replacement with suitable materials. As a matter of good practice, it is recommended that the location, approximate extent and thickness of any imported topsoil are recorded and presented in the Validation/Verification Report to be prepared by the Environmental Consultant. Soil importation criteria is detailed in Appendix C.

Where impacted soils remain beneath building footprints or hard standing, the plausible pollutant linkage for direct contact is removed and thus risk of harm to end users from exposure to the contaminants is removed, as roads, buildings and permanent hard cover would sever the pollutant linkage and thus the impacted shallow soils could remain in these areas. Re-use of asbestos impacted soils beneath house footprints is not acceptable to the NHBC and deposition of such soils as fill beneath roads and hard standing is unlikely to be acceptable to the EA due to compaction changing the condition of the asbestos contaminating materials. However, limited works may be required in these areas to provide a suitable working platform for development to proceed.

Any soils imported onto the site should be verified free from contamination with chemical testing undertaken to confirm their suitability for use within areas of soft landscaping.

The proposed re-use of Made Ground and contaminated soils from impacted areas of the site (Farmyard and Chalk Pit), on the site of origin means that a Materials Management Plan will be required for the site under the Code of Practice.

As such excavated soils on site will be re-used under the CL:AIRE Definition of Waste, Code of Practice where it can be demonstrated that there is a need for the use of the materials and where the risk is demonstrated to be

acceptable under an MMP. The MMP must be completed and approved prior to commencement of material movement on site. Where a RSVP is in place for the site, agreement of re-use must also be agreed with the regulators.

4.3 Inspection/Validation

Verification of remediation measures shall be required through regular inspection at key stages of the works to include:

- Reduced dig and Made Ground excavation;
- Transfer of the excavated Made Ground and/or contaminated soils to the final placement/re-use location;
- The placement of a cover system, including verification of any additional subsoil and/or Topsoil in order to allow for the installation of the cover system required in private gardens and soft landscaping areas.

It is likely that verification will be undertaken in stages, i.e. site preparation, reduced dig, re-profiling; geotextiles, crushed stone/crushed concrete layer and deter to dig membrane; subsoil placement and topsoil placement. As such, final verification of the completed cover system is likely to be at the end of construction for any given plot.

Details of these works would be presented within a verification report for the site, to include the requirements of the Code of Practice should materials be proposed to be re-used under the Definition of Waste Code of Practice.

Two stage verification reporting is proposed, i.e. the first verification report addressing the reduced dig works and relocation of the excavated soils to their final placement/re-use locations; and a second report stage on completion of the soil cover system on the individual plots (anticipated verification as batches of plots as development progresses).

4.4 Built Environment

Buried plastics laid in contact with contaminated soils may be susceptible to attack by aggressive chemicals; therefore, potable water supplies may potentially become contaminated or tainted. With reference to UKWIR guidance the results of the relevant chemical analyses for the site indicate elevated concentrations of Beryllium and Dibenzo(a,h)anthracene within the Made Ground/landfill material. In addition, the Made Ground/landfill material was variable in composition and extended to a maximum proven depth of c.5.00m bgl. The use of barrier pipe possibly with cast iron connections is likely to be required for potable water supplies.

The utility company should be consulted in order to confirm their specific requirements in this respect. Potable supply pipe installation should be confirmed and verified through inspection during construction.

As a matter of good practice and to maximise the protection to maintenance workers, clean, granular backfill should be used in service runs and marker tapes for all buried services. This would not mitigate the requirement for the water supply pipe.

5.0 WASTE

5.1 Waste Classification and Segregation

Waste may be defined as any substance or object in Annex 1 of the Waste Framework Directive which the holder discards, intends to discard, or is required to discard. The holder of waste is anyone in possession of waste or generates it and therefore both the contractor and ultimately the developer are responsible for safe disposal of waste.

The following information is provided for preliminary guidance purposes, as different facilities or operators may have differing acceptance criteria and further Waste Acceptance Criteria (WAC) analysis may be required to confirm the exact classification.

Waste Acceptance Criteria (WAC) testing was undertaken as part of the wider site investigations on representative samples not specific to the former chalk pit and landfill area. In addition, asbestos was identified within the Made Ground in the former chalk pit and landfill area. As such, it is recommended that once/if materials for disposal have been identified, then further WAC testing should be undertaken to further classify the materials for the purpose of disposal.

In the event of dry spells, or where the exposed surface becomes dry, it is recommended that the surface of the site is regularly damped down to prevent the release of soil dust which could migrate off-site and thereby mitigate both off-site exposure and nuisance for neighbours.

It is proposed to re-use materials on site under a Materials Management Plan which will be developed for the construction works on this site. This will include contingency plans in any unexpected contamination is encountered during the development. Soils (including Made Ground) demonstrated to contain low concentrations of asbestos fibres can (with the agreement of the Local Authority Environmental Health Officer and Environment Agency) be re-used at depth beneath a suitable capping layer, where it can be demonstrated that there is a requirement for such materials and where the risk is acceptable and demonstrated to have not increased from baseline levels determine for the site, i.e. the source, pathway, receptor linkage has been severed. This should also take consideration of longer term maintenance works that may be required across the site.

In accordance with CL:AIRE Code of Practice (2011) materials are only considered waste if ‘they are discarded, intended to be discarded or required to be discarded by the holder’. Current guidance recommends the retention and re-use of site won soils where there is a need for the materials and where the risk is acceptable

The Code of Practice therefore allows soils to be reused on site where the following criteria are met:

- Pollution of the environment and harm to human health is prevented and not increased in reusing the excavated materials;
- The material are suitable for use (without any further processing);
- There is certainty of use; and
- The quantity that is absolutely necessary (and no more) is used.

In order to comply with the Code of Practice, a Material Management Plan (MMP) that confirms the above criteria are met has to be prepared. The material management plan must be reviewed by a ‘Qualified Person’ who then issues a declaration to the Environment Agency. Geo-Environmental can provide this service should it be required.

Where materials do not meet the required criteria, it may be possible to treat them under an environmental permit so that they may be re-used on site.

Should material be required and reused under the Definition of Waste Code of Practice, the reuse of material will need to be fully documented and included within the Verification Report produced on completion of the works.

6.0 DISCOVERY STRATEGY

Whilst the site has been the subject of several phases of investigation and assessment, it remains possible that previously unexpected soil conditions may be encountered during the process of site preparation and construction.

Examples may include oily pockets within the soil, pockets of cement boarding or fibrous materials within the soil, black ashy materials, soils exhibiting strong odours, brightly coloured materials, and former structures or brickwork.

Should previously undiscovered contamination be encountered during the demolition/construction of the new buildings the following course of action should be adhered to:

- Works in the area of the suspected contamination should seize immediately. The ground workers should report any suspected contamination immediately to the Client's site supervisor. The supervisor should contact the Environmental Consultant, who should visit the site to assess the extent of the 'contamination'.

- The Environmental Consultant shall make records of their inspection, and pass details of these to the Local Authority.

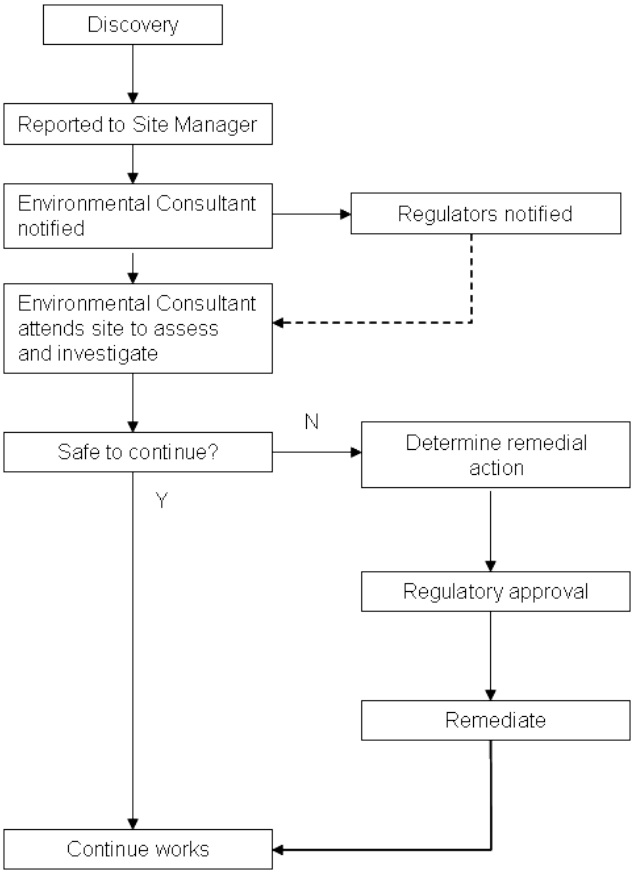
- Where the conditions revealed differ from those previously anticipated, the Environmental Consultant shall take samples as deemed appropriate to be dispatched for appropriate chemical testing.

- Depending on the results of the testing either: 1) no further work will be required; 2) a further detailed risk assessment will be required; and/or 3) localised specific remedial measures will be necessary. Appraisal criteria will vary depending on the nature of the assessment.

- The results of any such testing will be sent to the Regulatory Authority for consultation. If further remediation is required, the Regulatory Authority will be informed of the date and time of the proposed works.

- Any further remediation will be undertaken in accordance with a method statement submitted to the Local Authority for approval. The works shall be supervised by the Environmental Consultant who shall provide a Verification Report for the Local Authorities purposes.

The process is summarised overleaf:



A copy of this strategy should be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious or contaminated materials they may encounter.

7.0 VERIFICATION

Verification is required to be undertaken throughout the course of the remediation works. The Verification Report will be submitted to the Client, NHBC, CL:AIRE and Local Authority for formal approval and Environment Agency if requested as part of any works completed under the Definition of Waste Code of Practice.

The Verification Report will refer to the works as set out within this RSVP and as required by any relevant planning conditions. The report will detail findings of any further investigation works (if undertaken on the site) in relation to Asbestos, Beryllium and Dibenzo(a,h)anthracene within the Made Ground of the chalk pit/landfill area within proposed private gardens and areas of managed soft landscaping, as well as include relevant site based information such as records from site inspections, locations where the impacted soils were excavated and re-used on site or disposed of and validation sampling where required.

Photographs of specific remedial or waste handling measures and an audit trail for any imported subsoil and Topsoil, including source, provenance, analytical results, placement location and thickness (should subsoil and/or Topsoil be imported).

A summary of verification proposals is presented in Table 4 below.

The remedial works will be inspected and validated by the Environmental Consultant (Geo-Environmental). In addition, the MMP and any QP review and declaration will be prepared by Geo-Environmental.

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
1.0 Verification general principles	Geo-Environmental are supervising remedial works within the former chalk pit area at Woodcroft Farm, Lovedean. These works require the installation of a soil cover system within private gardens and areas of soft landscaping. The aforementioned work is in line with the approach adopted for site investigation and risk assessment and previously undertaken by Geo-Environmental in respect of the development.	Construction	**Yes –** See below	Details of construction programme to be provided by client/contractor.
2.0 Excavation of Impacted Soils	Reduced dig exercise to excavate areas of Made Ground within the chalk pit to accommodate the soil cover system thickness or to natural strata if shallower. To be overseen and verified by Geo-Environmental.	Construction	**Yes – 5 days' notice required**	Regular visits to site required to confirm works being undertaken, validation sampling within the natural soils following removal of the impacted material. Excavation areas, reduced dig depths and approximate volumes shown on Figures 9-11 and are based on engineering layout drawing ref 17-110/2210 and development levels plans ref 192931-073, 192931-074 and 192931-075. Verification reporting stage 1.
3.0 Re-location and Deposition of soils won from reduced dig areas	Made Ground and contaminated soils excavated as part of the reduced dig works are to be relocated to final deposition locations (under soil cover system) in accordance with an approved remedial strategy and MMP.	Construction	**Yes - 5 days' notice required**	Regular visits to site required to confirm works being undertaken in accordance with the RSVP and MMP. Deposition locations and volume requirements are shown on Figures 10-11 and are based on engineering layout drawing ref 17-110/2210 and development levels plans ref 192931-073, 192931-074 and 192931-075. Verification reporting stage 1.

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
4.0 Cover System	Cover system to be constructed by the ground workers and inspected by the Environmental Consultant	Construction	**Yes - 5 days' notice required**	Provenance of site won soils used to raise levels under the soil cover system are to be verified by the groundworks contractor. Source of Topsoil and subsoil (uncontaminated, naturally occurring site won soils) to be used in the soil cover system are to be evidenced by the groundworks contractor. Thickness and construction of cover system to be verified. Verification reporting stage 2.
5.0 Water Supply Pipes	It is anticipated that barrier pipe possibly with cast iron connections, will be required for water supply pipes. Confirmation is to be sought from water utility company	Design	**Yes – 5 days' notice required**	Evidence of water supply pipe material to be supplied. Installed pipework should also be inspected and recorded during verification visit(s).
6.0 Waste Management	Waste soils arisings from the construction works will be disposed of appropriately with WAC testing undertake once soils for disposal have been identified. The results should be presented to the landfill site prior to removal for confirmation of the classification.	Design and Construction	**No (unless further testing required where 5 days' notice required)**	Chemical test results (WAC) only required if waste soils generated
	Waste tickets for the removal of arisings should be compiled for submission as part of the verification report for each phase of the development. The waste tickets will be required to demonstrate that the approximate amount of material being removed is equal to the summed volume on the waste tickets.			Waste tickets

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
	Where is it demonstrated that there is a need for materials to be re-used on site and that the risk is acceptable, soils may be re-used on site under the Definition of Waste Code of Practice under a Materials Management Plan for the site.			Records of material movements on site to be provided for inclusion in the validation report. It is assumed that tracking of soil movements around the site will be recorded by the groundworks contractor, with periodic independent inspections by Geo-Environmental.
7.0 Imported Soils	In-situ testing of any soils imported onto site for landscaping purposes will be carried out after placement at a frequency of one sample per 50m^3 or one sample per landscaped area (whichever is the smallest) with comparison of results to assessment criteria for residential end use.	Construction	**Yes**	Pre import certification verifying the chemical quality of the topsoil and subsoil to be provided to the Environmental Consultant for review prior to Importation.

Table 4 Details of verification visits required on site

FIGURES



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Site Location Plan
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	11/05/2018		
Figure:	1	**Scale:**	Not To Scale		



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Location of Former Chalk Pit Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	25/06/2018		
Figure:	2	**Scale:**	Not To Scale		



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Exploratory Hole Locations - Trial Pit and Trenches - Chalk Pit Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	22/06/2018		
Figure:	3	**Scale:**	Not To Scale		



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Extent of Made Ground - Window Sampler Boreholes - Chalk Pit Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	22/06/2018		
Figure:	4	**Scale:**	Not To Scale		



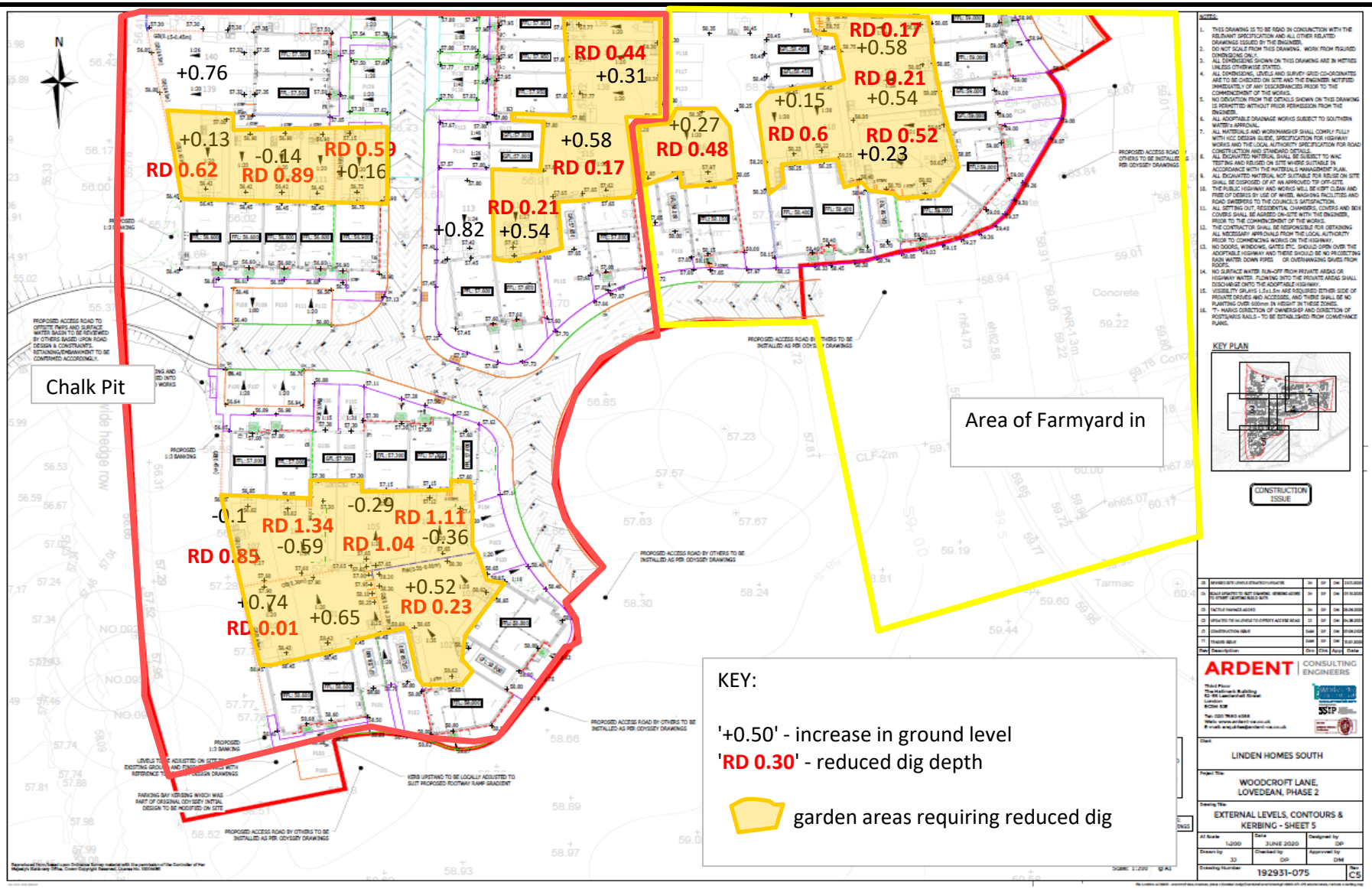
Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Extent of Made Ground - Trial Pit and Trenches - Chalk Pit Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	22/06/2018		
Figure:	5	**Scale:**	Not To Scale		



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Extent of Made Ground - Window Sampler Boreholes - Chalk Pit Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	22/06/2018		
Figure:	6	**Scale:**	Not To Scale		



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Soil Contamination Exceedances - Chalk Pit Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	25/06/2018		
Figure:	7	**Scale:**	Not To Scale		



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Development Levels Plan - Phase 3 Farmyard and Chalk Pit (RSVP-CP-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2
Drawn:	FG	**Date:**	17/12/2020
Figure:	RSVP-CP 8	**Scale:**	Not To Scale

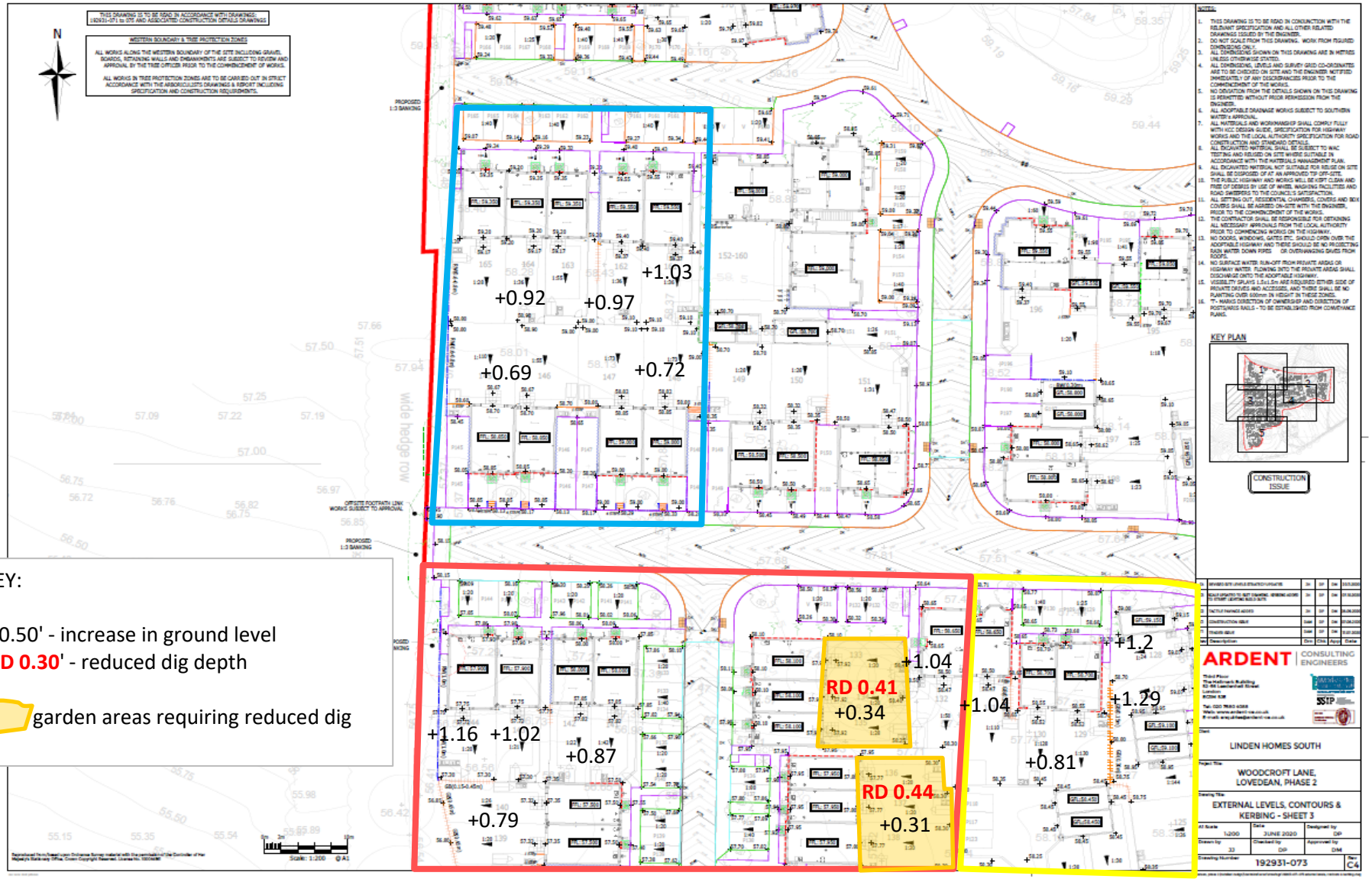
Geo-Environmental Services Ltd

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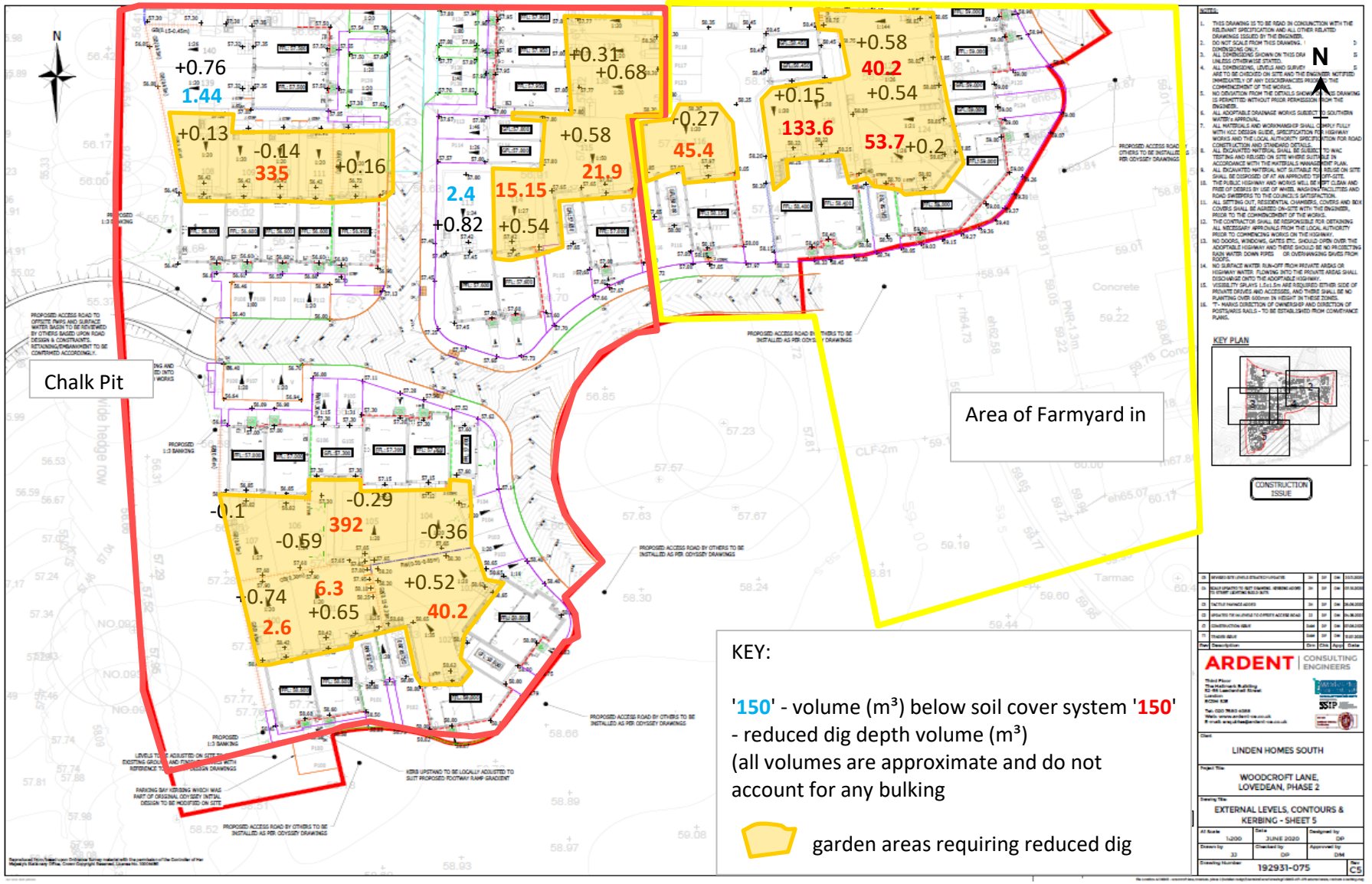
Geo-Environmental



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Development Levels Plan - Phase 3 Horse Arena, Chalk Pit and Farmyard (RSVP-CP-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2
Drawn:	FG	**Date:**	17/12/2020
Figure:	RSVP-CP 9	**Scale:**	Not To Scale

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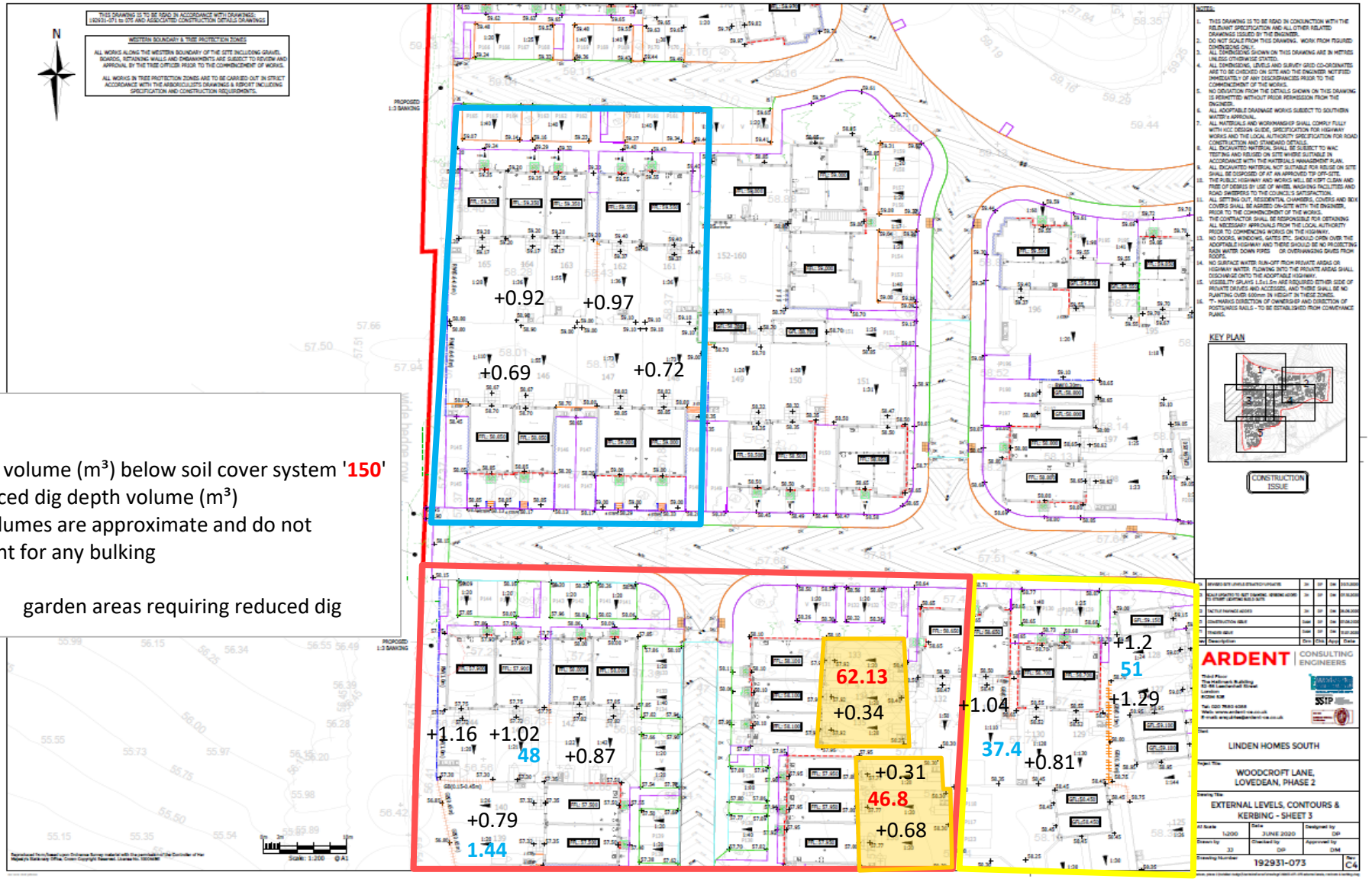
Geo-Environmental



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Remediation Strategy Plan - Phase 3 Farmyard and Chalk Pit Volumes (RSVP-CP-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2
Drawn:	FG	**Date:**	17/12/2020
Figure:	RSVP-CP 10	**Scale:**	Not To Scale

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Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Remediation Strategy Plan - Phase 3 Horse Arena, Chalk Pit & Farmyard Volumes (RSVP-CP-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2
Drawn:	FG	**Date:**	17/12/2020
Figure:	RSVP-CP 11	**Scale:**	Not To Scale

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APPENDIX A

Exploratory Hole Logs

and In-situ Test Results



Geo-Environmental
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Trial Pit Log

TrialPit No
TP205
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468335.00 - 112129.00 Level: 69.34	Date 23/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.70 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.25	69.09		Grass over, Light brown sandy, gravelly CLAY, with frequent roots (2-4mm) and rootlets TOPSOIL
	0.50 0.50 0.50	B D ES					Firm orange and grey mottled slightly sandy CLAY with frequent roots (2-4mm) and rootlets. Sand is medium (large roots (7-10mm) at 0.4m)
	1.00	D		1.20	68.14		
				1.40	67.94		Firm orange and grey mottled slightly sandy CLAY with frequent rootlets. Sand is medium
	1.70	D		1.70	67.64		Firm orange and grey mottled slightly sandy CLAY with red bandings of sandy clay and frequent rootlets. Sand is medium
							End of Pit at 1.70m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP206
Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords: 468329.00 - 112033.00 Level: 66.23	Date 23/08/2017
Location:	Woodcroft Farm, Lovedean,	Dimensions (m): Depth 1.80	1.20 × 0.60	Scale 1:25
Client:	Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.25	65.98		Grass over, Light brown sandy, gravelly CLAY, with frequent flint gravels and rootlets TOPSOIL
				0.30	65.93		Stiff orange and grey mottled sandy, gravelly CLAY with abundant roots (4-7mm). Sand is medium (Large roots (50mm) at 0.3m)
	0.50	B					
	0.50	D					Firm orange and grey mottled very sandy CLAY with frequent roots (2-6mm). Sand is medium
	0.50	ES		0.60	65.63		Stiff orange and grey mottled slightly sandy CLAY with roots (2-4mm). Sand is medium
	1.00	D					
				1.20	65.03		Stiff orange and grey mottled slightly sandy CLAY with red bandings of sandy clay and roots (2-4mm). Sand is medium
	1.80	D		1.80	64.43		End of Pit at 1.80m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP207
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468244.00 - 112050.00 Level: 64.18	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 2.00 x 0.60 Depth 2.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	63.98		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets and occasional flint gravel TOPSOIL
	0.30	ES					Firm orange and grey mottled CLAY with occasional sandy red banding and rootlets (charcoal fragments at 1m and decaying roots)
	0.50	B					
	0.80	D					
				1.20	62.98		Firm red and grey mottled slightly sandy CLAY (charcoal fragments at 1.4m)
				1.60	62.58		Firm red and grey mottled sandy CLAY
	2.00	D		2.00	62.18		End of Pit at 2.00m

1
2
3
4
5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP208
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468227.00 - 112031.00 Level: 63.03	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 2.00 x 0.60 Depth 2.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.15	62.88		Grass over, Dark brown clayey sand with abundant tree roots (2-5mm) and rootlets (large tree root (50mm) at 0.15m) TOPSOIL
	0.50	D					Firm orange brown sandy CLAY. Sand is fine to medium (large tree root (20mm) at 0.9m)
	1.00	D		1.10	61.93		Stiff orange slightly sandy CLAY with abundant roots (between 2mm and 8mm). Sand is medium
	1.50	D		1.50	61.53		Stiff grey and orange mottled slightly sandy CLAY with occasional roots between 2mm and 6mm (no roots from 1.7m)
	2.00	D		2.00	61.03		End of Pit at 2.00m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP209
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468200.00 - 112025.00 Level: 61.57	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 2.00 — 2.00 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets and occasional flint gravel TOPSOIL
				0.30	61.27		Firm orange brown slightly gravelly CLAY with occasional cobbles of flint. Gravel is medium sub-angular of flint (roots (10mm) at 0.5m)
	0.50	D					
				0.80	60.77		Firm orange brown slightly sandy CLAY with frequent cobbles of flint. Sand is medium
				1.50	60.07		Firm orange and grey mottled slightly sandy CLAY. Sand is fine to medium
	2.00	D		2.00	59.57		End of Pit at 2.00m

1 2 3 4 5

Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP210
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468151.00 - 112030.00 Level: 58.51	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.40 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.15	58.36		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50	B					Firm grey and orange mottled slightly sandy CLAY with rootlets. Sand is medium
	1.00	D		0.90	57.61		Firm grey and orange mottled slightly sandy CLAY. Sand is medium (charcoal fragments at 1.35m)
				1.40	57.11		End of Pit at 1.40m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP211
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468148.00 - 112098.00 Level: 58.65	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.30 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.10	58.55		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.30	58.35		Brown sandy clay with flint cobbles, chalk fragments and occasional brick fragments MADE GROUND
	0.50	D					Firm brown slightly sandy CLAY with occasional rootlets. Sand is medium
				0.80	57.85		Firm red brown sandy CLAY. Sand is medium
	1.00	D					
				1.30	57.35		End of Pit at 1.30m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP212
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468050.00 - 112055.00 Level: 57.68	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.40	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.15	57.53		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.35	57.33		Soft orange brown very sandy CLAY with occasional sub-angular flint gravel. Sand is medium
	0.50 0.50	B D					Firm orange brown CLAY with frequent flint cobbles and chalk fragments
	0.80	D					
	1.10	D		1.10	56.58		Structureless CHALK composed of: medium to coarse sub-angular white GRAVEL. Fragments are weak CIRIA Grade DM
				1.40	56.28		End of Pit at 1.40m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468023.00 - 112009.00 Level: 56.66	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	56.56		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.20	56.46		Brown sandy clay with brick fragments and chalk gravel MADE GROUND
	0.50	B					Stiff light brown gravelly CLAY MADE GROUND
	0.50	D					
				0.80	55.86		Brown sandy clay with brick, concrete fragments, possible asbestos tiles, and decaying roots MADE GROUND
	1.00	ES					
				1.70	54.96		Soft light grey CLAY (decaying root (3mm) at 2m)
	2.00	D					
				2.20	54.46		End of Pit at 2.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468056.00 - 112002.00 Level: 57.16	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	57.06		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.20	56.96		Brown clay with bricks and chalk cobbles MADE GROUND
	0.50	B					Firm light brown and grey mottled CLAY, with frequent flint gravel (decaying root (4mm) at 0.5m) MADE GROUND
	0.50	D					
	0.90	ES		0.90	56.26		Dark brown clay with ashy deposits, plastic, brick fragments, chalk gravel, and wood MADE GROUND
				1.90	55.26		Firm light brown and grey mottled CLAY
	2.00	D		2.00	55.16		End of Pit at 2.00m

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Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP215
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468082.00 - 111995.00 Level: 57.87	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.90	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES					Ashy deposits overlying brown gravelly clay with bricks, concrete, flint cobbles, tarmac and chalk fragments MADE GROUND
				1.00	56.87		Soft orange brown sandy re-worked CLAY MADE GROUND
				1.70	56.17		Structureless CHALK composed of: medium to coarse sub-angular white sandy GRAVEL, sand is medium and fragments are weak CIRIA Grade DM
				2.30	55.57		Structureless CHALK composed of: medium to coarse sub-angular white sandy GRAVEL, fragments are weak CIRIA Grade DM
	2.90 2.90	D D		2.90	54.97		End of Pit at 2.90m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468060.00 - 111982.00 Level: 56.78	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	56.68		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.20	56.58		Brown sandy clay with charcoal and brick fragments MADE GROUND
	0.50 0.50 0.60	B D ES					Firm light brown and grey mottled gravelly CLAY. Gravel is medium, sub angular of flint
	1.00	D		1.00	55.78		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP217
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468063.00 - 111949.00 Level: 58.26	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.00 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	58.21		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.20	ES					Firm light brown and grey mottled CLAY, with frequent rootlets
	0.50	D					
	1.00	D		1.00	57.26		End of Pit at 1.00m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP218
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468068.00 - 111932.00 Level: 58.52	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 0.90 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.15	58.37		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50 0.50	B D					Firm light brown and grey mottled CLAY
	1.00	D		0.90	57.62		End of Pit at 0.90m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468127.00 - 111929.00 Level: 59.42	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	59.22		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets and chalk fragments TOPSOIL
							Firm light brown and grey mottled CLAY
	0.50	D					
	1.00 1.00	D ES		1.00	58.42		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP220
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468116.00 - 111958.00 Level: 59.41	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 2.00 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Grass over, dark brown gravelly clay with chalk and brick fragments MADE GROUND
				0.60	58.81		Soft brown and grey mottled CLAY
				0.80	58.61		Firm brown and grey mottled CLAY, with red sandy banding at 1.5m
	1.00 1.00	D ES					
				2.00	57.41		End of Pit at 2.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP221
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468161.00 - 111926.00 Level: 60.74	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.20 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.30	60.44		Soft orange brown slightly sandy CLAY with occasional chalk fragments and roots (1-3mm)
	0.50	D					
	0.50	ES					
				0.70	60.04		Firm orange and grey mottled slightly sandy CLAY with roots (1-3mm) and rootlets
	1.00	D					
				1.20	59.54		End of Pit at 1.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468221.00 - 111986.00 Level: 61.18	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.50 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25	60.93		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	ES		0.50	60.68		Firm orange brown slightly sandy CLAY with occasional flint gravels and roots (1-2mm). Sandy is medium
	1.00	D		1.00	60.18		Firm orange brown slightly sandy CLAY with occasional flint gravels. Sandy is medium
				1.50	59.68		Stiff orange brown slightly sandy, slightly gravelly CLAY. Sand is medium, gravel is medium, sub-angular of flint End of Pit at 1.50m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468126.00 - 111996.00 Level: 58.54	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.10	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	58.49		Concrete MADE GROUND
				0.25	58.29		Brown gravelly clay with concrete and brick fragments MADE GROUND
	0.40	ES					Soft grey and orange mottled slightly sandy CLAY
	0.50	D					
	0.50	ES					
	1.00	D					
				1.10	57.44		End of Pit at 1.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468077.00 - 112011.00 Level: 57.74	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 2.20 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Ashy deposits overlying brown gravelly clay with bricks, flint cobbles, chalk fragments and tarmac MADE GROUND
				0.70	57.04		Soft blue grey re-worked CLAY with bricks MADE GROUND
				1.60	56.14		Firm grey brown CLAY (Large flint cobble at 1.8m)
	2.20 2.20	D D		2.20	55.54		End of Pit at 2.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468112.00 - 111991.00 Level: 58.45	Date 23/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 0.60 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	58.30		Chippings over tarmac MADE GROUND
	0.25 0.30	ES ES					Brown gravelly clay with tarmac, brick fragments, chalk fragments, flint gravel, ash and charcoal (concrete encountered at 0.6m) MADE GROUND
				0.60	57.85		End of Pit at 0.60m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks Concrete encounted at 0.6m, pit terminated

Stability

AGS

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468103.00 - 112028.00 Level: 57.24	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.10 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	57.04		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	D					Firm orange brown slightly sandy CLAY. Sand is medium
				0.80	56.44		Firm orange brown slightly sandy CLAY with frequent cobbles of flint and occasional charcoal fragments. Sand is medium
				1.10	56.14		End of Pit at 1.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468105.00 - 112061.00 Level: 57.53	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.00 — 0.60 × 1.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.25	57.28		
	0.40	D					Firm orange brown slightly sandy, slightly gravelly CLAY. Sand is medium and gravel is fine to medium, sub-angular of flint
				0.70	56.83		Firm orange brown CLAY
				0.90	56.63		
				1.00	56.53		Structureless CHALK composed of: medium to coarse sub-angular white GRAVEL. Fragments are weak CIRIA Grade DM
							End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468169.00 - 112048.00 Level: 60.35	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.70 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.25	60.10		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50	D					Soft brown orange sandy CLAY with occasional flint gravel and rootlets. Sand is medium
	1.20	D		1.10	59.25		Yellow fine medium SAND
				1.70	58.65		End of Pit at 1.70m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468030.00 - 112090.00 Level: 58.55	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.80 — 0.60 × 1.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Grass over, Orange brown sandy CLAY with frequent rootlets TOPSOIL
	0.60 0.60	D ES		0.60	57.95		Firm orange brown very sandy CLAY with occasional flint cobbles. Sand is medium
				0.80	57.75		Firm orange brown CLAY with occasional flint cobbles
	1.00	D					
				1.40	57.15		Firm grey slightly sandy CLAY with frequent cobbles of flint. Sand is medium
	1.50	D					
				1.80	56.75		End of Pit at 1.80m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP230
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468086.00 - 112103.00 Level: 59.34	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.20 (1.20 × 0.60)	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	59.19		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.30	ES					Soft orange brown very sandy CLAY. Sand is medium
	0.50	D					
				0.70	58.64		Firm grey and orange mottled CLAY with frequent flint cobbles
	1.10	D					
				1.20	58.14		End of Pit at 1.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP231
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468130.00 - 112119.00 Level: 59.64	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.20 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	59.44		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	ES					Soft orange brown very gravelly sandy CLAY. Gravel is medium, sub-angular of flint and sand is medium
				0.60	59.04		
	0.80	D					Firm orange brown slightly sandy CLAY with occasional rootlets. Sand is medium
				1.20	58.44		End of Pit at 1.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468210.00 - 112065.00 Level: 62.16	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.30 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.30	61.86		Firm orange and grey mottled slightly sandy CLAY. Sand is fine to medium
				0.70	61.46		
	0.80	D					Firm orange and grey mottled sandy CLAY. Sand is fine to medium
				1.30	60.86		End of Pit at 1.30m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468228.00 - 112111.00 Level: 64.08	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.10 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	63.78		Grass over, Brown sandy, gravelly CLAY with frequent roots and rootlets TOPSOIL
	0.40 0.40	ES ES					Firm orange brown gravelly CLAY. Gravel is medium to coarse sub-angular of flint
				0.65	63.43		Stiff grey and orange mottled CLAY with occasional red bands of sandy CLAY
	0.80	D					
				1.10	62.98		End of Pit at 1.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP234
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468242.00 - 112136.00 Level: 65.41	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.00 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	65.21		Grass over, Brown sandy, gravelly CLAY with frequent roots and rootlets TOPSOIL
	0.30	ES					Firm brown very gravelly CLAY. Gravel is medium to coarse sub-angular of flint
				0.45	64.96		Stiff orange and grey mottled CLAY (Large tree root (70mm) at 0.7m and tree root (4mm) at 1m)
	1.00	D		1.00	64.41		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP235
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468165.00 - 112133.00 Level: 60.77	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25	60.52		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50 0.50	D ES					Orange brown clayey medium SAND with occasional flint gravel
	1.00	D					
				1.80	58.97		Grey and orange fine to medium SAND
				2.20	58.57		End of Pit at 2.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP236
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468115.00 - 112146.00 Level: 60.93	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.70	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES		0.40	60.53		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	1.00	D		1.00	59.93		Soft orange brown slightly gravelly sandy CLAY. Sand is medium and gravel is medium, sub-angular of flint
				1.70	59.23		Orange slightly clayey medium SAND End of Pit at 1.70m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP237
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468036.00 - 112164.00 Level: 62.19	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	62.04		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	ES					Soft orange brown very sandy CLAY. Sand is medium
	0.50	D					
				0.85	61.34		Firm orange brown CLAY
	1.00	D		1.00	61.19		End of Pit at 1.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP238
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468045.00 - 112137.00 Level: 60.22	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25	59.97		Grass over, Orange brown sandy CLAY with frequent rootlets TOPSOIL
	0.50	D					Stiff orange brown CLAY with occasional cobbles of sub angular flint
	0.80	ES					
	1.00	D		1.00	59.22		End of Pit at 1.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP239
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468112.00 - 112015.00 Level: 58.28	Date 23/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.80, 0.60 x 1.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Grass over brown sandy gravelly clay with brick, chalk fragments, concrete, and flint gravel MADE GROUND
	0.50	ES		0.50	57.78		
				0.60	57.68		Brown sandy clay with tiles of possible asbestos, chalk fragments, concrete and brick MADE GROUND
							Soft brown very sandy CLAY. Sand is medium
				1.40	56.88		Soft brown very sandy CLAY. Sand is medium
	1.50	ES					
	1.80	D		1.80	56.48		End of Pit at 1.80m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS201** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468236E - 111994N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	62.76	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.25	D		0.20	62.56		Grass over, brown sandy clay with flint gravel and frequent rootlets TOPSOIL
		0.25	PP	1.3kg/cm2				Firm orange and grey mottled slightly sandy CLAY. Sand is medium
		0.50	D					
		0.50	PP	0.7kg/cm2				
		0.75	D		0.80	61.96		
		0.75	PP	0.7kg/cm2				Firm orange and grey mottled slightly sandy CLAY with occasional bands of red sandy clay. Sand is medium
		1.00	D		1.10	61.66		
		1.00	PP	0.9kg/cm2				Stiff orange and grey mottled sandy CLAY. Sand is medium
		1.25	D					
		1.25	PP	1.3kg/cm2				
		1.50	D					
		1.50	PP	1.3kg/cm2				
		1.75	D					
		1.75	PP	1.7kg/cm2				
		2.00	D		2.00	60.76		
		2.00	PP	1.2kg/cm2				Firm orange very sandy CLAY. Sand is fine
		2.25	D		2.30	60.46		
		2.25	PP	0.5kg/cm2				Yellow greyish clayey fine SAND
		2.50	D					
		2.75	D					
		3.00	D		3.00	59.76		End of Borehole at 3.00m

1 2 3 4 5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS202** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468174E - 111973N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	60.57	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	60.27		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50 0.50	D PP	1.6kg/cm2				Stiff orange, red and grey mottled slightly sandy CLAY with occasional rootlets. Sand is medium
		0.75 0.75	D PP	1.7kg/cm2				
		1.00 1.00	D PP	1.8kg/cm2				*.....Occasional roots (1-3mm)*
		1.25 1.25	D PP	2.0kg/cm2	1.10	59.47		Stiff orange and grey mottled sandy CLAY with occasional roots (2mm) and occasional red banding of sandy clay. *.....Occasional roots (2mm)*
		1.50 1.50	D PP	1.8kg/cm2				
		1.75 1.75	D PP	1.7kg/cm2				*.....Large root (5mm)*
		2.00 2.00	D PP	1.6kg/cm2				
		2.25 2.25	D PP	1.5kg/cm2				
		2.50 2.50	D PP	0.7kg/cm2	2.40	58.17		Firm orange and grey mottled very sandy CLAY with occasional roots (2-4mm) and rootlets. Sand is medium *.....Occasional roots (2-4mm)*
		2.75 2.75	D PP	0.5kg/cm2	2.80	57.77		Yellow/ Orange fine SAND
		3.00	D		3.00	57.57		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS203** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords: 468173E - 111996N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level: 60.57	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates: 05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15	60.42		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.25 0.25	D PP	1.6kg/cm2				Firm orange brown gravelly CLAY with occasional flint cobbles. Gravel is medium sub angular to sub rounded of flint
		0.50 0.50	D PP	0.9kg/cm2				
		0.75 0.75	D PP	1.1kg/cm2	0.70	59.87		Firm orange, red and grey mottled slightly sandy CLAY. Sand is fine
		1.00 1.00	D PP	0.5kg/cm2				
		1.25 1.25	D PP	1.0kg/cm2	1.10	59.47		Firm orange and grey mottled sandy CLAY. Sand is fine
		1.50 1.50	D PP	0.8kg/cm2				
		1.75 1.75	D PP	1.3kg/cm2				
		2.00 2.00	D PP	1.5kg/cm2	1.90	58.67		Firm orange and grey mottled very sandy CLAY. Sand is fine
		2.25 2.25	D PP	0.9kg/cm2				
		2.50	D		2.30	58.27		Yellow/ Orange fine SAND
		2.75	D					
		3.00	D		3.00	57.57		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS204** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468179E - 112013N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	60.47	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	60.17		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50 0.50	D PP	0.9kg/cm2				Stiff orange/ brown slightly sandy CLAY with frequent rootlets. Sand is fine
		0.75 0.75	D PP	1.0kg/cm2				
		1.00 1.00	D PP	1.2kg/cm2	1.10	59.37		
		1.25 1.25	D PP	1.4kg/cm2				Stiff orange/ brown slightly sandy CLAY with rare rootlets. Sand is fine
		1.50 1.50	D PP	1.5kg/cm2				
		1.75 1.75	D PP	1.3kg/cm2				
		2.00 2.00	D PP	1.0kg/cm2				
		2.25 2.25	D PP	1.1kg/cm2	2.30	58.17		Firm orange and grey mottled sandy CLAY. Sand is fine
		2.50 2.50	D PP	0.9kg/cm2				
		2.75 2.75	D PP	0.7kg/cm2				
		3.00 3.00	D PP	0.8kg/cm2	3.00	57.47		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS205** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468150E - 112033N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	58.83	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.25	58.58		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50	D					Brown clayey fine SAND
		0.75	D					
					0.90	57.93		
		1.00	D					Orange fine SAND
		1.25	D					
		1.50	D					
					1.70	57.13		
		1.75	D					Orange clayey fine SAND
		2.00	D		2.00	56.83		
		2.00	PP	1.1kg/cm2				Stiff grey slightly sandy CLAY. Sand is fine
		2.25	D					
		2.25	PP	1.2kg/cm2				
		2.50	D					
		2.50	PP	1.0kg/cm2				
					2.60	56.23		Soft brown slightly sandy CLAY. Sand is fine
		2.75	D					
		2.75	PP	0.4kg/cm2	2.80	56.03		Structureless CHALK composed of: medium to coarse sub-angular white sandy GRAVEL, sand is medium and fragments are weak CIRIA Grade DM
		3.00	D		3.00	55.83		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS206** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords: 468081E - 111960N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level: 57.22	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates: 05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.35	56.87		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50 0.50	D PP	1.2kg/cm2				Firm brown orange slightly sandy gravelly CLAY with frequent rootlets. Sand is fine, gravel is medium sub angular to sub rounded of flint.
		0.75 0.75	D PP	1.6kg/cm2				
		1.00 1.00	D PP	1.5kg/cm2				
		1.25 1.25	D PP	1.1kg/cm2				
		1.50 1.50	D PP	0.8kg/cm2				
		1.75 1.75	D PP	1.3kg/cm2				
					1.90	55.32		Firm brown very gravelly CLAY. Gravel is medium sub angular to sub rounded of flint.
		2.00 2.00	D PP	1.8kg/cm2				
		2.25 2.25	D PP	1.7kg/cm2				
		2.50 2.50	D PP	1.5kg/cm2				
		2.75 2.75	D PP	1.6kg/cm2				
		3.00 3.00	D PP	1.5kg/cm2	3.00	54.22		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS207** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468075E - 111938N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	58.31	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15	58.16		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.25 0.25	D PP	 1.0kg/cm2				Firm orange and grey mottled CLAY with frequent rootlets and occasional flint gravel
		0.50 0.50	D PP	 1.0kg/cm2				
		0.75 0.75	D PP	 0.7kg/cm2				
		1.00 1.00	D PP	 0.6kg/cm2				
								.....Decaying root (6mm)
		1.25 1.25	D PP	 0.9kg/cm2	1.20	57.11		Stiff orange and grey mottled slightly sandy CLAY with occasional rootlets. Sand is fine
					1.40	56.91		*.....Occasional roots (2mm)*
		1.50 1.50	D PP	 1.5kg/cm2				Stiff orange and grey mottled slightly sandy CLAY with occasional rootlets and red banding of sandy clay. Sand is fine
		1.75 1.75	D PP	 1.5kg/cm2				*.....Occasional roots (2mm)*
		2.00 2.00	D PP	 1.5kg/cm2				
		2.25 2.25	D PP	 1.7kg/cm2	2.20	56.11		Stiff orange and grey mottled slightly sandy CLAY with frequent rootlets. Sand is fine
		2.50 2.50	D PP	 1.5kg/cm2				
		2.75 2.75	D PP	 1.7kg/cm2	2.80	55.51		Stiff grey CLAY with chalk fragments
		3.00 3.00	D PP	 1.8kg/cm2	3.00	55.31		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

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Trial Pit Log

TrialPit No: TP301
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468021.00 - 112011.00 Level: 56.66	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.40 × 0.60 Depth 2.70	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	56.46		Grass over dark brown sandy gravelly CLAY with abundant roots and rootlets TOPSOIL
	0.25	ES					
	0.40	ES		0.45	56.21		Made Ground comprising dark brown soft sandy, gravelly CLAY with brick, brick fragments, tile, slate, wood, and glass. Sand is medium and gravel is fine to medium sub angular to sub rounded of flint. Made Ground comprising Fines 60%, Coarse 30%, Brick 5%, Wood 4%, Glass 0.5%, Slate 0.5% MADE GROUND
				0.90	55.76		Made Ground comprising light brown firm slightly sandy CLAY with flint gravel, brick and wood/decaying roots. Sand is medium. Made Ground comprising Fines 50%, Coarse 30%, Gravel 10%, Brick 5% and Wood 5% MADE GROUND
				1.30	55.36		Made Ground comprising light brown firm CLAY with brick, wood, rope and flint gravel. Made Ground comprising Fines 60%, Coarse 20%, Brick 5% and Wood 5%. (At 0.95m bgl large concrete slab - 1.1m x 0.2m and 0.2m thick) MADE GROUND
	1.40	ES					
							Made Ground comprising light grey and black soft CLAY with wood, chalk gravel, brick and plastic. Made Ground comprising Fines 40%, Coarse 20%, Wood 15%, Brick 15% and Plastic 10%. (At 1.4m bgl large decaying tree root - 1.2m x 0.2m) MADE GROUND
				2.70	53.96		End of Pit at 2.70m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP302
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468063.00 - 112007.00 Level: 57.59	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.40 × 0.60 Depth 2.80	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.25	57.34		Grass over Made Ground comprising clayey sandy fine to coarse sub angular to sub rounded GRAVEL with tarmac, calk fragments, brick, tile, charcoal and wood. Made Ground comprising Fines 25%, Coarse 70%, Brick 3%, Wood 2%. (At 0.1m bgl large piece of tarmac) MADE GROUND
	0.50	ES		0.40	57.19		Made Ground comprising light brown and grey with black and dark grey staining firm CLAY with brick and decaying roots. Made Ground comprising Fines 70%, Coarse 20%, Brick 5%, Wood 5% MADE GROUND
							Made Ground comprising dark grey and grey mottled firm CLAY with wood, brick, cement, plastic and chipboard. Made Ground comprising Fines 60%, Coarse 20%, Wood 10%, Brick 5%, Plastic 3% and Cement 2% MADE GROUND
	1.30	ES		1.20	56.39		Made Ground comprising brown with occasional black staining soft gravelly sandy CLAY with wood, brick, charcoal and plastic. Sand is medium and gravel is fine to medium sub angular to sub rounded of flint. Made Ground comprising Fines 60%, Coarse 20%, Wood 10%, Brick 5%, Charcoal 3% and Plastic 2% MADE GROUND
	2.70	ES		2.80	54.79		End of Pit at 2.80m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP303
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468094.00 - 111975.00 Level: 57.47	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.20 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	57.37		Grass over dark brown silty sandy CLAY with frequent roots and rootlets TOPSOIL
	0.30	ES		0.35	57.12		Made Ground comprising light brown soft slightly sandy CLAY with brick, glass, flint gravel, concrete, wood and possible asbestos. Sand is medium. Made Ground comprising Fines 70%, Coarse 20%, Gravel 5%, Brick 3%, Concrete 1%, Glass 0.5% and Wood 0.5% MADE GROUND
	0.70	ES		0.80	56.67		Made Ground comprising light brown firm CLAY with brick and chalk gravel, Fines 80%, Coarse 10%, Gravel 8% and Brick 2%. (Between 0.4m bgl and 0.5m bgl live tree roots) MADE GROUND
				1.20	56.27		Stiff light brown and grey mottled CLAY
				1.40	56.07		Firm light grey and brown sandy gravelly CLAY. Sand is medium and gravel is fine to medium sub angular to sub rounded of flint. (At 1.3m bgl and 1.5m bgl large flint cobbles)
				1.80	55.67		Firm brown very gravelly CLAY. Gravel is medium to coarse sub angular of chalk
	1.90	ES					White/light grey structureless very weak weather CHALK in communicated matrix CIRIA Grade DM
				2.40	55.07		End of Pit at 2.40m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP304
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468071.00 - 111965.00 Level: 56.82	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.10 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	56.72		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Made Ground comprising grey and brown mottled with frequent black staining soft sandy CLAY with chalk gravel, brick, wood, plastic occasional glass and charcoal. Sand is medium. Made Ground comprising Fines 50%, Coarse 25%, Gravel 15%, Brick 5%, Wood 3%, Plastic 1.5% Other 0.5% MADE GROUND
				0.60	56.22		Made Ground comprising light brown and grey mottled with occasional black staining soft CLAY with chalk gravel and brick MADE GROUND
				1.00	55.82		Soft light brown gravelly CLAY. Gravel is fine to medium sub angular to sub rounded of flint. (Large flint cobbles at 1m bgl)
	1.20	ES		1.20	55.62		Stiff light brown and grey mottled slightly sandy CLAY. Sand is medium. (Large flint cobbles at 2.2m bgl)
				2.40	54.42		End of Pit at 2.40m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP305
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468037.00 - 111960.00 Level: 57.32	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): Depth 1.20, 1.80 x 0.60	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	57.12		Grass over dark brown silty sandy CLAY with abundant roots and rootlets, and occasional flint gravel TOPSOIL
	0.80	ES		0.90	56.42		Made Ground comprising firm brown and grey mottled slightly sandy CLAY with occasional flint gravel. (At 0.85m large piece of metal) MADE GROUND
	1.10	ES		1.20	56.12		Made Ground comprising light grey with occasional black staining firm slightly sandy CLAY with wood and decaying tree roots. Made Ground comprising Fines 70%, Coarse 20% and Wood/ Tree roots 10% MADE GROUND
							End of Pit at 1.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks Rapid groundwater ingress at 1.1m bgl. Pit abandoned due to instability caused by rapid water ingress

Stability

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Trial Pit Log

TrialPit No
TP306
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468024.00 - 112109.00 Level: 59.05	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): Depth 2.80, 0.60 x 2.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	58.75		Grass over soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.40	ES					Firm orange/brown slightly sandy CLAY with occasional flint gravel. Sand is fine
	0.80	ES					
				1.60	57.45		Firm orange/brown and grey mottled slightly sandy CLAY. Sand is medium
				2.10	56.95		Soft orange/brown very sandy CLAY. Sand is medium
				2.60	56.45		Stiff grey CLAY with frequent sub rounded flint cobbles
				2.80	56.25		End of Pit at 2.80m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP307
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468040.00 - 112091.00 Level: 58.94	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.90 × 0.60 Depth 2.60	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	58.74		Grass over soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Soft orange/brown slightly sandy CLAY with occasional flint gravel. Sand is fine
				0.70	58.24		
	0.80	ES					Firm grey and orange/brown mottled CLAY with frequent flint cobbles
				1.00	57.94		
	1.20	ES					Orange and yellow medium SAND
				2.10	56.84		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.60	56.34		End of Pit at 2.60m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP308
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468023.00 - 112077.00 Level: 58.20	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.00 × 0.60 Depth 2.60	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.25	57.95		Grass over soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Soft brown very sandy CLAY with occasional flint gravel. Sand is fine
	0.70	ES		0.80	57.40		Stiff brown/grey gravelly CLAY. Gravel is medium to coarse sub angular to sub rounded of flint
				1.70	56.50		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.60	55.60		End of Pit at 2.60m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP309
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468042.00 - 112072.00 Level: 58.36	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.90 × 0.60 Depth 2.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	58.26		Soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.25	ES		0.30	58.06		Made Ground comprising brown sandy CLAY with flint gravel, flint cobbles and occasional black staining MADE GROUND
	0.50	ES					Firm brown/orange slightly sandy CLAY with frequent flint cobbles. (At 0.6-0.7m bgl chalk gravel and chalk fragments. At 0.8m bgl large flint cobbles)
	0.65	ES					
				1.15	57.21		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles
				2.10	56.26		End of Pit at 2.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP310
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468022.00 - 112039.00 Level: 57.56	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): Depth 2.10 — 0.60 × 2.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10	57.46		Soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
							Soft brown/orange sandy desiccated CLAY. Sand is medium
	0.50	ES		0.40	57.16		Stiff brown slightly sandy CLAY with frequent flint cobbles. Sand is medium
	1.50	ES		1.20	56.36		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.10	55.46		End of Pit at 2.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP311
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468040.00 - 112038.00 Level: 57.21	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.80 × 0.60 Depth 2.00	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10	57.11		Soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
				0.30	56.91		Firm brown slightly silty sandy CLAY. Sand is fine
	0.40	ES					Firm brown slightly sandy CLAY with occasional flint gravel. Sand is fine
	0.80	ES		0.90	56.31		Firm orange/brown slightly sandy, slightly gravelly CLAY with occasional cobbles of flint. Sand is fine and gravel is fine to medium sub angular to sub rounded of flint
				1.45	55.76		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.00	55.21		End of Pit at 2.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP312
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468087.00 - 112016.00 Level: 57.59	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.10 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10	57.49		Made Ground comprising light brown clayey fine to coarse flint GRAVEL with brick and concrete. Made Ground comprising Fines 30%, Coarse 60%, Brick 15% and Concrete 5% MADE GROUND
							Made Ground comprising white/brown clayey fine to coarse chalk GRAVEL with brick, concrete, tarmac, and large pieces of tree. Made Ground comprising Fines 25%, Coarse 60%, Tarmac 10%, Brick 5%, Concrete 3% and Tree 2% MADE GROUND
	0.90	ES		0.80	56.79		Made Ground comprising dark brown/grey soft slightly sandy CLAY with plastic, decaying roots and flint gravel. Sand is medium. Made Ground comprising Fines 70%, Coarse 20%, Gravel 7%, Roots 2% and Plastic 1% MADE GROUND
	1.45	ES		1.40	56.19		Firm orange/brown and grey mottled slightly sandy CLAY with occasional flint gravel. Sand is medium. (Large flint cobbles at 1.5m bgl)
				2.30	55.29		White/cream structureless weak weather CHALK in communicated matrix with flint gravel CIRIA Grade DM
				2.40	55.19		End of Pit at 2.40m

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Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468113.00 - 112026.00 Level: 58.03	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.80 × 0.60 Depth 2.50	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	57.93		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.25	ES		0.30	57.73		Made Ground comprising white/brown clayey fine to coarse sub angular to sub rounded chalk GRAVEL with large flint cobbles MADE GROUND
	0.50	ES					
				0.60	57.43		Brown very clayey fine to medium sub angular to sub rounded flint GRAVEL
							Firm orange/brown and grey mottled CLAY with occasional bands of orange medium SAND.
				1.50	56.53		
	1.55	ES					Orange medium SAND
				1.60	56.43		Stiff orange/brown sandy CLAY with occasional flint gravel. Sand is medium
				1.80	56.23		Orange/brown medium SAND with bands of grey firm CLAY
				2.50	55.53		End of Pit at 2.50m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP314
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468124.00 - 112027.00 Level: 58.20	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.30 × 0.60 Depth 2.50	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	58.10		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Firm orange/brown slightly sandy CLAY with frequent tree roots (3mm-6mm). Sand is medium
	0.70	ES		0.60	57.60		Stiff orange/brown and slightly grey mottled CLAY with occasional bands of orange medium SAND. (Tree roots at 0.9m bgl, band of off white structureless weak weathered CHALK at 1.8m bgl)
	1.60	ES					
				2.50	55.70		End of Pit at 2.50m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP315
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468081.00 - 111991.00 Level: 57.67	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.20 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Loose chippings over brown/grey clayey flint and chalk GRAVEL with tarmac, brick and concrete. Made Ground comprising Fines 30%, Coarse 60%, Brick 5%, Concrete 3% and Tarmac 2% MADE GROUND
				0.50	57.17		
	0.60	ES					Made Ground comprising brown and dark grey firm CLAY with brick, concrete, tree roots, flint cobbles and lead pipe. Made Ground comprising Fines 70%, Coarse 20%, Brick 5%, Other 3%, Concrete 2% MADE GROUND
				2.20	55.47		
	2.30	ES					Firm brown and grey mottled CLAY with occasional bands of orange medium SAND
				2.40	55.27		End of Pit at 2.40m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP316
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468111.00 - 111958.00 Level: 59.73	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.30 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Grass over light brown sandy CLAY with brick, concrete, plastic and glass. Made Ground comprising Fines 40%, Coarse 20%, Brick 20%, Concrete 15% and other 5% MADE GROUND
	0.90	ES		0.80	58.93		Firm orange/brown and grey mottled slightly sandy desiccated CLAY. Sand is medium
	1.90	ES		1.80	57.93		Stiff orange/brown, grey and red mottled CLAY
				2.20	57.53		End of Pit at 2.20m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP317
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468146.00 - 111985.00 Level: 58.97	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.90 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.15	58.82		Loose chippings over dark brown silty sandy CLAY with frequent roots and rootlets and occasional brick rubble and gravel. (Plastic drainage pipe at 0.1m bgl) MADE GROUND
				0.25	58.72		Made Ground comprising soft dark brown silty CLAY MADE GROUND
	0.65	ES					Firm orange/brown sandy CLAY. Sand is medium
	1.40	ES		1.35	57.62		Orange/brown clayey medium SAND
				1.60	57.37		Orange/brown fine to medium SAND with occasional bands of CLAY
				2.20	56.77		End of Pit at 2.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP318
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468116.00 - 111949.00 Level: 59.78	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.40 × 0.60 Depth 1.90	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.15	59.63		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
				0.60	59.18		Made Ground comprising dark brown soft very gravelly CLAY with flint and brick. Gravel is fine to coarse of chalk. Made Ground comprising Fines 50%, Coarse 30%, Gravel 15% and Brick 5% MADE GROUND
	0.70	ES		0.80	58.98		Firm orange/brown and grey mottled CLAY with frequent flint gravel
	1.80	ES		1.90	57.88		Stiff orange/brown and grey mottled CLAY with occasional flint gravel End of Pit at 1.90m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 01
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468158.00 - 111950.00 Level: 60.98	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 3.40 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	60.88		Dark brown slightly sandy silty CLAY with abundant roots and rootlets TOPSOIL
							Firm grey and orange mottled slightly sandy CLAY
				1.00	59.98		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 02
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468157.00 - 111967.00 Level: 60.20	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 6.40 × 0.60 Depth 0.70	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	60.00		Made Ground comprising dark brown sandy silty CLAY with slate, brick, gravel and wood MADE GROUND
							Firm orange/brown slightly sandy CLAY. Sand is fine
				0.70	59.50		End of Pit at 0.70m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks Private water pipe running through trench

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 03
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468145.00 - 112001.00 Level: 59.01	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.60 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising dark brown sandy silty CLAY with wood, gravel, brick, pipe and concrete MADE GROUND
				0.50	58.51		Firm grey sandy CLAY. Sand is fine
				1.00	58.01		End of Pit at 1.00m

1
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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 04
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468133.00 - 112020.00 Level: 58.36	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.80 × 0.60 Depth 0.50	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.50	57.86		Firm orange/brown sandy CLAY with occasional flint gravel. Sand is fine End of Pit at 0.50m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 05
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468164.00 - 112017.00 Level: 60.06	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 3.60 x 0.60 Depth 0.75	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	59.91		Dark brown slightly sandy silty CLAY with abundant roots and rootlets TOPSOIL
							Soft brown very sandy CLAY. Sand is fine
				0.75	59.31		End of Pit at 0.75m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 06
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468169.00 - 111997.00 Level: 59.91	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.20 × 0.60 Depth 0.70	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	59.76		Dark brown slightly sandy silty CLAY with abundant roots and rootlets TOPSOIL
							Soft light brown sandy CLAY. Sand is fine
				0.70	59.21		End of Pit at 0.70m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 07
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468033.00 - 112020.00 Level: 57.17	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.80 × 0.60 Depth 1.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Grass over Made Ground comprising light brown clayey sandy fine to coarse sub angular to sub rounded chalk and flint GRAVEL with tarmac, flint cobbles, wood, charcoal and glass. Made Ground comprising Fines 30%, Coarse 60%, Tarmac 5%, Wood 3%and Other 2%. Sand is medium MADE GROUND
				0.50	56.67		Firm orange/ brown slightly gravelly desiccated CLAY. Gravel is fine to medium sub angular to sub rounded of flint
				1.10	56.07		End of Pit at 1.10m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 08
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468046.00 - 112019.00 Level: 57.41	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 3.80 × 0.60 Depth 1.15	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising brown and white clayey sandy fine to coarse sub angular to sub rounded chalk and flint GRAVEL with brick, tile and concrete. Sand is medium. Made Ground comprising Fines 30%, Coarse 63%, Brick 3%, Tile 2% and Concrete 2% MADE GROUND
				0.70	56.71		Soft orange/brown gravelly CLAY. Gravel is fine to medium sub angular to sub rounded of flint (Flint cobbles in base of pit)
				1.15	56.26		End of Pit at 1.15m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 09
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468068.00 - 112013.00 Level: 57.70	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.50 × 0.60 Depth 1.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising brown and white clayey sandy fine to coarse sub angular to sub rounded chalk and flint GRAVEL with brick, tarmac and flint cobbles. Sand is medium. Made Ground comprising Fines 30%, Coarse 60%, Brick 5% and Tarmac 5% MADE GROUND
				0.70	57.00		Firm orange/ brown slightly sandy desiccated CLAY. Sand is medium
				1.10	56.60		End of Pit at 1.10m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 10
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468068.00 - 112008.00 Level: 57.60	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.20 × 0.60 Depth 1.20	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising light brown clayey sandy fine to coarse sub angular to sub rounded flint and chalk GRAVEL with brick, concrete, tree roots, clay pipe. Sand is medium. Made Ground comprising Fines 30% Coarse 60%, Brick 4%, Concrete 4% and Other 2% MADE GROUND
				0.50	57.10		Made Ground comprising dark grey and grey mottled soft CLAY with brick, plastic, roots, wood, chalk fragments, flint gravel and tile. Made Ground comprising Fines 60%, Coarse 20%, Brick 3%, Plastic 2%, Wood/Roots 2%, Other 3% MADE GROUND
				1.20	56.40		End of Pit at 1.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS401** Sheet 1 of 2

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468050E - 112012N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.60	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	56.50		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
		0.60 - 0.80	ES					Brown clay with gravel of flint and red brick MADE GROUND
					0.90	55.70		Grey clay with flint gravel ash wood and red brick fragments MADE GROUND
		1.40 - 1.70	ES					
					2.00	54.60		Grey clay with chalk and flint gravel. Red brick at 3.6-3.7m bgl MADE GROUND
		2.30 - 2.60	ES					
					3.70	52.90		Brown clay with abundant fine chalk gravel and rare red brick fragments MADE GROUND
					4.80	51.80		Off white CHALK recovered as silty chalk matrix and fine gravel size weak chalk clasts CIRIA Grade
					5.00	51.60		Continued on Next Sheet

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Borehole Log

Borehole No.
WS401
Sheet 2 of 2

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468050E - 112012N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.60	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								DM/CM End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks
No water encountered

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS402** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468056E - 111983N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.73	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	56.63		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
		0.50	ES					Firm to stiff brown and grey mottled silty clay MADE GROUND
					0.90	55.83		Brown and grey clay with some gravel of flint red brick and slate MADE GROUND
		1.50	ES		1.40	55.33		Grey clay with pockets of light grey sandy gravel possibly concrete fragments ash charcoal dead roots and wood fragments and abundant concrete fragments at 2.7-2.8m MADE GROUND
		2.50	ES					
					2.80	53.93		Brown and grey clay with concrete fragments MADE GROUND
		3.70 - 4.00	ES		3.70	53.03		Dark grey to black fibrous material possibly decomposed paper and wood fragments with red brick. Wood at4.2-4.5m MADE GROUND
					4.50	52.23		Off white grey and black chalk with ashy or possibly fine organic matter in matrix MADE GROUND
					5.00	51.73		End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS403** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468054E - 111977N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.75	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	56.65		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
		0.30 - 0.50	ES					Brown clay with some fine to medium flint gravel and rare red brick fragments MADE GROUND
					1.10	55.65		Grey clay with clinker ah red brick fragments and occasional wood fragments MADE GROUND
		1.50 - 1.60	ES					
					1.70	55.05		Brown and grey clay with occasional gravel of flint and chalk and occasional inclusions of possible ash ferruginous fragments and red brick MADE GROUND
		2.40 - 2.60	ES					
					3.90	52.85		Off white CHALK recovered as structureless mass with some localised orange brown staining CIRIA Grade DM
					5.00	51.75		End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

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Unit 7, Danworth Farm
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Borehole Log

Borehole No.
WS404
Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468054E - 111963N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 58.00	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.40	ES		0.10	57.90		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
								Dark grey silty gravelly clay. Gravel of flint and brick MADE GROUND
					0.60	57.40		Stiff light grey and orange brown mottled silty CLAY. Becoming very gravelly from 1.7m bgl
		1.10 - 1.30	ES					
					1.90	56.10		White CHALK composed of silt chalk matrix with moderately strong chalk clasts. Unable to penetrate beyond 2.5m bgl CIRIA Grade DM/CM
					2.80	55.20		End of Borehole at 2.80m

1 2 3 4 5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks
No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS405** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords:	468038E - 111989N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level:	56.56	Scale 1:25
Client:	Grainger plc		Dates:	15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.20	ES					Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
					0.20	56.36		
		0.40 - 0.60	ES					Brown and grey clay with occasional roots flint gravel decomposed plant remains and wood MADE GROUND
					1.00	55.56		
		1.20	ES					Grey clay with gravel of flint red brick and concrete MADE GROUND
					2.50	54.06		
								off white chalk recovered as structureless mass with some localised orange brown staining and flint CIRIA Grade DM
					3.00	53.56		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS406** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords:	468060E - 111985N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level:	56.79	Scale 1:25
Client:	Grainger plc		Dates:	15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.50	ES		0.10	56.69		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
								Brown and grey mottled silty clay with pockets of sandy gravel of concrete occasional red brick and ash and rare wood MADE GROUND
								Bituminous felt (roofing felt) fragments
		1.60 - 1.90	ES					
		3.10 - 3.50	ES		3.10	53.69		Dark grey to black clay with decomposed wood and plant fragments with red brick. MADE GROUND
					3.70	53.09		Off white CHALK recovered as structureless mass with some localised orange brown staining CIRIA Grade DM
					5.00	51.79		End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS407** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords:	468073E - 111977N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level:	57.22	Scale 1:25
Client:	Grainger plc		Dates:	15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30 - 0.50	ES		0.10	57.12		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL Brown clay with some to much gravel of flint and red brick MADE GROUND	
		1.00 - 2.00	ES		1.00	56.22		Grey silty sand with much ash charcoal and red brick and occasional glass. Poor recovery MADE GROUND	1
		3.00 - 4.00	ES						2
					4.00	53.22		Off white CHALK recovered as structureless silty matrix with weal chalk clasts of fine to medium gravel size CIRIA Grade DM/CM	3
					5.00	52.22		End of Borehole at 5.00m	4
									5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental

APPENDIX B

Geochemical Laboratory Results

and Statistical Assessments



Unit A2
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2683

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	17-13705
Issue:	1
Date of Issue:	31/08/2017
Contact:	Fiona Goode
Customer Details:	GESL Unit 7 Danworth Farm Hurstpierpoint West SussexBN6 9GL
Quotation No:	Q14-00021
Order No:	2253
Customer Reference:	GE16662
Date Received:	24/08/2017
Date Approved:	31/08/2017
Details:	Woodcroft
Approved by:	

John Wilson, Operations Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683

Sample Summary

Report No.: 17-13705

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
109920	TP201 0.10	23/08/2017	24/08/2017		
109921	TP201 0.50	23/08/2017	24/08/2017		
109922	TP202 0.10	23/08/2017	24/08/2017	Silty loam	
109923	TP202 0.50	23/08/2017	24/08/2017		
109924	TP203 0.10	23/08/2017	24/08/2017		
109925	TP203 0.50	23/08/2017	24/08/2017	Silty clayey loam	
109926	TP204 0.10	22/08/2017	24/08/2017		
109927	TP204 0.50	22/08/2017	24/08/2017	Silty clayey loam	
109928	TP205 0.10	23/08/2017	24/08/2017		
109929	TP205 0.50	23/08/2017	24/08/2017	Clayey loam	
109930	TP206 0.10	23/08/2017	24/08/2017	Silty loam	
109931	TP206 0.50	23/08/2017	24/08/2017		
109932	TP207 0.30	21/08/2017	24/08/2017	Silty clayey loam	
109933	TP208 0.10	21/08/2017	24/08/2017		
109934	TP209 0.10	21/08/2017	24/08/2017		
109935	TP210 0.10	21/08/2017	24/08/2017		
109936	TP211 0.10	22/08/2017	24/08/2017		
109937	TP212 0.20	21/08/2017	24/08/2017		
109938	TP213 1.00	21/08/2017	24/08/2017	Silty loam	
109939	TP214 0.90	21/08/2017	24/08/2017	Silty loam	
109940	TP215 0.30	22/08/2017	24/08/2017	Sandy silty loam	
109941	TP215 2.90	23/08/2017	24/08/2017	Chalk	
109942	TP216 0.60	21/08/2017	24/08/2017		
109943	TP217 0.20	21/08/2017	24/08/2017	Silty clayey loam	
109944	TP218 0.15	21/08/2017	24/08/2017		
109945	TP219 1.00	21/08/2017	24/08/2017		
109946	TP220 0.20	22/08/2017	24/08/2017	Sandy silty loam	
109947	TP220 1.00	22/08/2017	24/08/2017	Silty clayey loam	
109948	TP221 0.10	22/08/2017	24/08/2017	Silty loam	
109949	TP221 0.50	22/08/2017	24/08/2017		
109950	TP222 0.40	21/08/2017	24/08/2017	Silty clayey loam	
109951	TP223 0.40	22/08/2017	24/08/2017	Clayey loam	
109952	TP223 0.50	22/08/2017	24/08/2017	Clayey loam	
109953	TP224 0.20	22/08/2017	24/08/2017	Sandy silty loam + Chalk	
109954	TP224 2.20	22/08/2017	24/08/2017	Silty loam	
109955	TP225 0.25	23/08/2017	24/08/2017	Sandy silty loam	
109956	TP225 0.30	23/08/2017	24/08/2017	Sandy loam	
109957	TP226 0.10	21/08/2017	24/08/2017	Silty loam	c
109958	TP227 0.10	21/08/2017	24/08/2017		
109959	TP228 0.15	22/08/2017	24/08/2017	Silty loam	
109960	TP229 0.60	21/08/2017	24/08/2017	Loamy sand	
109961	TP230 0.30	21/08/2017	24/08/2017		
109962	TP231 0.40	21/08/2017	24/08/2017	Sandy silty loam	
109963	TP232 0.10	21/08/2017	24/08/2017	Silty loam	
109964	TP233 0.40	21/08/2017	24/08/2017	Silty clayey loam	
109965	TP234 0.30	21/08/2017	24/08/2017	Silty loam	
109966	TP235 0.50	22/08/2017	24/08/2017	Loamy sand	
109967	TP236 0.30	21/08/2017	24/08/2017	Loamy sand	
109968	TP237 0.40	21/08/2017	24/08/2017	Silty loam	
109969	TP238 0.80	21/08/2017	24/08/2017		
109970	TP239 0.20	23/08/2017	24/08/2017	Sandy loam	
109971	TP239 0.50	23/08/2017	24/08/2017		
109972	TP239 1.50	23/08/2017	24/08/2017	Loamy sand	
109973	TP224 0.30	22/08/2017	24/08/2017		

Results Summary

Report No.: 17-13705

	ELAB Reference	109922	109925	109927	109929	109930	109932
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP202	TP203	TP204	TP205	TP206	TP207
	Sample Depth (m)	0.10	0.50	0.50	0.50	0.10	0.30
	Sampling Date	23/08/2017	23/08/2017	22/08/2017	23/08/2017	23/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	9.5	11.1	9.9	12.1	4.5	11.8
Barium	U / mg/kg / 10	34.6	48.8	45.9	17.2	16.7	30.1
Beryllium	U / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	34.7	60.8	53.7	30.9	12.4	38.0
Copper	M / mg/kg / 5	20.3	29.5	23.9	14.6	8.0	20.3
Lead	M / mg/kg / 5	21.0	24.3	18.8	27.0	11.5	15.3
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	18.3	21.5	22.0	8.9	5.4	9.2
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium	M / mg/kg / 5	33.5	86.7	77.1	69.9	23.4	54.1
Zinc	M / mg/kg / 5	41.1	52.1	58.4	28.8	17.6	27.1
Anions							
Water Soluble Chloride	M / mg/kg / 40	48	54	45	53	< 40	70
Water Soluble Sulphate	M / g/l / 0.02	0.06	0.05	0.04	0.04	0.03	0.05
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.07	0.11	0.04	0.07	0.04	0.05
Water Soluble Boron	N / mg/kg / 0.5	0.8	0.5	< 0.5	0.8	< 0.5	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	n/t	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
pH	M / pH units / 0.1	7.7	7.4	7.5	5.7	5.7	7.6
Total Organic Carbon	N / % / 0.01	0.50	0.54	0.23	0.19	0.36	0.19
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	0.9	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M / mg/kg / 0.1	0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M / mg/kg / 0.4	1.1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

	ELAB Reference	109922	109925	109927	109929	109930	109932
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP202	TP203	TP204	TP205	TP206	TP207
	Sample Depth (m)	0.10	0.50	0.50	0.50	0.10	0.30
	Sampling Date	23/08/2017	23/08/2017	22/08/2017	23/08/2017	23/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
BTEX							
Benzene	M / ug/kg / 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M / ug/kg / 10	35.9	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M / ug/kg / 10	40.3	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M / ug/kg / 10	312	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Total BTEX	M / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
TPH CWG							
>C5-C6 Aliphatic	N / mg/kg / 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N / mg/kg / 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N / mg/kg / 1	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N / mg/kg / 1	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N / mg/kg / 1	2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N / mg/kg / 1	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N / mg/kg / 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N / mg/kg / 0.01	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N / mg/kg / 1	9.0	< 1.0	3.2	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N / mg/kg / 1	14.4	< 1.0	5.3	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N / mg/kg / 1	3.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N / mg/kg / 1	35.5	< 1.0	8.5	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons							
Mineral Oil	U / mg/kg / 5	n/t	n/t	n/t	n/t	n/t	n/t
PCB (ICES 7 congeners)							
PCB (Total of 7 Congeners)	M / mg/kg / 0.03	n/t	n/t	n/t	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

	ELAB Reference	109938	109939	109940	109941	109943	109946
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP213	TP214	TP215	TP215	TP217	TP220
	Sample Depth (m)	1.00	0.90	0.30	2.90	0.20	0.20
	Sampling Date	21/08/2017	21/08/2017	22/08/2017	23/08/2017	21/08/2017	22/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	9.0	13.8	10.4	^ 4.7	32.6	25.7
Barium	U / mg/kg / 10	61.4	72.5	162	11.5	86.2	373
Beryllium	U / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	2.5	3.0
Cadmium	M / mg/kg / 0.5	0.5	< 0.5	0.8	^ 0.6	< 0.5	1.1
Chromium	M / mg/kg / 5	18.4	36.4	26.0	^ 8.6	63.2	36.9
Copper	M / mg/kg / 5	14.7	20.4	22.0	^ 6.9	37.4	93.0
Lead	M / mg/kg / 5	62.6	56.0	44.4	^ < 5.0	24.3	170
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	^ < 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	16.7	19.4	18.0	^ 11.8	19.1	56.2
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	^ < 1.0	< 1.0	< 1.0
Vanadium	M / mg/kg / 5	27.7	59.1	32.2	^ 7.8	117	133
Zinc	M / mg/kg / 5	72.7	101	121	^ 15.9	30.3	335
Anions							
Water Soluble Chloride	M / mg/kg / 40	< 40	50	55	^ < 40	53	< 40
Water Soluble Sulphate	M / g/l / 0.02	0.03	0.30	0.16	^ 0.04	0.05	0.03
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	1050	< 20	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	8	< 2	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	^ < 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.07	0.13	0.11	0.04	0.06	0.08
Water Soluble Boron	N / mg/kg / 0.5	0.6	1.7	0.6	< 0.5	< 0.5	1.0
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	n/t	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
pH	M / pH units / 0.1	8.4	8.0	10.0	^ 8.8	8.2	8.2
Total Organic Carbon	N / % / 0.01	0.49	0.92	0.47	0.02	0.32	4.9
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	0.2
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	0.3	^ < 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	0.3	^ < 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	0.4	0.2	2.4	^ < 0.1	< 0.1	0.3
Anthracene	M / mg/kg / 0.1	0.1	< 0.1	0.9	^ < 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	1.3	0.6	5.9	^ < 0.1	< 0.1	0.7
Pyrene	M / mg/kg / 0.1	1.3	0.6	5.1	^ 0.1	< 0.1	0.8
Benzo(a)anthracene	M / mg/kg / 0.1	0.8	0.3	2.9	^ < 0.1	< 0.1	0.4
Chrysene	M / mg/kg / 0.1	0.8	0.4	3.0	^ < 0.1	< 0.1	0.5
Benzo (b) fluoranthene	M / mg/kg / 0.1	1.1	< 0.1	3.0	^ < 0.1	< 0.1	0.6
Benzo(k)fluoranthene	M / mg/kg / 0.1	1.0	< 0.1	2.9	^ < 0.1	< 0.1	0.6
Benzo (a) pyrene	M / mg/kg / 0.1	1.0	0.4	3.1	^ 0.2	< 0.1	0.5
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	0.9	0.2	2.2	^ < 0.1	< 0.1	0.4
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	0.5	0.2	0.6	^ < 0.1	< 0.1	0.2
Benzo[g,h,i]perylene	M / mg/kg / 0.1	0.9	0.3	2.1	^ < 0.1	< 0.1	0.5
Total PAH(16)	M / mg/kg / 0.4	10.4	3.2	34.6	^ < 0.4	< 0.4	5.8
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	n/t	n/t	n/t	n/t

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Results Summary

Report No.: 17-13705

			ELAB Reference	109938	109939	109940	109941	109943	109946
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP213	TP214	TP215	TP215	TP217	TP220
			Sample Depth (m)	1.00	0.90	0.30	2.90	0.20	0.20
			Sampling Date	21/08/2017	21/08/2017	22/08/2017	23/08/2017	21/08/2017	22/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	2.9	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	14.4	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	2.1	< 1.0	18.8	9.2	< 1.0	3.3
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	3.5	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	6.9	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	7.1	< 1.0	28.2	10.9	< 1.0	7.2
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	14.6	< 1.0	< 1.0	1.8
Total (>C5-C40) Ali/Aro	N	mg/kg	1	9.3	< 1.0	65.1	44.4	< 1.0	12.3
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

	ELAB Reference	109947	109948	109950	109951	109952	109953
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP220	TP221	TP222	TP223	TP223	TP224
	Sample Depth (m)	1.00	0.10	0.40	0.40	0.50	0.20
	Sampling Date	22/08/2017	22/08/2017	21/08/2017	22/08/2017	22/08/2017	22/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	11.0	8.6	12.1	9.5	n/t	^ 7.8
Barium	U / mg/kg / 10	99.6	42.6	45.7	30.9	n/t	65.4
Beryllium	U / mg/kg / 1	1.2	< 1.0	< 1.0	1.0	n/t	< 1.0
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	n/t	^ 0.5
Chromium	M / mg/kg / 5	39.5	24.2	42.3	33.0	n/t	^ 19.5
Copper	M / mg/kg / 5	21.6	26.3	20.6	19.7	n/t	^ 16.4
Lead	M / mg/kg / 5	20.1	26.5	16.9	18.1	n/t	^ 37.9
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	n/t	^ < 0.5
Nickel	M / mg/kg / 5	20.6	15.2	17.4	20.4	n/t	^ 16.4
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	^ < 1.0
Vanadium	M / mg/kg / 5	74.6	37.3	62.6	41.2	n/t	^ 27.3
Zinc	M / mg/kg / 5	39.7	53.8	43.6	41.0	n/t	^ 51.1
Anions							
Water Soluble Chloride	M / mg/kg / 40	48	41	49	92	n/t	^ 167
Water Soluble Sulphate	M / g/l / 0.02	0.08	0.04	0.04	0.06	n/t	^ 0.09
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	< 20	< 20	n/t	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	n/t	< 0.8
Total Sulphide	N / mg/kg / 2	4	< 2	< 2	< 2	n/t	< 2
Total Cyanide	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	^ < 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.07	0.06	0.05	0.06	n/t	0.07
Water Soluble Boron	N / mg/kg / 0.5	< 0.5	0.5	< 0.5	0.5	n/t	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	n/t	n/t	< 0.1	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	n/t	n/t	2.82	n/t
pH	M / pH units / 0.1	7.3	7.7	7.5	8.3	7.7	^ 8.3
Total Organic Carbon	N / % / 0.01	0.29	0.69	0.19	0.15	0.18	0.10
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	< 6	< 6	n/t	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.5
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.1
Fluoranthene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 1.0
Pyrene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 0.9
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.6
Chrysene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 0.7
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.6
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 0.6
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	0.2	< 0.1	n/t	^ 0.6
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	0.2	< 0.1	n/t	^ 0.6
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	0.3	< 0.1	n/t	^ 0.2
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.5
Total PAH(16)	M / mg/kg / 0.4	< 0.4	< 0.4	0.9	< 0.4	n/t	^ 7.0
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	n/t	n/t	< 2	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109947	109948	109950	109951	109952	109953
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP220	TP221	TP222	TP223	TP223	TP224
			Sample Depth (m)	1.00	0.10	0.40	0.40	0.50	0.20
			Sampling Date	22/08/2017	22/08/2017	21/08/2017	22/08/2017	22/08/2017	22/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t	n/t	< 0.01	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	11.3
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	5.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	1.5
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	41.2
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	28.5
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	87.5
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t	n/t	< 5	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t	n/t	< 0.03	n/t

Results Summary

Report No.: 17-13705

	ELAB Reference	109954	109955	109956	109957	109959	109960
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP224	TP225	TP225	TP226	TP228	TP229
	Sample Depth (m)	2.20	0.25	0.30	0.10	0.15	0.60
	Sampling Date	22/08/2017	23/08/2017	23/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	6.6	13.2	n/t	11.5	10.4	38.2
Barium	U / mg/kg / 10	63.4	124	n/t	46.0	40.0	51.2
Beryllium	U / mg/kg / 1	1.1	< 1.0	n/t	< 1.0	< 1.0	1.8
Cadmium	M / mg/kg / 0.5	< 0.5	0.5	n/t	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	28.9	52.8	n/t	21.7	19.5	37.3
Copper	M / mg/kg / 5	18.4	59.3	n/t	16.1	12.2	23.7
Lead	M / mg/kg / 5	18.5	82.9	n/t	25.9	23.7	18.9
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	30.5	43.4	n/t	24.5	19.1	52.0
Selenium	M / mg/kg / 1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	1.1
Vanadium	M / mg/kg / 5	41.5	32.9	n/t	33.8	33.8	61.2
Zinc	M / mg/kg / 5	64.4	230	n/t	64.7	50.3	98.9
Anions							
Water Soluble Chloride	M / mg/kg / 40	56	140	n/t	65	< 40	< 40
Water Soluble Sulphate	M / g/l / 0.02	0.04	0.35	n/t	0.11	0.04	0.03
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	n/t	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	n/t	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	< 2	n/t	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	1.0	1.1	n/t	2.4	1.1	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.05	0.77	n/t	0.12	0.07	0.05
Water Soluble Boron	N / mg/kg / 0.5	< 0.5	0.7	n/t	0.6	0.7	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	0.2	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	2.63	n/t	n/t	n/t
pH	M / pH units / 0.1	7.7	11.1	11.4	9.2	7.4	7.2
Total Organic Carbon	N / % / 0.01	0.33	0.41	0.40	1.1	0.69	0.10
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	n/t	c < 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	0.4	n/t	c < 0.1	< 0.1	< 0.1
Anthracene	M / mg/kg / 0.1	< 0.1	0.1	n/t	c < 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	0.2	1.2	n/t	c 0.3	< 0.1	< 0.1
Pyrene	M / mg/kg / 0.1	< 0.1	1.1	n/t	c 0.3	0.1	< 0.1
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	0.8	n/t	c 0.2	< 0.1	< 0.1
Chrysene	M / mg/kg / 0.1	< 0.1	0.9	n/t	c 0.2	< 0.1	< 0.1
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	0.9	n/t	c 0.3	< 0.1	< 0.1
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	1.0	n/t	c 0.5	< 0.1	< 0.1
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	1.0	n/t	c 0.3	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	0.8	n/t	c 0.3	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	0.3	n/t	c 0.3	< 0.1	< 0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	0.8	n/t	c 0.2	< 0.1	< 0.1
Total PAH(16)	M / mg/kg / 0.4	< 0.4	9.4	n/t	c 3.0	< 0.4	< 0.4
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	25	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

			ELAB Reference	109954	109955	109956	109957	109959	109960
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP224	TP225	TP225	TP226	TP228	TP229
			Sample Depth (m)	2.20	0.25	0.30	0.10	0.15	0.60
			Sampling Date	22/08/2017	23/08/2017	23/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	< 0.01	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	6.4	n/t	c < 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	12.3	n/t	c 3.4	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	4.2	n/t	c 1.4	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	22.9	n/t	c 4.9	< 1.0	< 1.0
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	11	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	< 0.03	n/t	n/t	n/t

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Results Summary

Report No.: 17-13705

	ELAB Reference	109962	109963	109964	109965	109966	109967
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP231	TP232	TP233	TP234	TP235	TP236
	Sample Depth (m)	0.40	0.10	0.40	0.30	0.50	0.30
	Sampling Date	21/08/2017	21/08/2017	21/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	33.1	5.6	n/t	6.9	14.7	30.4
Barium	U / mg/kg / 10	31.8	27.5	n/t	30.8	18.9	38.8
Beryllium	U / mg/kg / 1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	1.5
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	31.6	17.6	n/t	21.3	13.2	41.5
Copper	M / mg/kg / 5	17.8	12.8	n/t	12.5	8.9	22.0
Lead	M / mg/kg / 5	14.6	17.3	n/t	26.3	12.9	19.6
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	18.9	14.3	n/t	8.2	7.2	30.2
Selenium	M / mg/kg / 1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
Vanadium	M / mg/kg / 5	63.1	26.9	n/t	33.7	27.5	84.2
Zinc	M / mg/kg / 5	38.5	38.3	n/t	37.5	25.8	71.7
Anions							
Water Soluble Chloride	M / mg/kg / 40	42	< 40	n/t	41	44	< 40
Water Soluble Sulphate	M / g/l / 0.02	0.03	0.03	n/t	0.03	0.03	< 0.02
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	n/t	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	n/t	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	< 2	n/t	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	1.1	1.3	n/t	1.6	1.8	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.06	0.08	n/t	0.07	0.05	0.07
Water Soluble Boron	N / mg/kg / 0.5	< 0.5	0.6	n/t	1.0	< 0.5	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	< 0.1	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	1.81	n/t	n/t	n/t
pH	M / pH units / 0.1	6.2	6.6	6.7	6.2	5.9	5.3
Total Organic Carbon	N / % / 0.01	0.30	1.4	0.15	1.4	0.14	0.10
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	n/t	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Pyrene	M / mg/kg / 0.1	0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Chrysene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	0.3	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	0.2	< 0.1	< 0.1
Total PAH(16)	M / mg/kg / 0.4	< 0.4	< 0.4	n/t	0.7	< 0.4	< 0.4
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	< 2	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109962	109963	109964	109965	109966	109967
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP231	TP232	TP233	TP234	TP235	TP236
			Sample Depth (m)	0.40	0.10	0.40	0.30	0.50	0.30
			Sampling Date	21/08/2017	21/08/2017	21/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	< 0.01	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	< 5	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	< 0.03	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109968	109970	109972
			Customer Reference			
			Sample ID			
			Sample Type	SOIL	SOIL	SOIL
			Sample Location	TP237	TP239	TP239
			Sample Depth (m)	0.40	0.20	1.50
			Sampling Date	21/08/2017	23/08/2017	23/08/2017
Determinand	**Codes**	**Units**	**LOD**			
Metals						
Arsenic	M	mg/kg	1	14.1	4.5	17.5
Barium	U	mg/kg	10	81.7	33.9	42.2
Beryllium	U	mg/kg	1	1.4	< 1.0	1.3
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	40.8	17.4	32.7
Copper	M	mg/kg	5	21.1	13.1	15.9
Lead	M	mg/kg	5	16.2	13.4	20.1
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	28.8	11.3	21.3
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5	58.3	18.4	90.2
Zinc	M	mg/kg	5	62.9	31.0	43.6
Anions						
Water Soluble Chloride	M	mg/kg	40	54	126	107
Water Soluble Sulphate	M	g/l	0.02	0.03	0.10	0.04
Inorganics						
Elemental Sulphur	N	mg/kg	20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.04	0.04	0.10
Water Soluble Boron	N	mg/kg	0.5	< 0.5	0.5	< 0.5
Miscellaneous						
Acid Neutralisation Capacity	N	mol/kg	0.1	n/t	n/t	n/t
Loss On Ignition (450°C)	M	%	0.01	n/t	n/t	n/t
pH	M	pH units	0.1	6.6	8.8	7.9
Total Organic Carbon	N	%	0.01	0.16	0.21	0.09
Phenols						
Total Phenols	N	mg/kg	6	< 6	< 6	< 6
Polyaromatic hydrocarbons						
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	0.6	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	0.7	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	0.6	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	0.3	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	0.4	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	5.2	< 0.4
Total PAH (Including Coronene)	N	mg/kg	2	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

			ELAB Reference	109968	109970	109972
			Customer Reference			
			Sample ID			
			Sample Type	SOIL	SOIL	SOIL
			Sample Location	TP237	TP239	TP239
			Sample Depth (m)	0.40	0.20	1.50
			Sampling Date	21/08/2017	23/08/2017	23/08/2017
Determinand	**Codes**	**Units**	**LOD**			
BTEX						
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t
TPH CWG						
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	4.6	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	4.6	< 1.0
Total Petroleum Hydrocarbons						
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t
PCB (ICES 7 congeners)						
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

WAC Analysis								
Elab Ref:	109964					**Landfill Waste Acceptance Criteria Limits**		
Sample Date:	21/08/2017					**Inert Waste Landfill**	**Stable Non-reactive Hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:	TP233							
Depth (m)	0.4							
Site:	Woodcroft							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.15	3	5	6
Loss on Ignition		M	%		1.8	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		< 5	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			6.7	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	< 0.005		< 0.05	0.5	2	25
Barium		N	< 0.005		< 0.05	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	< 0.005		< 0.05	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	< 0.001		< 0.05	0.4	10	40
Lead		N	< 0.001		< 0.05	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	< 0.005		< 0.05	4	50	200
Chloride		N	< 5		< 50	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	5		45.70	1000	20000	50000
Total Dissolved Solids		N	< 10		< 100	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	9.780		98.00	500	800	1000
Leach Test Information								
pH		N	5.7					
Conductivity (uS/cm)		N	28					
Dry mass of test portion (g)			100.000					
Dry Matter (%)			83					
Moisture (%)			21					
Eluent Volume (ml)			952					

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ELAB cannot be held responsible for any discrepencies with current legislation

Results Summary

Report No.: 17-13705

WAC Analysis								
Elab Ref:	109956					**Landfill Waste Acceptance Criteria Limits**		
Sample Date:	23/08/2017					**Inert Waste Landfill**	**Stable Non-reactive Hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:	TP225							
Depth (m)	0.3							
Site:	Woodcroft							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.40	3	5	6
Loss on Ignition		M	%		2.6	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		11	500	--	--
Total (of 17) PAHs		N	mg/kg		25.0	100	--	--
pH		M			11.4	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		0.2	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	0.009		0.09	0.5	2	25
Barium		N	0.010		0.10	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	0.016		0.16	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	0.003		< 0.05	0.4	10	40
Lead		N	0.007		0.07	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	0.016		0.16	4	50	200
Chloride		N	7		67.00	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	12		120.00	1000	20000	50000
Total Dissolved Solids		N	< 10		< 100	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	12.300		123.00	500	800	1000
Leach Test Information								
pH		N	8.3					
Conductivity (uS/cm)		N	154					
Dry mass of test portion (g)			100.000					
Dry Matter (%)			81					
Moisture (%)			24					
Eluent Volume (ml)			953					

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Results Summary

Report No.: 17-13705

WAC Analysis								
Elab Ref:	109952					**Landfill Waste Acceptance Criteria Limits**		
Sample Date:	22/08/2017					**Inert Waste Landfill**	**Stable Non-reactive Hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:	TP223							
Depth (m)	0.5							
Site:	Woodcroft							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.18	3	5	6
Loss on Ignition		M	%		2.8	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		< 5	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			7.7	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	< 0.005		< 0.05	0.5	2	25
Barium		N	< 0.005		< 0.05	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	0.011		0.11	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	0.003		< 0.05	0.4	10	40
Lead		N	< 0.001		< 0.05	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	< 0.005		< 0.05	4	50	200
Chloride		N	6		65.00	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	6		58.00	1000	20000	50000
Total Dissolved Solids		N	< 10		< 100	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	54.400		544.00	**500**	800	1000
Leach Test Information								
pH		N	7.7					
Conductivity (uS/cm)		N	117					
Dry mass of test portion (g)			100.000					
Dry Matter (%)			79					
Moisture (%)			27					
Eluent Volume (ml)			931					

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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2683

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Results Summary

Report No.: 17-13705

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #)
in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
109922	0.10	TP202	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
109925	0.50	TP203	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
109927	0.50	TP204	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
109929	0.50	TP205	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
109930	0.10	TP206	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
109932	0.30	TP207	Clay, stones	No asbestos detected	n/t	n/t	n/t	n/t
109938	1.00	TP213	Brown sandy soil, stones, concrete, brick, clinker	Chrysotile Crocidolite (asbestos cement)	2.66	Asbestos cement (2.663%)	< 0.001	2.66
109939	0.90	TP214	Brown sandy soil, stones, brick, clinker, wood	No asbestos detected	n/t	n/t	n/t	n/t
109940	0.30	TP215	Brown sandy soil, stones, concrete, brick, clinker	No asbestos detected	n/t	n/t	n/t	n/t
109941	2.90	TP215	Chalk, stones	No asbestos detected	n/t	n/t	n/t	n/t
109943	0.20	TP217	Clay, stones	No asbestos detected	n/t	n/t	n/t	n/t
109946	0.20	TP220	Brown sandy soil, stones, chalk, brick, clinker	No asbestos detected	n/t	n/t	n/t	n/t
109947	1.00	TP220	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
109948	0.10	TP221	Brown sandy soil, stones, chalk, organics	No asbestos detected	n/t	n/t	n/t	n/t
109950	0.40	TP222	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109951	0.40	TP223	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109953	0.20	TP224	Brown soil,Stones,Brick	No asbestos detected	n/t	n/t	n/t	n/t
109954	2.20	TP224	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
109955	0.25	TP225	Brown sandy soil,Stones,Brick	Chrysotile (Cement Fragment)	3.54	Cement Fragment (3.543)	< 0.001	3.54
109957	0.10	TP226	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
109959	0.15	TP228	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109960	0.60	TP229	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
109962	0.40	TP231	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109963	0.10	TP232	Brown soil,stones	No asbestos detected	n/t	n/t	n/t	n/t
109965	0.30	TP234	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109966	0.50	TP235	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
109967	0.30	TP236	Brown sandy soil,stones	No asbestos detected	n/t	n/t	n/t	n/t
109968	0.40	TP237	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109970	0.20	TP239	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109971	0.50	TP239	Cement fragment	Chrysotile	25.0	Cement Fragment (25)	< 0.001	25.0
109972	1.50	TP239	Sand	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 17-13705

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	25/08/2017	109	Colorimetry
Hexavalent chromium	N	As submitted sample	25/08/2017	110	Colorimetry
Acid Soluble Sulphate	U	Air dried sample	29/08/2017	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	25/08/2017	118	ICPMS
Phenols in solids	N	As submitted sample	25/08/2017	121	HPLC
Elemental Sulphur	N	Air dried sample	25/08/2017	122	HPLC
PAH (GC-FID)	M	As submitted sample	29/08/2017	133	GC-FID
Water soluble anions	M	Air dried sample	25/08/2017	172	Ion Chromatography
Water soluble boron	N	Air dried sample	25/08/2017	202	Colorimetry
Total cyanide	M	As submitted sample	25/08/2017	204	Colorimetry
Aliphatic hydrocarbons in soil	N	As submitted sample	29/08/2017	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	29/08/2017	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	29/08/2017	214	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	25/08/2017	214	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	25/08/2017	214	GC-MS
Asbestos identification	U	As submitted sample	25/08/2017	260	Microscopy
Leachate					
Arsenic*	N		30/08/2017	101	ICPMS
Cadmium*	N		30/08/2017	101	ICPMS
Chromium*	N		30/08/2017	101	ICPMS
Lead*	N		30/08/2017	101	ICPMS
Nickel*	N		30/08/2017	101	ICPMS
Copper*	N		30/08/2017	101	ICPMS
Zinc*	N		30/08/2017	101	ICPMS
Mercury*	N		30/08/2017	101	ICPMS
Selenium*	N		30/08/2017	101	ICPMS
Antimony	N		30/08/2017	101	ICPMS
Barium*	N		30/08/2017	101	ICPMS
Molybdenum*	N		30/08/2017	101	ICPMS
pH Value*	N		30/08/2017	113	Electrometric
Electrical Conductivity*	N		30/08/2017	136	Probe
Dissolved Organic Carbon	N		30/08/2017	102	TOC analyser
Chloride*	N		30/08/2017	131	Ion Chromatography
Fluoride*	N		30/08/2017	131	Ion Chromatography
Sulphate*	N		30/08/2017	131	Ion Chromatography
Total Dissolved Solids	N		30/08/2017	144	Gravimetric
Phenol index	N		30/08/2017	121	HPLC
WAC Solids analysis	N				
pH Value**	M	Air dried sample	29/08/2017	113	Electrometric
Total Organic Carbon	N	Air dried sample	29/08/2017	210	IR
Loss on Ignition**	M	Air dried sample	30/08/2017	129	Gravimetric
Acid Neutralization Capacity to pH 7	N	Air dried sample	29/08/2017	NEN 737	Electrometric
Total BTEX**	M	As submitted sample	25/08/2017	181	GCMS
Mineral Oil**	U	As submitted sample	29/08/2017	117	GCFID
Total PCBs (7 congeners)	M	Air dried sample	25/08/2017	120	GCMS
Total PAH (17)**	N	As submitted sample	29/08/2017	133	GCFID

Tests marked N are not UKAS accredited

Report Information

Report No.: 17-13705

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C)
Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

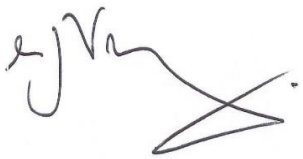
Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage

Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618
Facsimile: (01424) 729911
info@elab-uk.co.uk

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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	18-17643
Issue:	1
Date of Issue:	30/05/2018
Contact:	Fiona Goode
Customer Details:	GESL Unit 7 Danworth Farm Hurstpierpoint West Sussex BN6 9GL
Quotation No:	Q14-00021
Order No:	PO-0331
Customer Reference:	GE16943
Date Received:	21/05/2018
Date Approved:	30/05/2018
Details:	Woodcroft, Waterlooville
Approved by:	

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

Sample Summary

Report No.: 18-17643

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
136637	WS401 0.60 - 0.80	15/05/2018	21/05/2018	Clayey loam	
136638	WS401 1.40 - 1.70	15/05/2018	21/05/2018	Silty loam	
136639	WS401 2.30 - 2.60	15/05/2018	21/05/2018	Silty loam	
136640	WS402 0.50	15/05/2018	21/05/2018	Silty clayey loam	
136641	WS402 1.50	15/05/2018	21/05/2018	Silty loam	
136642	WS402 2.50	15/05/2018	21/05/2018	Silty clayey loam	
136643	WS402 3.70 - 4.00	15/05/2018	21/05/2018	Silty loam	
136644	WS403 0.30 - 0.50	15/05/2018	21/05/2018	Silty clayey loam	
136645	WS403 1.50 - 1.60	15/05/2018	21/05/2018	Silty clayey loam	
136646	WS403 2.40 - 2.60	15/05/2018	21/05/2018	Silty loam	
136647	WS404 0.20 - 0.40	15/05/2018	21/05/2018	Silty loam	
136648	WS404 1.10 - 1.30	15/05/2018	21/05/2018	Clayey loam	
136649	WS405 0.00 - 0.20	15/05/2018	21/05/2018	Silty loam	
136650	WS405 0.40 - 0.60	15/05/2018	21/05/2018	Silty clayey loam	
136651	WS405 1.20	15/05/2018	21/05/2018	Silty clayey loam	
136652	WS406 0.20 - 0.50	15/05/2018	21/05/2018	Silty loam	
136653	WS406 1.60 - 1.90	15/05/2018	21/05/2018	Silty loam	
136654	WS406 3.10 - 3.50	15/05/2018	21/05/2018	Silty loam	
136655	WS407 0.30 - 0.50	15/05/2018	21/05/2018	Sandy silty loam	
136656	WS407 1.00 - 2.00	15/05/2018	21/05/2018	Silty loam	
136657	WS407 3.00 - 4.00	15/05/2018	21/05/2018	Silty loam	
136658	TP301 0.25	16/05/2018	21/05/2018	Silty loam	
136659	TP301 0.40	16/05/2018	21/05/2018	Silty loam	
136660	TP301 1.40	16/05/2018	21/05/2018	Silty loam	
136661	TP302 0.20	16/05/2018	21/05/2018	Silty loam	
136662	TP302 0.50	16/05/2018	21/05/2018	Silty clayey loam	
136663	TP302 1.30	16/05/2018	21/05/2018	Silty loam	
136664	TP302 2.70	16/05/2018	21/05/2018	Silty loam	
136665	TP303 0.30	16/05/2018	21/05/2018	Silty loam	
136666	TP303 0.70	16/05/2018	21/05/2018	Silty clayey loam	
136667	TP303 1.90	16/05/2018	21/05/2018	chalk	
136668	TP304 0.30	16/05/2018	21/05/2018	Silty loam	
136669	TP304 1.20	16/05/2018	21/05/2018	Silty clayey loam	
136670	TP305 0.80	16/05/2018	21/05/2018	Clayey loam	
136671	TP305 1.10	16/05/2018	21/05/2018	Clayey loam	
136672	TP306 0.20	15/05/2018	21/05/2018	Silty loam	
136673	TP306 0.40	15/05/2018	21/05/2018	Silty loam	
136674	TP306 0.80	15/05/2018	21/05/2018	Sandy silty loam	
136675	TP307 0.30	15/05/2018	21/05/2018	Silty loam	
136676	TP307 0.80	15/05/2018	21/05/2018	Silty clayey loam	
136677	TP307 1.20	15/05/2018	21/05/2018	Sand	
136678	TP308 0.10	15/05/2018	21/05/2018	Silty loam	
136679	TP308 0.30	15/05/2018	21/05/2018	Sandy silty loam	
136680	TP308 0.70	15/05/2018	21/05/2018	Silty clayey loam	
136681	TP309 0.25	15/05/2018	21/05/2018	Silty loam	
136682	TP309 0.50	15/05/2018	21/05/2018	Silty loam	
136683	TP309 0.65	15/05/2018	21/05/2018	Silty clayey loam	
136684	TP310 0.20	15/05/2018	21/05/2018	Silty loam	
136685	TP310 0.50	15/05/2018	21/05/2018	Silty loam	
136686	TP310 1.50	15/05/2018	21/05/2018	chalk	
136687	TP311 0.20	15/05/2018	21/05/2018	Silty loam	
136688	TP311 0.40	15/05/2018	21/05/2018	Silty loam	
136689	TP311 0.80	15/05/2018	21/05/2018	Silty loam	
136690	TP312 0.20	17/05/2018	21/05/2018	Silty loam	
136691	TP312 0.90	17/05/2018	21/05/2018	Silty loam	
136692	TP312 1.45	17/05/2018	21/05/2018	Silty clayey loam	
136693	TP313 0.25	17/05/2018	21/05/2018	Silty loam + chalk	
136694	TP313 0.50	17/05/2018	21/05/2018	Sandy silty loam	
136695	TP313 1.55	17/05/2018	21/05/2018	Loamy sand	
136696	TP314 0.30	17/05/2018	21/05/2018	Clayey loam	
136697	TP314 0.70	17/05/2018	21/05/2018	Silty loam	
136698	TP314 1.60	17/05/2018	21/05/2018	Silty clayey loam	
136699	TP315 0.20	17/05/2018	21/05/2018	Silty loam	
136700	TP315 0.60	17/05/2018	21/05/2018	Silty loam	

Sample Summary

Report No.: 18-17643

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
136701	TP315 2.30	17/05/2018	21/05/2018	Clayey loam	
136702	TP316 0.20	17/05/2018	21/05/2018	Sandy silty loam	
136703	TP316 0.90	17/05/2018	21/05/2018	Silty clayey loam	
136704	TP316 1.90	17/05/2018	21/05/2018	Clayey loam	
136705	TP317 0.15	17/05/2018	21/05/2018	Silty loam	
136706	TP317 0.65	17/05/2018	21/05/2018	Clayey loam	
136707	TP317 1.40	17/05/2018	21/05/2018	Sandy loam	
136708	TP318 0.15	17/05/2018	21/05/2018	Silty loam	
136709	TP318 0.70	17/05/2018	21/05/2018	Silty clayey loam	
136710	TP319 1.80	17/05/2018	21/05/2018	Clayey loam	

Results Summary

Report No.: 18-17643

			ELAB Reference	136637	136638	136639	136640	136641	136642
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS401	WS401	WS401	WS402	WS402	WS402
			Sample Depth (m)	0.60 - 0.80	1.40 - 1.70	2.30 - 2.60	0.50	1.50	2.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.51	1.9	2.2	0.47	1.4	0.49
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136637	136638	136639	136640	136641	136642
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS401	WS401	WS401	WS402	WS402	WS402
			Sample Depth (m)	0.60 - 0.80	1.40 - 1.70	2.30 - 2.60	0.50	1.50	2.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

	ELAB Reference	136643	136644	136645	136646	136647	136648
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	WS402	WS403	WS403	WS403	WS404	WS404
	Sample Depth (m)	3.70 - 4.00	0.30 - 0.50	1.50 - 1.60	2.40 - 2.60	0.20 - 0.40	1.10 - 1.30
	Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.68	0.61	0.69	0.19	2.5	0.20
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136643	136644	136645	136646	136647	136648
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS402	WS403	WS403	WS403	WS404	WS404
			Sample Depth (m)	3.70 - 4.00	0.30 - 0.50	1.50 - 1.60	2.40 - 2.60	0.20 - 0.40	1.10 - 1.30
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136649	136650	136651	136652	136653	136654
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS405	WS405	WS405	WS406	WS406	WS406
			Sample Depth (m)	0.00 - 0.20	0.40 - 0.60	1.20	0.20 - 0.50	1.60 - 1.90	3.10 - 3.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	1.6	1.0	0.87	0.98	1.4	3.8
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136649	136650	136651	136652	136653	136654
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS405	WS405	WS405	WS406	WS406	WS406
			Sample Depth (m)	0.00 - 0.20	0.40 - 0.60	1.20	0.20 - 0.50	1.60 - 1.90	3.10 - 3.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136655	136656	136657	136658	136659	136660
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS407	WS407	WS407	TP301	TP301	TP301
			Sample Depth (m)	0.30 - 0.50	1.00 - 2.00	3.00 - 4.00	0.25	0.40	1.40
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.72	1.2	2.1	1.7	0.80	2.3
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136655	136656	136657	136658	136659	136660
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS407	WS407	WS407	TP301	TP301	TP301
			Sample Depth (m)	0.30 - 0.50	1.00 - 2.00	3.00 - 4.00	0.25	0.40	1.40
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136661	136662	136663	136664	136665	136666
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP302	TP302	TP302	TP302	TP303	TP303
			Sample Depth (m)	0.20	0.50	1.30	2.70	0.30	0.70
			Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.48	0.77	0.64	1.3	2.1	0.21
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

	ELAB Reference	136661	136662	136663	136664	136665	136666
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP302	TP302	TP302	TP302	TP303	TP303
	Sample Depth (m)	0.20	0.50	1.30	2.70	0.30	0.70
	Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes** / **Units** / **LOD**						
TPH CWG							
>C5-C6 Aliphatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136667	136668	136669	136670	136671	136672
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP303	TP304	TP304	TP305	TP305	TP306
			Sample Depth (m)	1.90	0.30	1.20	0.80	1.10	0.20
			Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	9.2
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	51.3
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	< 0.5
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	23.1
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	7.9
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	18.6
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	< 0.5
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	15.7
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	34.7
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	55.8
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	< 40
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	< 0.02
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	< 20
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	< 0.8
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	< 2
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	0.07
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	0.7
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	6.1
Total Organic Carbon	N	%	0.01	0.05	2.7	0.20	0.74	1.2	0.48
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	< 0.4
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136667	136668	136669	136670	136671	136672
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP303	TP304	TP304	TP305	TP305	TP306
			Sample Depth (m)	1.90	0.30	1.20	0.80	1.10	0.20
			Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136673	136674	136675	136676	136677	136678
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP306	TP306	TP307	TP307	TP307	TP308
			Sample Depth (m)	0.40	0.80	0.30	0.80	1.20	0.10
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	19.0	30.7	14.6	19.6	76.9	15.6
Barium	U	mg/kg	10	82.6	63.1	52.6	71.7	36.8	35.7
Beryllium	U	mg/kg	1	1.2	2.0	1.6	6.4	2.9	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	0.6	0.5	2.4	1.4	< 0.5
Chromium	M	mg/kg	5	43.5	39.1	32.0	47.0	37.8	20.4
Copper	M	mg/kg	5	18.2	18.0	11.9	14.6	21.1	7.8
Lead	M	mg/kg	5	17.7	17.2	17.5	16.2	20.4	15.7
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	29.5	27.7	34.2	174	69.3	15.0
Selenium	M	mg/kg	1	< 1.0	1.4	1.1	4.1	1.8	< 1.0
Vanadium	M	mg/kg	5	59.9	80.9	50.9	59.3	188	42.2
Zinc	M	mg/kg	5	58.6	55.8	73.5	91.5	56.6	40.6
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.03
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.06	0.05	0.06	0.06	0.05	0.05
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Miscellaneous									
pH	M	pH units	0.1	6.8	7.0	6.5	7.6	7.4	6.9
Total Organic Carbon	N	%	0.01	0.14	0.11	0.31	0.21	0.05	0.43
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136673	136674	136675	136676	136677	136678
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP306	TP306	TP307	TP307	TP307	TP308
			Sample Depth (m)	0.40	0.80	0.30	0.80	1.20	0.10
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136679	136680	136681	136682	136683	136684
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP308	TP308	TP309	TP309	TP309	TP310
			Sample Depth (m)	0.30	0.70	0.25	0.50	0.65	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	95.8	68.0	23.1	65.6	20.9	15.6
Barium	U	mg/kg	10	48.9	65.2	56.4	83.1	17.6	46.7
Beryllium	U	mg/kg	1	1.4	1.8	1.4	5.1	1.2	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	0.5	1.0	< 0.5	< 0.5
Chromium	M	mg/kg	5	43.5	59.2	29.6	62.4	11.9	21.1
Copper	M	mg/kg	5	17.2	22.1	13.3	18.3	< 5.0	10.0
Lead	M	mg/kg	5	23.5	26.2	27.1	22.2	6.3	24.2
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	22.0	80.3	45.2	190	35.3	24.4
Selenium	M	mg/kg	1	1.9	2.0	1.2	1.6	< 1.0	< 1.0
Vanadium	M	mg/kg	5	127	168	51.0	103	16.8	43.8
Zinc	M	mg/kg	5	58.6	71.0	80.7	143	27.6	60.5
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	0.02	0.11	0.06	0.03	0.03
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	38	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.05	0.06	0.11	0.07	0.03	0.07
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	1.6	< 0.5	< 0.5	0.6
Miscellaneous									
pH	M	pH units	0.1	6.9	7.3	6.6	7.3	8.0	6.7
Total Organic Carbon	N	%	0.01	0.12	0.12	1.7	0.44	0.05	0.03
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	0.3	< 0.1	< 0.1	0.3	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	0.4	< 0.4	< 0.4	0.4	< 0.4	< 0.4
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

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Results Summary

Report No.: 18-17643

			ELAB Reference	136679	136680	136681	136682	136683	136684
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP308	TP308	TP309	TP309	TP309	TP310
			Sample Depth (m)	0.30	0.70	0.25	0.50	0.65	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136685	136686	136687	136688	136689	136690
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP310	TP310	TP311	TP311	TP311	TP312
			Sample Depth (m)	0.50	1.50	0.20	0.40	0.80	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	22.7	^ 4.7	15.3	22.7	27.4	5.0
Barium	U	mg/kg	10	73.8	17.9	51.7	60.6	61.9	120
Beryllium	U	mg/kg	1	1.3	< 1.0	1.0	2.3	2.6	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	^ 1.0	< 0.5	< 0.5	1.4	0.7
Chromium	M	mg/kg	5	44.2	^ 6.9	23.3	45.9	54.0	11.3
Copper	M	mg/kg	5	19.2	^ < 5.0	11.3	18.1	24.7	9.9
Lead	M	mg/kg	5	21.8	^ < 5.0	27.6	22.1	17.2	16.0
Mercury	M	mg/kg	0.5	< 0.5	^ < 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	32.0	^ 13.9	29.3	66.7	200	14.3
Selenium	M	mg/kg	1	1.0	^ < 1.0	< 1.0	1.1	2.1	< 1.0
Vanadium	M	mg/kg	5	80.9	^ 9.8	46.8	75.9	66.1	16.3
Zinc	M	mg/kg	5	68.7	^ 21.5	64.1	104	97.9	45.8
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	^ < 40	< 40	< 40	< 40	103
Water Soluble Sulphate	M	g/l	0.02	0.02	^ < 0.02	0.04	0.05	0.02	0.10
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	^ < 20	< 20	22	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	^ < 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.08	0.09	0.08	0.07	0.07	0.07
Water Soluble Boron	N	mg/kg	0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5
Miscellaneous									
pH	M	pH units	0.1	6.7	^ 8.6	7.0	7.2	7.3	8.2
Total Organic Carbon	N	%	0.01	0.15	0.03	0.75	0.27	0.22	0.56
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	0.4
Anthracene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	0.2
Fluoranthene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.4
Pyrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.4
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.3
Chrysene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.3
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.7
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	^ < 0.1	0.2	< 0.1	< 0.1	2.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	0.2	< 0.1	1.8
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.4
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	0.3
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	2.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	^ < 0.4	< 0.4	< 0.4	< 0.4	15.5
BTEX									
Benzene	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0

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Results Summary

Report No.: 18-17643

			ELAB Reference	136685	136686	136687	136688	136689	136690
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP310	TP310	TP311	TP311	TP311	TP312
			Sample Depth (m)	0.50	1.50	0.20	0.40	0.80	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.1
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	135
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.3
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.2
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	136
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	17.1
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	304

Results Summary

Report No.: 18-17643

				ELAB Reference	136691	136692	136693	136694	136695	136696
				Customer Reference						
				Sample ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Location	TP312	TP312	TP313	TP313	TP313	TP314
				Sample Depth (m)	0.90	1.45	0.25	0.50	1.55	0.30
				Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**							
Metals										
Arsenic	M	mg/kg	1		11.2	20.3	^ 5.1	17.1	34.2	11.5
Barium	U	mg/kg	10		66.4	54.9	28.0	19.2	38.9	40.8
Beryllium	U	mg/kg	1		< 1.0	2.9	< 1.0	< 1.0	1.5	< 1.0
Cadmium	M	mg/kg	0.5		0.6	0.7	^ 0.6	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5		21.4	39.6	^ 10.2	14.5	20.4	34.0
Copper	M	mg/kg	5		18.5	23.8	^ 8.8	7.9	15.2	13.5
Lead	M	mg/kg	5		61.9	25.3	^ 12.3	14.1	20.5	17.3
Mercury	M	mg/kg	0.5		< 0.5	< 0.5	^ < 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5		29.3	93.1	^ 10.7	15.1	26.9	13.7
Selenium	M	mg/kg	1		1.1	1.8	^ < 1.0	< 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5		39.2	64.6	^ 17.0	35.1	43.5	54.1
Zinc	M	mg/kg	5		129	136	^ 32.0	28.5	37.6	31.2
Anions										
Water Soluble Chloride	M	mg/kg	40		124	131	^ < 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02		0.05	0.04	^ < 0.02	< 0.02	< 0.02	< 0.02
Inorganics										
Elemental Sulphur	M	mg/kg	20		< 20	< 20	^ < 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8		< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2		< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1		1.1	< 1.0	^ 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02		0.09	0.09	0.06	0.03	0.06	0.06
Water Soluble Boron	N	mg/kg	0.5		2.8	0.5	< 0.5	< 0.5	< 0.5	0.8
Miscellaneous										
pH	M	pH units	0.1		8.3	7.8	^ 8.3	8.1	8.1	7.7
Total Organic Carbon	N	%	0.01		2.6	0.42	0.28	0.12	0.08	0.24
Phenols										
Total Phenols	N	mg/kg	6		< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons										
Naphthalene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.2	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	0.2	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	0.2	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	1.8	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.1	0.6	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1		0.1	< 0.1	^ 0.6	1.8	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1		0.1	< 0.1	^ 0.6	1.5	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.9	0.8	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.8	0.8	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1		0.2	< 0.1	^ 1.1	0.5	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1		0.3	0.3	^ 1.5	0.8	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1		0.1	< 0.1	^ 1.2	0.7	< 0.1	0.2
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1		< 0.1	< 0.1	^ 1.2	0.4	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.3	0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1		< 0.1	0.1	^ 1.3	0.3	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4		0.9	0.4	^ 9.9	10.5	< 0.4	< 0.4
BTEX										
Benzene	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0

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Results Summary

Report No.: 18-17643

			ELAB Reference	136691	136692	136693	136694	136695	136696
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP312	TP312	TP313	TP313	TP313	TP314
			Sample Depth (m)	0.90	1.45	0.25	0.50	1.55	0.30
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	1.7	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	7.1	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	10.3	< 1.0	< 1.0	< 1.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136697	136698	136699	136700	136701	136702
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP314	TP314	TP315	TP315	TP315	TP316
			Sample Depth (m)	0.70	1.60	0.20	0.60	2.30	0.20
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	10.6	243	15.5	11.0	8.7	11.1
Barium	U	mg/kg	10	38.3	90.8	359	85.8	305	257
Beryllium	U	mg/kg	1	< 1.0	3.7	< 1.0	< 1.0	2.1	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	3.5	0.7	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	19.3	37.4	15.5	30.8	59.1	23.7
Copper	M	mg/kg	5	7.8	24.4	30.2	13.3	25.7	23.2
Lead	M	mg/kg	5	14.8	28.5	220	64.6	27.2	146
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	11.9	271	16.1	15.0	25.3	15.5
Selenium	M	mg/kg	1	< 1.0	1.1	< 1.0	< 1.0	1.1	< 1.0
Vanadium	M	mg/kg	5	35.8	69.2	23.7	52.0	101	38.4
Zinc	M	mg/kg	5	36.9	139	91.1	58.2	62.5	107
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	0.05	0.03	0.06	< 0.02	0.05
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	188	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.05	0.07	0.08	0.09	0.07	0.11
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	< 0.5	1.1	0.6	0.7
Miscellaneous									
pH	M	pH units	0.1	7.4	7.5	9.1	7.9	6.2	9.3
Total Organic Carbon	N	%	0.01	0.21	0.11	0.88	1.1	0.35	0.70
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	1.9	< 0.1	< 0.1	0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	0.7	< 0.1	< 0.1	0.3
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	3.6	< 0.1	< 0.1	0.7
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	3.3	< 0.1	< 0.1	0.6
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	2.1	< 0.1	< 0.1	0.4
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	2.3	< 0.1	0.1	0.4
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	3.1	0.3	0.1	0.6
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	2.5	< 0.1	< 0.1	0.4
Benzo (a) pyrene	M	mg/kg	0.1	0.1	0.1	2.7	< 0.1	0.3	0.3
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	2.3	< 0.1	< 0.1	0.3
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	3.0	0.1	< 0.1	0.4
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	28.7	0.6	0.6	4.7
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136697	136698	136699	136700	136701	136702
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP314	TP314	TP315	TP315	TP315	TP316
			Sample Depth (m)	0.70	1.60	0.20	0.60	2.30	0.20
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	2.7	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	39.7	< 1.0	< 1.0	8.1
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	9.3	< 1.0	< 1.0	1.4
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	14.8	< 1.0	< 1.0	1.3
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	131	1.3	< 1.0	15.1
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	41.1	< 1.0	< 1.0	6.5
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	241	1.3	< 1.0	32.4

Results Summary

Report No.: 18-17643

			ELAB Reference	136703	136704	136705	136706	136707	136708
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP316	TP316	TP317	TP317	TP317	TP318
			Sample Depth (m)	0.90	1.90	0.15	0.65	1.40	0.15
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	10.1	4.8	16.3	11.4	5.7	9.7
Barium	U	mg/kg	10	75.6	76.8	180	36.7	28.2	169
Beryllium	U	mg/kg	1	< 1.0	1.7	1.4	6.9	1.4	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	0.6	5.2	< 0.5	0.7
Chromium	M	mg/kg	5	35.8	28.4	28.9	35.0	24.1	20.3
Copper	M	mg/kg	5	14.8	11.3	60.8	21.3	17.7	30.0
Lead	M	mg/kg	5	36.7	13.4	165	22.3	15.7	104
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	12.8	20.2	27.2	33.1	26.1	15.5
Selenium	M	mg/kg	1	< 1.0	< 1.0	1.4	1.1	< 1.0	< 1.0
Vanadium	M	mg/kg	5	64.1	47.5	49.0	49.9	39.1	34.5
Zinc	M	mg/kg	5	47.4	27.1	235	59.5	48.0	159
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.05	0.08	< 0.02	< 0.02	< 0.02	0.03
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.08	0.07	0.08	0.05	0.06	0.07
Water Soluble Boron	N	mg/kg	0.5	0.8	0.7	1.3	0.7	< 0.5	0.7
Miscellaneous									
pH	M	pH units	0.1	8.1	5.5	7.6	7.9	7.4	8.5
Total Organic Carbon	N	%	0.01	0.60	0.06	2.9	0.32	0.08	1.9
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.2
Benzo (b) fluoranthene	M	mg/kg	0.1	0.1	0.1	0.1	< 0.1	< 0.1	0.4
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	0.3
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	0.7	< 0.4	< 0.4	2.1
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136703	136704	136705	136706	136707	136708
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP316	TP316	TP317	TP317	TP317	TP318
			Sample Depth (m)	0.90	1.90	0.15	0.65	1.40	0.15
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.7
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.7
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.6
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136709	136710
			Customer Reference		
			Sample ID		
			Sample Type	SOIL	SOIL
			Sample Location	TP318	TP319
			Sample Depth (m)	0.70	1.80
			Sampling Date	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**		
Metals					
Arsenic	M	mg/kg	1	10.5	17.2
Barium	U	mg/kg	10	35.0	49.9
Beryllium	U	mg/kg	1	< 1.0	1.5
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	34.6	58.1
Copper	M	mg/kg	5	16.1	32.6
Lead	M	mg/kg	5	15.1	27.9
Mercury	M	mg/kg	0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	11.9	15.9
Selenium	M	mg/kg	1	< 1.0	1.2
Vanadium	M	mg/kg	5	55.4	106
Zinc	M	mg/kg	5	37.5	37.5
Anions					
Water Soluble Chloride	M	mg/kg	40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.02	0.07
Inorganics					
Elemental Sulphur	M	mg/kg	20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.05	0.07
Water Soluble Boron	N	mg/kg	0.5	< 0.5	0.8
Miscellaneous					
pH	M	pH units	0.1	8.1	7.3
Total Organic Carbon	N	%	0.01	0.13	0.22
Phenols					
Total Phenols	N	mg/kg	6	< 6	< 6
Polyaromatic hydrocarbons					
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4
BTEX					
Benzene	M	ug/kg	10	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136709	136710
			Customer Reference		
			Sample ID		
			Sample Type	SOIL	SOIL
			Sample Location	TP318	TP319
			Sample Depth (m)	0.70	1.80
			Sampling Date	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**		
TPH CWG					
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0

Unit A2, Windmill Road, Ponswood Industrial Estate, St Leonards on Sea, East Sussex, TN38 9BY
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Results Summary

Report No.: 18-17643

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #)
in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric	Gravimetric Analysis by ACM Type	Free Fibre	Total
136637	0.60 - 0.80	WS401	Brown clay, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136640	0.50	WS402	Brown clay, stones	No asbestos detected	n/t	n/t	n/t	n/t
136645	1.50 - 1.60	WS403	Brown sandy soil, stones, concrete, brick, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136650	0.40 - 0.60	WS405	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
136651	1.20	WS405	Brown sandy soil, stones, concrete, brick, wood	No asbestos detected	n/t	n/t	n/t	n/t
136653	1.60 - 1.90	WS406	Brown sandy soil, stones, concrete, brick, clinker, glass	No asbestos detected	n/t	n/t	n/t	n/t
136655	0.30 - 0.50	WS407	Brown sandy soil, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136657	3.00 - 4.00	WS407	Brown sandy soil, stones, concrete, brick, clinker, chalk, organics	Chrysotile (asbestos cement)	0.729	Asbestos cement (0.729%)	< 0.001	0.729
136658	0.25	TP301	Brown sandy soil, stones, concrete, brick, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136659	0.40	TP301	Brown sandy soil, stones, clinker, wood	No asbestos detected	n/t	n/t	n/t	n/t
136660	1.40	TP301	Brown sandy soil, stones, brick, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136661	0.20	TP302	Brown sandy soil, stones, chalk, clinker, organics	Chrysotile (asbestos cement)	0.147	Asbestos cement (0.147%)	< 0.001	0.147
136662	0.50	TP302	Brown sandy soil, stones, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136664	2.70	TP302	Brown sandy soil, stones, concrete, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136666	0.70	TP303	Brown sandy soil, stones, concrete, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136669	1.20	TP304	Brown sandy clay, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136670	0.80	TP305	Brown sandy clay, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136672	0.20	TP306	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
136673	0.40	TP306	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
136674	0.80	TP306	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
136675	0.30	TP307	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136676	0.80	TP307	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136677	1.20	TP307	Brown sandy soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136678	0.10	TP308	Brown sandy soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136679	0.30	TP308	Brown sandy soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136680	0.70	TP308	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136681	0.25	TP309	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136682	0.50	TP309	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136683	0.65	TP309	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136684	0.20	TP310	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136685	0.50	TP310	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136686	1.50	TP310	Chalk	No asbestos detected	n/t	n/t	n/t	n/t
136687	0.20	TP311	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136688	0.40	TP311	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136689	0.80	TP311	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136690	0.20	TP312	Brown chalky soil with stones and brick	No asbestos detected	n/t	n/t	n/t	n/t
136691	0.90	TP312	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136692	1.45	TP312	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136693	0.25	TP313	Brown chalky soil with stones and clinker	No asbestos detected	n/t	n/t	n/t	n/t
136694	0.50	TP313	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136695	1.55	TP313	Sand	No asbestos detected	n/t	n/t	n/t	n/t
136696	0.30	TP314	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136697	0.70	TP314	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
136698	1.60	TP314	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136699	0.20	TP315	Brown sandy soil,Stones,concrete,brick	Chrysotile (fibre bundle)	< 0.001	Fibre bundle (<0.001)	< 0.001	< 0.001
136700	0.60	TP315	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
136701	2.30	TP315	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
136702	0.20	TP316	Brown sandy soil,Stones,brick,clinker	No asbestos detected	n/t	n/t	n/t	n/t
136703	0.90	TP316	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136704	1.90	TP316	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136705	0.15	TP317	Brown sandy soil,Stones,glass,clinker	No asbestos detected	n/t	n/t	n/t	n/t
136706	0.65	TP317	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136707	1.40	TP317	Brown sandy soil,stones	No asbestos detected	n/t	n/t	n/t	n/t
136708	0.15	TP318	Brown sandy soil,Stones,brick	No asbestos detected	n/t	n/t	n/t	n/t
136709	0.70	TP318	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
136710	1.80	TP319	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 18-17643

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	23/05/2018	109	Colorimetry
Hexavalent chromium	N	As submitted sample	23/05/2018	110	Colorimetry
pH	M	Air dried sample	24/05/2018	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	24/05/2018	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	23/05/2018	118	ICPMS
Phenols in solids	N	As submitted sample	23/05/2018	121	HPLC
Elemental Sulphur	M	Air dried sample	23/05/2018	122	HPLC
PAH (GC-FID)	M	As submitted sample	23/05/2018	133	GC-FID
Water soluble anions	M	Air dried sample	23/05/2018	172	Ion Chromatography
Low range Aliphatic hydrocarbons soil	N	As submitted sample	24/05/2018	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	24/05/2018	181	GC-MS
BTEX in solids	M	As submitted sample	24/05/2018	181A	GC-MS
Water soluble boron	N	Air dried sample	23/05/2018	202	Colorimetry
Total cyanide	M	As submitted sample	23/05/2018	204	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	24/05/2018	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	23/05/2018	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	25/05/2018	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	23/05/2018	214	GC-FID
Asbestos identification	U	Air dried sample	23/05/2018	260	Microscopy

Tests marked N are not UKAS accredited

Report Information

Report No.: 18-17643

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C)
Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage

CLEA Software Version 1.071

Report generated 21/06/2018

Report title Woodcroft Farm, Lovedean

Created by FG at GESL

BASIC SETTINGS

Land Use Residential with produce (C4SL)

Building Small terraced house
Receptor Female (res C4SL) Start age class 1 End age class 6 Exposure Duration 6 years
Soil Sandy loam

Exposure Pathways

Direct soil and dust ingestion	✓	Dermal contact with indoor dust	✓	Inhalation of indoor dust	✓
Consumption of homegrown produce	✓	Dermal contact with soil	✓	Inhalation of soil dust	✓
Soil attached to homegrown produce	✓			Inhalation of indoor vapour	✓
				Inhalation of outdoor vapour	✓

Land Use Residential with produce (C4SL) **Receptor** Female (res C4SL)

Age Class	Exposure Frequencies (days yr^{-1})						Occupation Periods (hr day^{-1})		Soil to skin adherence factors (mg cm^{2})		Direct soil ingestion rate (g day^{-1})	Body weight (kg)	Body height (m)	Inhalation rate (m^{3} day^{-1})	Max exposed skin factor		Total skin area (m^{2})
	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with indoor dust	Dermal contact with soil	Inhalation of dust and vapour, indoor	Inhalation of dust and vapour, outdoor	Indoors	Outdoors	Indoor	Outdoor					Indoor (m^{2} m^{-2})	Outdoor (m^{2} m^{-2})	
1	180	180	180	170	365	365	23.0	1.0	0.06	0.10	0.10	5.60	0.7	5.4	0.32	0.26	3.43E-01
2	365	365	365	170	365	365	23.0	1.0	0.06	0.10	0.10	9.80	0.8	8.0	0.33	0.26	4.84E-01
3	365	365	365	170	365	365	23.0	1.0	0.06	0.10	0.10	12.70	0.9	8.9	0.32	0.25	5.82E-01
4	365	365	365	170	365	365	23.0	1.0	0.06	0.10	0.10	15.10	0.9	10.1	0.35	0.28	6.36E-01
5	365	365	365	170	365	365	19.0	1.0	0.06	0.10	0.10	16.90	1.0	10.1	0.35	0.28	7.04E-01
6	365	365	365	170	365	365	19.0	1.0	0.06	0.10	0.10	19.70	1.1	10.1	0.33	0.26	7.94E-01
7	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	22.10	1.2	12.0	0.22	0.15	8.73E-01
8	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	25.30	1.2	12.0	0.22	0.15	9.36E-01
9	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	27.50	1.3	12.0	0.22	0.15	1.01E+00
10	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	31.40	1.3	12.0	0.22	0.15	1.08E+00
11	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	35.70	1.4	12.0	0.22	0.14	1.19E+00
12	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	41.30	1.4	15.2	0.22	0.14	1.29E+00
13	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	47.20	1.5	15.2	0.22	0.14	1.42E+00
14	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	51.20	1.6	15.2	0.22	0.14	1.52E+00
15	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	56.70	1.6	15.2	0.21	0.14	1.60E+00
16	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	59.00	1.6	15.2	0.21	0.14	1.63E+00
17	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	70.00	1.6	15.7	0.33	0.27	1.78E+00
18	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	70.90	1.6	13.6	0.33	0.27	1.80E+00

Consumption Rates

Environment Agency

Consumption rates (g FW kg^{-1} bodyweight day^{-1}) by Produce Group

Age Class	MEAN RATES						90TH PERCENTILE RATES					
	Green veg	Root veg	Tuber veg	Herb. Fruit	Shrub fruit	Tree fruit	Green veg	Root veg	Tuber veg	Herb. Fruit	Shrub fruit	Tree fruit
1	3.47E+00	5.22E+00	9.22E+00	8.90E-01	1.07E+00	1.87E+00	7.12E+00	1.07E+01	1.60E+01	1.83E+00	2.23E+00	3.82E+00
2	3.34E+00	1.61E+00	3.14E+00	1.93E+00	2.60E-01	5.84E+00	5.87E+00	2.83E+00	6.60E+00	3.39E+00	4.60E-01	1.03E+01
3	3.34E+00	1.61E+00	3.14E+00	1.93E+00	2.60E-01	5.84E+00	5.87E+00	2.83E+00	6.60E+00	3.39E+00	4.60E-01	1.03E+01
4	3.34E+00	1.61E+00	3.14E+00	1.93E+00	2.60E-01	5.84E+00	5.87E+00	2.83E+00	6.60E+00	3.39E+00	4.60E-01	1.03E+01
5	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
6	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
7	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
8	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
9	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
10	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
11	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
12	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
13	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
14	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
15	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
16	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
17	1.26E+00	6.00E-01	1.18E+00	6.90E-01	9.00E-02	1.27E+00	2.36E+00	1.12E+00	2.35E+00	1.29E+00	1.80E-01	2.38E+00
18	1.35E+00	6.40E-01	1.25E+00	7.40E-01	1.00E-01	1.36E+00	2.34E+00	1.12E+00	2.36E+00	1.28E+00	1.80E-01	2.37E+00

Top 2 applied? Yes

Where top 2 method is applied, two produce categories use 90th percentile rates, while the remainder use the mean. Produce categories vary on a chemical-by-chemical basis. Where top 2 method is not used, all produce categories for all chemicals assume 90th percentile rates.

Building Small terraced house

Soil Sandy loam

Building footprint (m^2)	2.80E+01
Living space air exchange rate (hr^{-1})	5.00E-01
Living space height (above ground, m)	4.80E+00
Living space height (below ground, m)	0.00E+00
Pressure difference (soil to enclosed space, Pa)	3.10E+00
Foundation thickness (m)	1.50E-01
Floor crack area (cm^2)	4.23E+02
Dust loading factor ($\mu g\ m^{-3}$)	5.00E+01

Porosity, Total ($cm^3\ cm^{-3}$)	5.30E-01
Porosity, Air-Filled ($cm^3\ cm^{-3}$)	2.00E-01
Porosity, Water-Filled ($cm^3\ cm^{-3}$)	3.30E-01
Residual soil water content ($cm^3\ cm^{-3}$)	1.20E-01
Saturated hydraulic conductivity ($cm\ s^{-1}$)	3.56E-03
van Genuchten shape parameter *m* (dimensionless)	3.20E-01
Bulk density ($g\ cm^{-3}$)	1.21E+00
Threshold value of wind speed at 10m ($m\ s^{-1}$)	7.20E+00
Empirical function (F_x) for dust model (dimensionless)	1.22E+00
Ambient soil temperature (K)	2.83E+02
Soil pH	7.40E+00
Soil Organic Matter content (%)	8.60E-01
Fraction of organic carbon ($g\ g^{-1}$)	4.99E-03
Effective total fluid saturation (unitless)	5.12E-01
Intrinsic soil permeability (cm^2)	4.75E-08
Relative soil air permeability (unitless)	6.42E-01
Effective air permeability (cm^2)	3.05E-08

Soil - Vapour Model

Depth to top of source (no building) (cm)	0
Depth to top of source (beneath building) (cm)	65
Default soil gas ingress rate?	Yes
Soil gas ingress rate ($cm^3\ s^{-1}$)	2.50E+01
Building ventilation rate ($cm^3\ s^{-1}$)	1.87E+04
Averaging time surface emissions (yr)	6
Finite vapour source model?	No
Thickness of contaminated layer (cm)	200

Air Dispersion Model

Mean annual windspeed at 10m ($m\ s^{-1}$)		5.00
Air dispersion factor at height of 0.8m *		2400.00
Air dispersion factor at height of 1.6m *		0.00
Fraction of site cover ($m^2\ m^{-2}$)		0.75

* Air dispersion factor in $g\ m^{-2}\ s^{-1}$ per $kg\ m^{-3}$

Soil - Plant Model

	Dry weight conversion factor	Homegrown fraction		Soil loading factor	Preparation correction factor
		Average	High		
	g DW g^{-1} FW	dimensionless		g g^{-1} DW	dimensionless
Green vegetables	0.096	0.05	0.33	1.00E-03	2.00E-01
Root vegetables	0.103	0.06	0.40	1.00E-03	1.00E+00
Tuber vegetables	0.210	0.02	0.13	1.00E-03	1.00E+00
Herbaceous fruit	0.058	0.06	0.40	1.00E-03	6.00E-01
Shrub fruit	0.166	0.09	0.60	1.00E-03	6.00E-01
Tree fruit	0.157	0.04	0.27	1.00E-03	6.00E-01

Gardener type Average

CLEA Software Version 1.071

Report generated	21-Jun-18
Report title	Woodcroft Farm, Lovedean
Created by	FG at GESL

RESULTS

Environment Agency

		Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?		Top Two applied?	Apply Top 2 Approach to Produce Group					
		oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal		Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
1	Arsenic	3.80E+01	1.21E+02	NR	1.00	0.31	NR	NR	No	No	Yes	No	No	No	No	No	No
2	Beryllium	1.29E+02	1.72E+00	NR	0.01	1.00	NR	NR	Yes	Yes	Yes	No	No	No	No	No	No
3	Benzo(a)pyrene	3.93E+00	1.57E+01	NR	1.00	0.25	NR	7.83E-01 (vap)	No	No	Yes	No	No	No	No	No	No
4	Dibenz(ah)anthracene	3.93E-01	1.40E+00	NR	1.00	0.28	NR	3.38E-03 (vap)	No	No	Yes	No	No	No	No	No	No
5	Nickel	1.49E+02	1.81E+02	NR	1.00	0.70	NR	NR	Yes	Yes	Yes	No	No	No	No	No	No
6	Lead (C4SL adult)	9.04E+01	NR	NR	1.00	NR	NR	NR	No	No	Yes	Yes	No	Yes	No	No	No
7	Benzo(b)fluoranthene	4.94E+00	1.89E+01	NR	1.00	0.26	NR	1.05E+00 (sol)	No	No	Yes	No	No	No	No	No	No
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Environment Agency

	Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?		Top Two applied?	Apply Top 2 Approach to Produce Group					
	oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal		Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
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Environment Agency

		Soil Distribution				Media Concentrations													
		Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
		%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
1	Arsenic	99.9	0.1	0.0	100.0	3.80E+01	NR	1.90E+01	1.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-02	1.52E-02	8.75E-03	1.26E-02	7.61E-03	4.18E-02
2	Beryllium	100.0	0.0	0.0	100.0	1.72E+00	NR	8.62E-01	7.34E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-02	2.07E-03	2.07E-03	2.07E-03	2.07E-03	2.07E-03
3	Benzo(a)pyrene	100.0	0.0	0.0	100.0	3.93E+00	1.08E-05	1.96E+00	1.67E-09	0.00E+00	1.42E-08	3.33E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	Dibenz(ah)anthracene	100.0	0.0	0.0	100.0	3.93E-01	2.28E-06	1.96E-01	1.67E-10	0.00E+00	2.83E-09	2.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	Nickel	99.9	0.1	0.0	100.0	1.49E+02	NR	7.45E+01	6.34E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-01	6.41E-01	2.83E-01	3.73E-01	3.73E-01	5.07E-01
6	Lead (C4SL adult)	100.0	0.0	0.0	100.0	9.04E+01	NR	4.52E+01	3.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E-01	3.63E-01	6.61E-01	6.77E-02	1.85E-02	2.07E-02
7	Benzo(b)fluoranthene	99.9	0.1	0.0	100.0	4.94E+00	1.94E-05	2.47E+00	2.10E-09	0.00E+00	2.53E-08	4.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
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Environment Agency

	Soil Distribution				Media Concentrations													
	Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
	%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
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Environment Agency

		Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
		Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
1	Arsenic	2.82E-04	1.42E-05	3.77E-06	6.29E-07	0.00E+00	0.00E+00	0.00E+00	94.03	4.72	1.26	0.00	0.00	0.00	0.00	0.00
2	Beryllium	1.28E-05	2.67E-06	0.00E+00	2.85E-08	0.00E+00	8.44E-04	9.09E-08	0.00	0.00	0.00	50.00	0.00	0.00	0.00	50.00
3	Benzo(a)pyrene	2.91E-05	1.84E-07	1.69E-06	6.49E-08	1.02E-08	6.19E-06	3.64E-07	93.96	0.59	5.45	0.00	0.00	0.00	0.00	0.00
4	Dibenz(ah)anthracene	2.91E-06	1.84E-08	1.69E-07	6.49E-09	1.92E-09	2.25E-06	2.00E-06	93.96	0.59	5.45	0.00	0.00	0.00	0.00	0.00
5	Nickel	1.11E-03	2.90E-04	2.46E-06	2.46E-06	0.00E+00	7.54E-03	1.57E-05	39.46	10.36	0.09	0.09	0.00	0.00	49.90	0.10
6	Lead (C4SL adult)	4.02E-04	2.27E-04	0.00E+00	9.56E-07	0.00E+00	0.00E+00	0.00E+00	63.85	35.99	0.00	0.15	0.00	0.00	0.00	0.00
7	Benzo(b)fluoranthene	3.66E-05	2.31E-07	2.12E-06	8.17E-08	1.78E-08	6.19E-06	7.88E-07	93.96	0.59	5.45	0.00	0.00	0.00	0.00	0.00
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Environment Agency

	Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
	Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
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Environment Agency

		Oral Health Criteria Value (µg kg^{-1} BW day^{-1})		Inhalation Health Criteria Value (µg kg^{-1} BW day^{-1})		Oral Mean Daily Intake (µg day^{-1})	Inhalation Mean Daily Intake (µg day^{-1})	Air-water partition coefficient (K_{aw}) (cm^3 cm^{-3})	Coefficient of Diffusion in Air (m^2 s^{-1})	Coefficient of Diffusion in Water (m^2 s^{-1})	log K_{oc} (cm^3 g^{-1})	log K_{ow} (dimensionless)	Dermal Absorption Fraction (dimensionless)	Soil-to-dust transport factor (g g^{-1} DW)	Sub-surface soil to indoor air correction factor (dimensionless)	Relative bioavailability via soil ingestion (unitless)	Relative bioavailability via dust inhalation (unitless)
1	Arsenic	ID	0.3	ID	0.002	NR	NR	NR	NR	NR	NR	NR	0.03	0.5	1	1	1
2	Beryllium	TDI	2	TDI	0.000057	15	0.0015	NR	NR	NR	NR	NR	0	0.5	1	1	1
3	Benzo(a)pyrene	ID	0.031	ID	0.0003	0.11	0.006	1.76E-06	4.38E-06	3.67E-10	5.11	6.18	0.13	0.5	1	1	1
4	Dibenz(ah)anthracene	ID	0.0031	ID	0.00003	0.04	0.033	5.40E-06	4.08E-06	3.40E-10	5.27	6.38	0.13	0.5	1	1	1
5	Nickel	TDI	2.8	TDI	0.006	134	0.259	NR	NR	NR	NR	NR	0.005	0.5	1	1	1
6	Lead (C4SL adult)	ID	0.63	NR	0	NR	NR	NR	NR	NR	NR	NR	0	0.5	1	0.6	0.64
7	Benzo(b)fluoranthene	ID	0.039	ID	0.00038	0.11	0.013	2.05E-06	4.36E-06	3.62E-10	5.02	6.08	0.13	0.5	1	1	1
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	Oral Health Criteria Value (µg kg^{-1} BW day^{-1})		Inhalation Health Criteria Value (µg kg^{-1} BW day^{-1})		Oral Mean Daily Intake (µg day^{-1})	Inhalation Mean Daily Intake (µg day^{-1})	Air-water partition coefficient (K_{aw}) (cm^3 cm^{-3})	Coefficient of Diffusion in Air (m^2 s^{-1})	Coefficient of Diffusion in Water (m^2 s^{-1})	log K_{oc} (cm^3 g^{-1})	log K_{ow} (dimensionless)	Dermal Absorption Fraction (dimensionless)	Soil-to-dust transport factor (g g^{-1} DW)	Sub-surface soil to indoor air correction factor (dimensionless)	Relative bioavailability via soil ingestion (unitless)	Relative bioavailability via dust inhalation (unitless)
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Environment Agency

		Soil-to-water partition coefficient ($cm^3\ g^{-1}$)	Vapour pressure (Pa)	Water solubility ($mg\ L^{-1}$)	Soil-to-plant concentration factor for green vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for root vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for tuber vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for herbaceous fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for shrub fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for tree fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)
1	Arsenic	5.00E+02	NR	1.25E+06	0.00043 fw	0.0004 fw	0.00023 fw	0.00033 fw	0.0002 fw	0.0011 fw
2	Beryllium	1.70E+03	NR	1.66E+06	0.007 fw	0.0012 fw	0.0012 fw	0.0012 fw	0.0012 fw	0.0012 fw
3	Benzo(a)pyrene	6.43E+02	2.00E-08	3.80E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	Dibenz(ah)anthracene	9.29E+02	1.66E-10	6.00E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	Nickel	5.00E+02	NR	2.50E+06	0.0038 fw	0.0043 fw	0.0019 fw	0.0025 fw	0.0025 fw	0.0034 fw
6	Lead (C4SL adult)	1.00E+03	NR	2.96E+05	0.00419 fw	0.00402 fw	0.00731 fw	0.00074 fw	0.00020 fw	0.00022 fw
7	Benzo(b)fluoranthene	5.22E+02	6.34E-08	2.00E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
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Environment Agency

	Soil-to-water partition coefficient (cm^3 g^{-1})	Vapour pressure (Pa)	Water solubility (mg L^{-1})	Soil-to-plant concentration factor for green vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for root vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tuber vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for herbaceous fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for shrub fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tree fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)
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Client/client ref: Grainger PLC
Project ref: GE16943
Site ref: Woodcroft Farm, Woodcroft Lane, Lovedean, PO8 9QA - Chalk Pit and Landfill
Data description:
Contaminant(s): Metals
Test scenario: Planning
Date: 22 June 2018
User details: EC

	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Hexavalent Chromium (mg/kg)	Total Cyanide (mg/kg)
Critical concentration, C_c	**33.03**	**1330**	**1.72**	**11**	**910**	**2400**	**200**	**40**	**180**	**250**	**410**	**3700**	**4.3**	**2**
Notes														
Full dataset size	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Outliers present?	No	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No
Number of outliers temporarily excluded			0											
Number removed by filter	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sample size, n	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
Sample mean, $\bar{x}$	18.4666667	73.3666667	1.16666667	0.33333333	39.3333333	24.1666667	47.6333333	0.25	18.4	0.5	67.9333333	68	0.4	0.5
Standard deviation, s	12.472904	12.4226943	1.15470054	0.14433757	22.5435874	11.8094595	20.474944	0	1.47986486	0	45.3005887	35.5835636	6.7987E-17	0
Number of non-detects	0	0	**2**	**2**	0	0	0	**3**	0	**3**	0	0	**3**	**3**
Set non-detect values to:	Detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Normal	Normal	Non-normal	Non-normal	Normal	Normal	Normal	Single value	Normal	Single value	Normal	Normal	Non-normal	Single value
Statistical approach	Auto: One-sample t-	Auto: One-sample t-	Auto: Chebychev	Auto: Chebychev	Auto: One-sample t-	Auto: One-sample t-	Auto: One-sample t-	Auto: Chebychev	Auto: One-sample t-	Auto: Chebychev	Auto: One-sample t-	Auto: One-sample t-	Auto: Chebychev	Auto: Chebychev

Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?				**Evidence level required:**		**95%**	Use Normal distribution to test for outliers						
t statistic, t_0 (or k_0)	-2.022338449	-175.2077874	-0.83	-128	-66.89436227	-348.4549017	-12.88925662	N/A	-189.1384939	N/A	-13.07878912	-176.789728	-9.93572E+16	N/A
Upper confidence limit (on true mean concentration, μ)	39.4941675	94.3095212	4.0725993	0.69657491	77.3385407	44.0756966	82.1511091	0.25	20.8948368	0.5	144.303533	127.988709	0.4	0.5
Evidence level	**91%**	**100%**	**41%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Base decision on:	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level
Result	**μ ≈≥ Cc**	**μ < Cc**	**μ ≥ Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**
Select dataset	○	○	●	○	○	○	○	○	○	○	○	○	○	○

Back to data | **Go to outlier test** | **Go to normality test** | **Show individual summary**

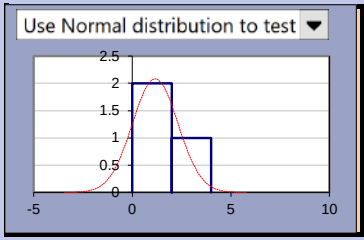
Test Results

Beryllium (mg/kg)

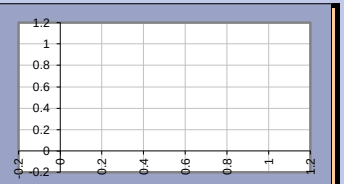
Client/client ref: Grainger PLC Site ref: Woodcroft Farm, Woodcroft Lane, Lovede Date: 22-Jun-2018

Project ref: GE16943 Data description: User details: FG

Dataset: Beryllium (mg/kg)	
Sample mean (mg/kg), $\overline{x}$	1.1667
Sample standard deviation, s	1.1547
Sample size, n	3
Critical concentration, Cc (mg/kg)	1.72



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	2

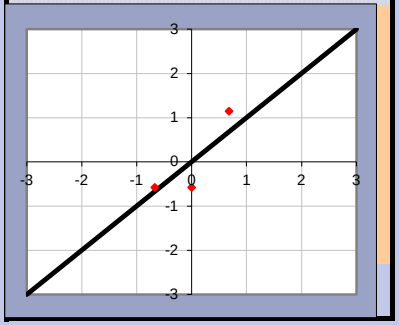


Normality test

Significance le: 5%

Non-normal distribution

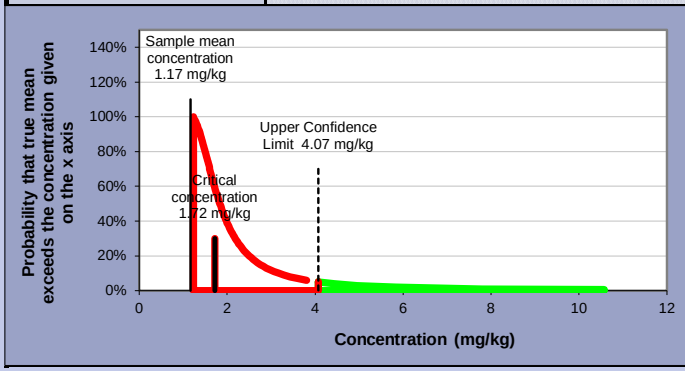
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

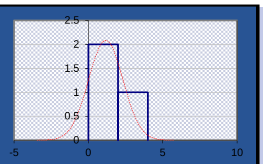


Evidence against Null hypothesis:	**41%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	No

μ ≥ Cc

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Beryllium		Outliers
TP213	Y	0.5		
TP214	Y	0.5		
TP217	Y	2.5	Outlier	
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
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	Y			
	Y			
	Y			
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	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{x}$
1.167

Standard deviation, s
1.155

Sample size, n
3

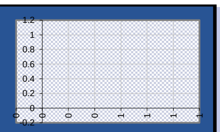
Maxiumum
2.500

Outlier Test Applicability
Not Applicable (n<3)

Level of Significance, α
5%

Tn = 1.155
Tcrit = 1.153

Outliers?
Yes
(None selected)



Dataset Beryllium (mg/kg)

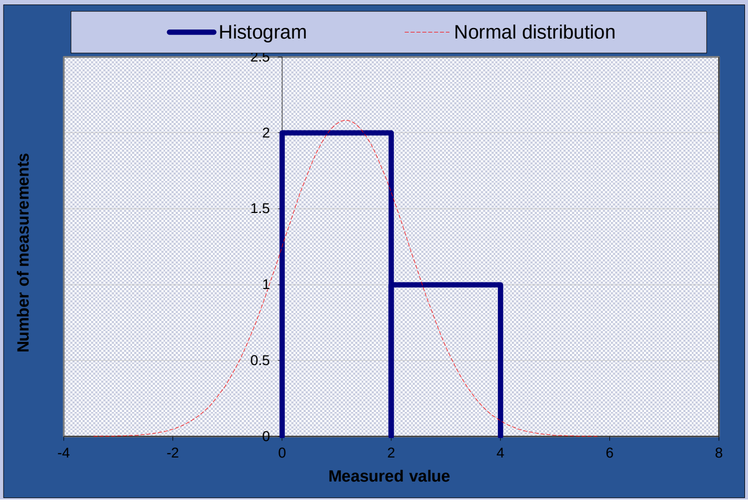
Use Normal distribution to test for outliers

Exclude identified outliers

Show individual summary

Back to summary

Back to data



Client/client ref: Grainger PLC
Project ref: GE16943
Site ref: Woodcroft Farm, Woodcroft Lane, Lovedean, PO8 9QA - Chalk Pit
Data description:
Contaminant(s): PAH
Test scenario: Planning
Date: 25th June 2018
User details: FC

	Naphthalene (mg/kg)	Acenaphthylene (mg/kg)	Acenaphthene (mg/kg)	Fluorene (mg/kg)	Phenanthrene (mg/kg)	Anthracene (mg/kg)	Fluoranthene (mg/kg)	Pyrene (mg/kg)	Benzo(a)anthracene (mg/kg)	Chrysene (mg/kg)	Benzo (b) fluoranthene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Benzo (a) pyrene (mg/kg)	Indeno (1,2,3-cd) pyrene (mg/kg)
Critical concentration, C_c	**2.3**	**170**	**210**	**170**	**95**	**2400**	**280**	**620**	**7.2**	**15**	**2.6**	**77**	**3.93**	**27**
Notes														
Full dataset size	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Outliers present?	No	No	No	No	No	Yes	No	No	No	No	Yes	Yes	No	No
Number of outliers temporarily excluded														
Number removed by filter	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sample size, n	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
Sample mean, $\bar{x}$	0.05	0.05	0.05	0.05	0.21666667	0.06666667	0.65	0.65	0.38333333	0.41666667	0.4	0.36666667	0.48333333	0.38333333
Standard deviation, s	8.4984E-18	8.4984E-18	8.4984E-18	8.4984E-18	0.17559423	0.02886751	0.6264982	0.6264982	0.38188131	0.37527767	0.60621778	0.54848276	0.48045118	0.45368859
Number of non-detects	**3**	**3**	**3**	**3**	**1**	**2**	**1**	**1**	**1**	**1**	**2**	**2**	**1**	**1**
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Non-normal	Non-normal	Non-normal	Non-normal	Normal	Non-normal	Normal	Normal	Normal	Normal	Non-normal	Non-normal	Normal	Normal
Statistical approach	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: One-sample t-	Auto: Chebychev	Auto: One-sample t-	Auto: One-sample t-	Auto: One-sample t-	Auto: One-sample t-	Auto: Chebychev	Auto: Chebychev	Auto: One-sample t-	Auto: One-sample t-
Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?				**Evidence level required:**		**95%**	Use Normal distribution to test for outliers						
t statistic, t_0 (or k_0)	-4.58572E+17	-3.46375E+19	-4.27898E+19	-3.46375E+19	-934.9370408	-143996	-772.3061132	-1712.288495	-30.91749389	-67.30769231	-6.285714286	-242	-12.42540776	-101.6146766
Upper confidence limit (on true mean concentration, μ)	0.05	0.05	0.05	0.05	0.51269298	0.13931498	1.70618479	1.70618479	1.02712964	1.04933021	1.92561463	1.74698467	1.29330409	1.14818626
Evidence level	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**98%**	**100%**	**100%**	**100%**
Base decision on:	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level
Result	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**
Select dataset	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Back to data | **Go to outlier test** | **Go to normality test** | **Show individual summary**

Client/client ref: Grainger PLC
Project ref: GE16943
Site ref: Woodcroft Farm, Woodcroft Lane, Lovedean, PO8 9QA - Chalk Pit
Data description:
Contaminant(s): PAH
Test scenario: Planning
Date: 25th June 2018
User details: EC

	Dibenzo(a,h)anthracene (mg/kg)	Benzo[g,h,i]perylene (mg/kg)				
Critical concentration, C_c	**0.39**	**320**				
Notes						
Full dataset size	3	3	0	0	0	0
Outliers present?	No	No				
Number of outliers temporarily excluded	0					
Number removed by filter	0	0	0	0	0	0
Sample size, n	**3**	**3**	**0**	**0**	**0**	**0**
Sample mean, $\bar{x}$	0.25	0.41666667	No Data	No Data	No Data	No Data
Standard deviation, s	0.22912878	0.43684475				
Number of non-detects	**1**	**1**	0	0	0	0
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Normal	Normal				
Statistical approach	Auto: One-sample t-	Auto: One-sample t-	Auto	Auto	Auto	Auto

Test scenario:						
t statistic, t_o (or k_0)	-1.058300524	-1267.119666				
Upper confidence limit (on true mean concentration, μ)	0.63627778	1.15312333				
Evidence level	**80%**	**100%**				
Base decision on:	evidence level	evidence level				
Result	**μ ≈≥ Cc**	**μ < Cc**				
Select dataset	●	○	○	○	○	○

Back to data

Test Results

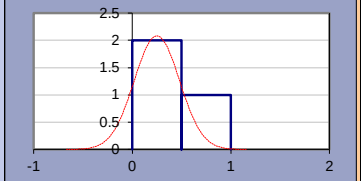
Dibenzo(a,h)anthracene (mg/kg)

Client/client ref: Grainger PLC | Site ref: Woodcroft Farm, Woodcroft Lane, Lovede | Date: 25th June 2018

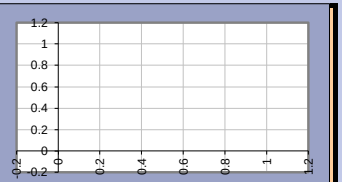
Project ref: GE16943 | Data description: | User details: FG

Dataset: Dibenzo(a,h)anthracene (mg/kg)	
Sample mean (mg/kg), $\bar{x}$	0.25
Sample standard deviation, s	0.2291
Sample size, n	3
Critical concentration, Cc (mg/kg)	0.39

Use Normal distribution to test



Outliers & non-detects	
Outliers present?	No
Significance level	5%
Outliers excluded	0
Non-detects	1

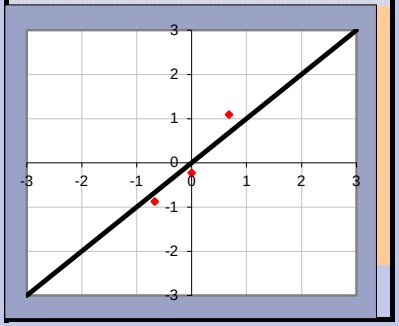


Normality test

Significance le: 5%

Normal distribution

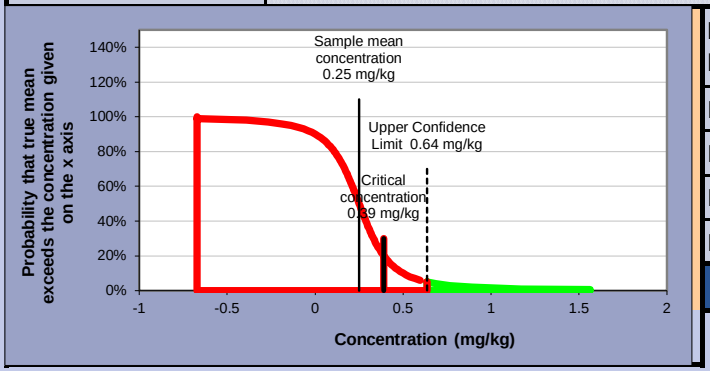
Use: Auto: One-sample



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

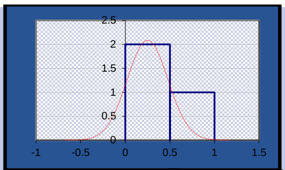


Evidence against Null hypothesis:	**80%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	No

Not enough evidence

Back to data | Back to summary | Go to outlier test | Go to normality test

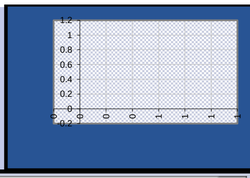
Sample ID	Include?	Dibenzo(a,h)anthracene		Outliers
TP213	Y	0.5		
TP214	Y	0.2		
TP217	Y	0.05		
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	N			
	Y			
	Y			
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	Y			
	Y			
	Y			



Outliers?

No

(None selected)



Sample mean, $\bar{x}$

0.250

Standard deviation, s

0.229

Sample size, n

3

Maxiumum

0.500

Outlier Test Applicability

Not Applicable (n<3)

Level of Significance, α

5%

Tn = 1.091

Tcrit = 1.153

Dataset: Dibenzo(a,h)anthracene (mg/kg)

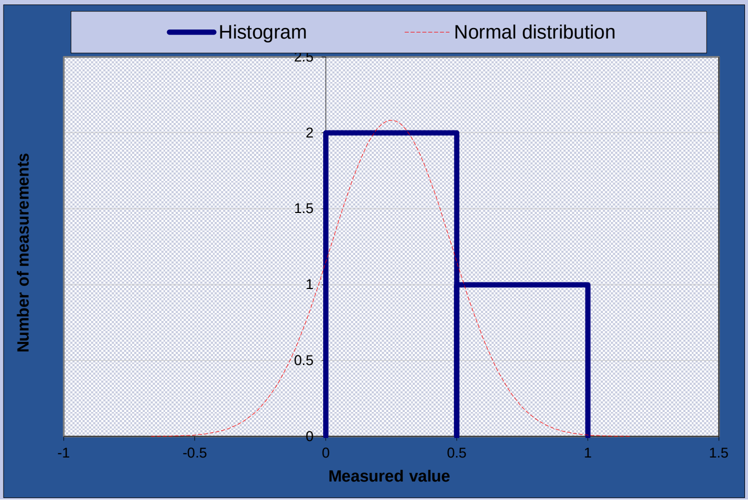
Use Normal distribution to test for outliers

Exclude identified outliers

Show individual summary

Back to summary

Back to data



Geo-Environmental

APPENDIX C

Imported Soils

Criteria



Geo-Environmental

IMPORTED SOIL SPECIFICATION

for the site at

WOODCROFT FARM, WOODCROFT LANE,

LOVEDEAN, HAMPSHIRE, PO8 9QA

on behalf of

GRAINGER PLC



Report:	**IMPORTED SOIL SPECIFICATION**
Site:	**WOODCROFT FARM, WOODCROFT LANE, LOVEDEAN, HAMPSHIRE, PO8 9QA**
Client:	**GRAINGER PLC**
Date:	**28-06-2018**
Reference:	**GE16943-ISS-180628**
Revision:	**1.0**
Prepared by:	
	FIONA GOODE BSc (Hons), MSc, FGS, MIEnvSc, RSoBRA **SENIOR CONSULTING ENGINEER**
Reviewed by:	
	GAVIN ROBERTS CGeol, BEng (Hons), MSc, FGS **TECHNICAL DIRECTOR**

Geo-Environmental Services Limited
Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL
+44(0)1273 832972 www.gesl.net

AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Author's initials
1.0	28/06/2018	First issue	FG

CONTENTS

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2.0	Chemical Composition	1
3.0	Nutritional Composition	5
4.0	Physical Composition	5
5.0	Source Requirements	6
6.0	Testing Rates and Compliance	6

1.0 Introduction

This document sets out the requirements for imported subsoil and Topsoil materials for any project undergoing redevelopment or other works where capping work is required.

Within the specification reference has been made to topsoil and subsoil. Topsoil relates to the top layer of natural soil that can support healthy vegetation growth. Subsoil relates to the layer of soil immediately below the topsoil to the depth of the underlying broken rock or geological parent material.

The specification considers the chemical, nutritional and physical properties of soils that are to be imported onto site in order to ensure materials used are suitable for their intended use and do not introduce any new hazard or pollutant linkage on to the site.

Where there is any discrepancy between this specification and BS3882:2015 or BS8601:2013, the latter documents shall take precedence unless otherwise formally confirmed by the relevant regulator.

2.0 Chemical Composition

The chemical criteria listed below are based on the published Category 4 Screening Levels (C4SLs) by DEFRA and/or the relevant Suitable for Use Levels (S4ULs) published by LQM, for a residential end use with plant uptake. From time to time these values may change in line with regulatory or UK policy changes. Such changes will require revision and re-issue of this document.

Where C4SLs or S4ULs are published for a range of Soil Organic Matter (SOM) values, these ranges and their respective SOM values have been presented and would be considered when assessing compliance with this Specification.

2.1 Method of Analysis

Samples should be analysed using UKAS or MCERTS accredited laboratories. For TPH analysis sample preparation must not include air drying.

2.1.1 Poly Aromatic Hydrocarbon (PAH)

The PAH analysis must include the EPA priority 16.

2.1.2 Total Petroleum Hydrocarbons (TPH)

The analysis for TPH should be undertaken on the ‘as received’ sample and not be subject to any pre-treatment and shall include aliphatic and aromatic carbon banding split.

2.2 Topsoil (0-300mm depth)

Tables 1, 1a, 1b and 1c provide a list of the maximum acceptable concentrations for a range of determinants for imported topsoil.

Determinant	Maximum concentration (mg/kg)
Inorganic	**SOM 6%**
Arsenic (total)	37
Boron (water soluble)	290
Cadmium (total)	11
Chromium (total)	130
Copper (total)	2400
Cyanide (total)	250
Lead (total)	200
Mercury (total inorganic)	40
Nickel (total)	180
pH	5.5 – 7.8
Selenium (total)	250
Sulphate (total)	2000
Zinc (total)	3700
Asbestos	Absent
Organic	
Phenols (total)	110
Poly Aromatic Hydrocarbon (speciated)	See Table 1a
Total Petroleum Hydrocarbon (speciated)	See Table 1b

Table 1 Chemical Specification for Topsoil

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Acenaphthene	210	510	1100
Acenaphthylene	170	420	920
Anthracene	2400	5400	11000
Benz(a)anthracene	7.2	11	13
Benzo(a)pyrene	2.2	2.7	3.0
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(ghi)perylene	320	340	350
Benzo(k)fluoranthene	77	93	100
Chrysene	15	22	27
Dibenz(ah)anthracene	0.24	0.28	0.30
Fluoranthene	280	560	890
Fluorene	170	400	860
Indeno(1,2,3CD)pyrene	27	36	41
Naphthalene	2.3	5.6	13.0
Phenanthrene	95	220	440
Pyrene	620	1200	2000

Table 1a Topsoil Specification for Speciated PAH

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Aliphatic			
EC 5-6	42	78	160
EC >6-8	100	230	530
EC >8-10	27	65	150
EC >10-12	130	330	760

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
EC >12-16	1100	2400	4300
EC >16-35	65000	92000	110000
EC >35-44	65000	92000	110000
Aromatic			
EC 5-7 (benzene)	70	140	300
EC >7-8 (toluene)	130	290	660
EC >8-10	34	83	190
EC >10-12	74	180	380
EC >12-16	140	330	660
EC >16-21	260	540	930
EC >21-35	1100	1500	1700
EC >35-44	1100	1500	1700
Aliphatic and Aromatic			
EC >44-70	1600	1800	1900

Table 1b Topsoil Specification for Speciated TPH

Determinant	Phytotoxicity GAC (mg/kg)		
	pH <6.0	pH 6.0-7.0	pH >7.0
Zinc	200	200	300
Copper	100	135	200
Nickel	60	75	110

Table 1c Topsoil Specification for phytotoxicity

2.3 Subsoil (300-1000mm depth)

Tables 2, 2a, 2b and 2c provide a list of the maximum acceptable concentrations for a range of determinants for imported subsoil.

Determinant	Maximum concentration (mg/kg)
Inorganic	SOM 6%
Arsenic (total)	37
Boron (water soluble)	290
Cadmium (total)	11
Chromium (total)	130
Copper (total)	2400
Cyanide (total)	250
Lead (total)	200
Mercury (total inorganic)	40
Nickel (total)	180
pH	5.5 – 7.8
Selenium (total)	250
Sulphate (total)	2000
Zinc (total)	3700
Asbestos	Absent
Organic	
Phenols (total)	110
Poly Aromatic Hydrocarbon (speciated)	See Table 2a

Determinant	Maximum concentration (mg/kg)
Inorganic	**SOM 6%**
Total Petroleum Hydrocarbon (speciated)	See Table 2b

Table 2 Chemical Specification for Subsoil

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Acenaphthene	210	510	1100
Acenaphthylene	170	420	920
Anthracene	2400	5400	11000
Benz(a)anthracene	7.2	11	13
Benzo(a)pyrene	2.2	2.7	3.0
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(ghi)perylene	320	340	350
Benzo(k)fluoranthene	77	93	100
Chrysene	15	22	27
Dibenz(ah)anthracene	0.24	0.28	0.30
Fluoranthene	280	560	890
Fluorene	170	400	860
Indeno(1,2,3CD)pyrene	27	36	41
Naphthalene	2.3	5.6	13.0
Phenanthrene	95	220	440
Pyrene	620	1200	2000

Table 2a Subsoil Specification for Speciated PAH

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Aliphatic			
EC 5-6	42	78	160
EC >6-8	100	230	530
EC >8-10	27	65	150
EC >10-12	130	330	760
EC >12-16	1100	2400	4300
EC >16-35	65000	92000	110000
EC >35-44	65000	92000	110000
Aromatic			
EC 5-7 (benzene)	70	140	300
EC >7-8 (toluene)	130	290	660
EC >8-10	34	83	190
EC >10-12	74	180	380
EC >12-16	140	330	660
EC >16-21	260	540	930
EC >21-35	1100	1500	1700
EC >35-44	1100	1500	1700
Aliphatic and Aromatic			
EC >44-70	1600	1800	1900

Table 2b Subsoil Specification for Speciated TPH

Determinant	Phytotoxicity GAC (mg/kg)		
	pH <6.0	pH 6.0-7.0	pH >7.0
Zinc	200	200	300
Copper	100	135	200
Nickel	60	75	110

Table 2c Subsoil Specification for phytotoxicity

3.0 Nutritional Composition

The nutritional criteria listed below are based on BS3882:2015 for topsoil and BS8601:2013 for subsoil. In the absence of published criteria, current guidance and best practice has been applied to derive appropriate criteria.

3.1 Topsoil & Subsoil

Table 3 details the minimum acceptable concentrations for imported topsoil and subsoil. The nutrient concentrations set out in Table 3 for Topsoil are based on those set out in BS3882:2015 which states *"Multipurpose topsoil is the grade suited to most situations where topsoil is required; however, there can be situations where specific purpose topsoil is required"*. In the event that an alternative specific Topsoil grade is required, i.e. acidic; calcareous; low fertility; low fertility acidic; or low fertility calcareous, the compliance criteria set out in BS3882:2015 shall be applicable in place of those set out in Table 3 below.

Topsoil/Subsoil	Parameter	Concentration
Topsoil (multipurpose grade only)	Phosphorous	16 – 140 mg/l
	Potassium	121 – 1500 mg/l
	Magnesium	51 – 600 mg/l
	Nitrogen	0.15 % m/m
	Carbon:nitrogen ratio	<20:1
Subsoil	Phosphorous	16 mg/l
	Potassium	121 mg/l
	Magnesium	51 mg/l
	Nitrogen	0.15 %
	Carbon:nitrogen ratio	<20:1

Table 3 Nutritional Specification for Topsoil and Subsoil

4.0 Physical Composition

The physical criteria listed below are based on BS3882:2015 Specification for Topsoil. In the absence of published criteria, current guidance and best practice has been applied to derive appropriate criteria.

4.1 Topsoil

Table 4 details the physical suitability requirements for imported topsoil and subsoil. Table 4 sets out acceptability criteria from BS3882:2015 for multipurpose Topsoil. In the event that an alternative specific Topsoil grade is required, i.e. acidic; calcareous; low fertility; low fertility acidic; or low fertility calcareous, the compliance criteria set out in BS3882:2015 shall be applicable in place of those set out in Table 4 below.

Topsoil/Subsoil	Parameter	Specification requirements
Topsoil (multipurpose Topsoil only)	Textural Classification	Sandy clay loam, sandy loam, loamy sand, sandy silt loam (as defined in BS3882:2015, Figure 1)
	Loss on Ignition	3 - 20% (for 5-20% clay soil) 5 - 20% (for 20-35% clay soil)
	Maximum Stone content:	>2mm = 30% >20mm = 10% >50mm = 0%
Subsoil	Textural Classification	Refer to BS8601:2013 Figure 1
	Loss on Ignition	2%
	Maximum Stone content:	>2mm = 40% >20mm = 20% >75mm = 0%

NB: Topsoil and Subsoil must be free from glass, brick fragments, plastic, metal, asbestos and other deleterious materials.

Table 4 Physical Specification for Topsoil & Subsoil

5.0 Source Requirements

5.1 Topsoil and Subsoil

The following will be provided with all soils imported to site:

- A site plan detailing the location and address of the source site, including grid reference.
- Location description of source material, including historic and current site uses.
- Sample analysis results of material at source, including details of laboratory, date of sampling, date samples received by laboratory etc.

5.2 Manufactured soils

Where natural soils are unavailable manufactured soils may be utilised, and the following should be provided:

- Details of the soil manufacturing process, including criteria for received soils, quality control procedure and validation protocol.
- Soils should be tested at a minimum ratio of one sample per 50m^3.

6.0 Testing Rates and Compliance

Sampling shall be undertaken in accordance with BS3882:2015 and BS8601:2013.

6.1 Topsoil

Where natural sourcing is proposed, the provenance of the material shall be determined by analysis of the soils at a minimum rate of 3No. samples per source site (up to 250m^3) and 1 sample per 250m^3 thereafter. Imported soils should be sampled once it has been laid on the site to support the analysis provided by the source supplier.

Where Topsoil is derived from a manufactured source, testing would be undertaken at a rate of 1 sample per 50m^3, with a minimum of 3No. tests for any given potential source material (or production batch).

6.2 Subsoil

Where the source of the material is known validation sampling should be undertaken at a minimum rate of 3 samples per source (up to 250m³) and 1 sample per 250m³ thereafter. Imported soils should be sampled once it has been laid on the site to support the analysis provided by the source supplier.

Where subsoil is derived from a manufactured source, testing would be undertaken at a rate of 1 sample per 50m³, with a minimum of 3No. tests for any given potential source material (or production batch)

Where the source of the material is not known the validation sampling should be undertaken in-line with the testing rates as set out for cover systems to ensure the materials are suitable for their intended use. Further guidance on minimum testing under this scenario is presented in Section 6.3 below.

6.3 Cover Systems

Where a cover system/ capping layer is proposed as part of the required remedial measures, sampling frequency will follow the guidance set out by the NHBC in their guidance for clean cover systems (2010) and supplemented within NHBC Technical Extra Guidance Issue 8, November 2012, outlined below:

- Sites with more than 30 plots testing should be conducted at a rate of one plot in four, with a minimum of 10 tests across the site;
- Sites with between 20 – 30 plots testing should be conducted at a rate of one plot in three, with a minimum of 7 tests across the site;
- Sites with between 5 -20 plots testing should be conducted at a rate of one plot in two with a minimum of 5 tests across the site;
- Sites with fewer than 5 plots testing should be conducted in every plot with a minimum of 3 tests across the site.

6.4 Sample failure

In the event that a sample fails to meet the specified criteria for any parameter the Environmental Consultant should be contacted for advice on the suitability of the materials.

Further testing may be required to provide reassurance that the exceedances are not representative of the soil and to provide clarification whether the soil is suitable for importation and/or proposed use.

6.5 Timing

Sampling and analysis undertaken by a manufactured topsoil supplier shall be no earlier than two weeks from the date of import, any results which are older than two weeks will be deemed not to be representative of the soils to be imported and rejected. Results showing consistency of batching may be requested to demonstrate consistency of the physical, chemical and nutritional composition of the material.

Imported soil suppliers and groundwork contractors are required to take reasonably practicable measures to ensure that compliance with this Specification does not hinder formal completion of individual plots or developments.

6.6 General Compliance

All analytical suites shall correspond with the chemical, nutritional and physical compliance criteria (as set out in Tables 1 to 4). The soil supplier shall ensure that the analytical limits of detection are equal or lower than the compliance values presented within this Specification. Where either testing suites or limits of detection do not comply with this Specification, the entire set of results shall be rejected.

Geo-Environmental

REMEDIATION STRATEGY & VERIFICATION PLAN

for the land at

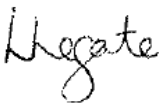
FARMYARD (FY), WOODCROFT FARM,

WOODCROFT LANE, LOVEDEAN, PO8 9QA

on behalf of

VISTRY HOMES SOUTHERN



Report:	**REMEDIATION STRATEGY & VERIFICATION PLAN**
Site:	**FARMYARD (FY), WOODCROFT FARM, WOODCROFT LANE, LOVEDEAN, PO8 9QA**
Client:	**VISTRY HOMES SOUTHERN**
Date:	**22/12/20**
Reference:	**GE16943-RSVP-FY-V6.0-DEC20**
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AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Author	Reviewed By	Authorised by
1.0	28/06/2018	First issue	FG	GR	GR
2.0	26/10/2018	Accounts for findings of Detailed Quantitative Gas Risk Assessment	FG/GR	GR	GR
3.0	13/02/2020	Revision to reflect clarification of development levels	GR	GR	GR
4.0	27/03/2020	Revision to reflect proposed development levels	GR	GR	GR
5.0	24/08/2020	Revision to reflect proposed development levels	FG	LL	GE
6.0	22/12/2020	Revision to reflect amended proposed development levels	FG	LL	GR

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APPENDICES

APPENDIX A	Exploratory Hole Logs
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1.0 INTRODUCTION

1.1 General

Following a Phase I and Phase II assessment of the site undertaken by third parties, detailed within reports listed below, Geo-Environmental was appointed by Grainger PLC and subsequently Vistry Homes, to undertake supplementary investigation and to formulate a Remediation Strategy in relation to the proposed development at Woodcroft Farm, Woodcroft Lane, Lovedean, PO8 9QA herein referred to as 'the site' (Figures 1 and 2). Three distinct areas of the development site were identified as being impacted by contamination. Separate Remediation Strategies will be written for each of these distinct areas, therefore this Remediation Strategy is specific to the area of the development site known as the former farmyard area, as shown in Figure 2.

This Remediation Strategy & Verification Plan for the Farmyard (RSVP-FY v6.0), should be read in conjunction with the Remediation Strategy & Verification Plans for the former chalk pit (RSVP-CP v6.0) and horse arena (RSVP-HA v5.0) dated December 2020.

The site as a whole, has been the subject to Phase I Ground Condition Report, ref 21834, dated 2010 prepared by Peter Brett Associates (PBA), which included a desk study and preliminary risk assessment for the overall Woodcroft Farm site; a Factual Report, ref RML 4750, dated October 2011 prepared by Risk Management Limited, which included ground investigation and laboratory test results; and a Geoenvironmental and Geotechnical Ground Investigation Report, ref 21834-030-R02, dated July 2013 prepared by PBA, which presented an interpretative assessment of the overall Woodcroft Farm site.

In addition to the above reports, Geo-Environmental was commissioned in 2017 to undertake a review of these reports, and supplementary testing and assessment. This was reported within a Soil Contamination Assessment ref. GE16662-FG02-170929, dated 29th September 2017. An additional phase of investigation was also commissioned in 2018 to support development of the remedial strategy and the findings are incorporated herein. Subsequently, a Detailed Quantitative Gas Risk Assessment (DQGRA) was commissioned from The Environmental Protection Group Ltd (EPG), ref. EPG/8938/2018/DQGRA/V1 dated October 2018, in relation to the infilled former chalk pit located to the west of the farmyard area. The findings of the DQGRA have relevance to the farmyard area and thus are referred to in this RSVP.

The remedial strategy presented herein has been developed to reflect the findings from all phases of the assessments undertaken on this site, in respect to the farmyard area. Based on the findings of the investigations it is considered that remediation works would be required with respect to soil contamination identified within the Made Ground within the farmyard area on the site.

The revised strategy (V6.0) reflects clarification of development ground levels, as discussed with the Client and the Developer, and presented on Odyssey's engineering layout drawing ref 17-110/2210, prepared July 2020 and Ardent's development levels plans ref 192931-073, 192931-074 and 192931-075, prepared November 2020.

1.2 Objectives

The Remediation Strategy & Verification Plan (RSVP) sets out the proposed remedial works to be undertaken on the subject site to support its development for a proposed residential end use with private gardens and communal open spaces.

1.3 Planning Permission

It is understood that a planning application has been approved for the site by Havant Borough Council under Planning Reference APP/13/00804. The following pre-commencement planning conditions have been attached to the application which relate to the remediation and validation of land contamination on the site.

11. Prior to the commencement of construction within any specified phase or defined area the development approved by this Planning Permission (as may be agreed in writing by the Local Planning Authority), a scheme to deal with the risks associated with contamination of the site shall be submitted to and approved in writing by the Local Planning Authority. That scheme shall include all of the following elements unless specifically excluded in writing by the Local Planning Authority.

1. *A scheme of further investigation, based on the previously submitted GeoEnvironmental & Geotechnical report. The scope of the investigation shall be sufficient to:*
    - *confirm the preliminary assessment of the nature and extent of contamination at the site,*
    - *inform an appropriate assessment of the risks to all receptors that may be affected, including controlled waters, and;*
    - *enable the appropriate design of remediation and/or risk mitigation measures (if required).*
2. *The results of the further investigation and risk assessment (1) and if appropriate, a method statement based on these results giving full details of the remediation and/or risk mitigation measures required, and how they are to be undertaken.*
3. *A verification report or statement (as appropriate) upon completion of the works set out in (2) [if any], confirming that measures undertaken have been implemented in accordance with the method statement, and have achieved the required performance standards. The verification report / statement shall provide details of any measures necessary for maintenance, further monitoring and reporting.*

All elements shall be adhered to unless agreed in writing by the Local Planning Authority.

Reason: To prevent future occupants of proposed residential properties being exposed to unacceptable risks from identified contamination & soil gas associated with automotive repair and landfill activity previously undertaken at the site, and to ensure that the site does not pose an unacceptable risk to the groundwater Source Protection Zone 1; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

12. Prior to the commencement of construction of any part of the development approved by this Planning Permission, a protocol for the identification & assessment of any unforeseen ground conditions shall be submitted to and approved in writing by the Local Planning Authority. The provisions of the approved protocol shall be observed throughout the undertaking of all relevant construction activities.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

13. If, during development, contamination not previously identified at the site is found to be present, then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out

until the developer has submitted, and obtained written approval from the Local Planning Authority for an addendum to the Method Statement required under Condition 1, (2). This addendum shall detail how this unexpected contamination shall be dealt with, and the development shall not be carried out other than in accordance with the approved details.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

2.0 BACKGROUND

This Remediation Strategy & Verification Plan (RSVP) has been developed from the findings of the various phases of assessment.

A brief overview of salient findings of the reports is presented below. For further information, the individual reports should be referred to directly.

2.1 Overview

The wider site's previous uses included use as a farm with associated barns and buildings, scrapyard, horse arena and a former chalk pit which was infilled as an inert landfill. The portion of the site considered specifically herein comprised the former farmyard area, as shown in Figure 2.

The ground conditions encountered within the farmyard comprised Made Ground and/or in isolated locations a mantle of Topsoil, overlying sandy clay and clay with occasional bands of sand. Chalk was encountered within two locations, TP215 and TP312. Made Ground was encountered within the majority of investigation locations to depths between 0.25m bgl and 2.20m bgl, and comprised, gravelly clay with brick, concrete, flint cobbles, tarmac and chalk fragments, ash and charcoal; clayey fine to coarse flint and chalk gravel with brick, concrete, tarmac and pieces of tree; sandy clay with plastic, decaying roots, flint gravel and glass. Cement tile and cement sheet fragments were observed to be present sporadically across the farmyard area following demolition and clearance. It was considered that these surface fragments potentially comprised Asbestos Containing Material and could require a 'litter picking' exercise to be completed prior to commencing any remediation or ground works.

The Made Ground and/or Topsoil was underlain by soft to firm clay and sandy clay in the majority of locations with occasional bands of sand overlying the Chalk. The Chalk was only encountered within two locations, TP215 and TP312 within the farmyard area from a depth of between 1.70m bgl and 2.30m bgl.

Previous investigation and testing by third parties identified exceedances of metals and PAH along with the presence of asbestos within the Made Ground in the farmyard area of the site. Therefore, further investigation and testing was undertaken to inform this RSVP and is presented herein.

The recent investigation and testing of soils on site identified contaminant concentrations of concern within the Made Ground in relation to Arsenic, Beryllium, Lead, Nickel, PAH and Asbestos. It is considered that remedial action would be warranted to protect end users of a residential development on this site in relation to the contaminants identified.

Groundwater was not encountered within any of the investigation locations and is anticipated to be present at depths in excess of 25.00m bgl.

Subsequent to several phases of intrusive investigation and ground gas monitoring, and a surface emissions survey, a Detailed Quantitative Gas Risk Assessment was undertaken by EPG in relation to the infilled chalk pit located immediately to the west of the farmyard area. The DQGRA concluded that ground gas protection measures were not required for the proposed residential development.

2.2 Supplementary Intrusive Investigation Works – Farmyard

As part of the formulation of a remedial strategy further intrusive investigation works were undertaken between 14th May 2018 and 18th May 2018, in order to delineate areas of previously identified contamination. In relation to the farmyard area these works comprised the excavation of 7No. trial pits to depths of up to 3.00m bgl with

associated environmental sampling and testing at various depths, and 6No. trial trenches to depths of up to 2.00m bgl to establish the extent of the area of Made Ground, and access areas previously densely vegetated. The locations of the trial pits and trenches are presented in Figure 3 with the exploratory hole logs presented in Appendix A and the results of the geochemical analysis and statistical assessments presented in Appendix B.

Further discussion relating to the implications of these supplementary investigation works is presented in Section 3 of this report.

2.3 Proposed Site Use

The proposed wider development is understood to comprise the construction of 288 residential units, associated car parking, open space and landscaping. The farmyard area covers c. 30-40 plots (houses and flats) and associated gardens/areas of soft landscaping.

2.4 Conceptual Site Model

Assessment of the investigation findings have identified particular hazards, or potential hazards which were considered to require intervention (remediation) to mitigate the risk of harm. Remediation works are proposed to break the identified plausible pollutant linkages associated with respect to soil contamination within private garden areas proposed within the farmyard area, thereby mitigating the associated risk of harm to human health.

This would be undertaken as several phases of works on site and reflects the proposed development levels and requirement for a variable depth of reduced dig to accommodate a soil cover system. Reference should be made to Figures 6-9 which show proposed changes in ground level to achieve the development levels and associated reduced dig depths on individual plots:

1) Reduced dig to the minimum depths indicated on Figures 6-9 to achieve the required formation level to accommodate the required soil cover system thickness, or the full extent of the Made Ground where Made Ground is shallower. (Plots requiring a reduced dig are listed in Section 4.2).
2) It is proposed to retain and re-use the excavated soils where suitable for use (without treatment) within garden plots (under the soil cover system) where levels require raising and hence a requirement for the volume of excavated soil being generated from the reduced dig. (Figures 10-13 present the required volumes within specific Plots). These works would be undertaken in line with a Materials Management Plan (MMP), subject to the appropriate documentation, Definition of Waste Code of Practice (DoWCoP) assessment, Qualified Person (QP as defined in DoWCoP) declaration and agreement of the Regulators.
3) If excavated soils are to be stored on site prior to their removal they will need to be placed on and covered with sheeting to prevent the spread of any asbestos or asbestos containing material. It is preferable for excavated soils from the reduced dig to be relocate directly to the final placement/re-use location without stockpiling so as to avoid double handling, stockpile controls and the like. In addition, the placed/re-used soils can then be covered at the earliest practicable opportunity.
4) Material re-use is subject to the requirements of this and associated remedial strategies which apply to the development within the overall site boundary and no materials are to be excavated or moved until a Materials Management Plan is in place and the required QP Declaration has been submitted to and accepted CL:AIRE who subsequently notify by the Environment Agency (EA). Movement of materials outside of these protocols would be considered an illegal waste process and subject to legal action and financial penalties applied by the regulators to the developer and/or groundworks contractor.
5) Installation of a soil cover system in garden areas and areas of soft landscaping to break the pollutant linkage for the contaminants identified within the Made Ground soils in the farmyard area, and to also provide suitable growing media. Where the reduced dig does not remove all of the Made Ground and hence the cover system is to be laid over Made Ground, or where development levels dictate that no

reduced dig is required and Made Ground is to remain, the soil cover system shall incorporate a 150mm thick break layer formed of stone or crushed concrete with a geotextile membrane laid above and beneath, and overlain by a deter to dig geofabric to act as a visible deterrent overlain by a minimum 300mm thickness of subsoil and a minimum of 300mm of Topsoil. Where the reduced dig removes all Made Ground and exposes uncontaminated natural strata (and is validated as such), the soil cover system shall comprise clean subsoil and a minimum 300mm of suitable Topsoil, the thickness of subsoil in this scenario will be defined by the difference between the finished garden level (minus 300mm Topsoil) and the reduced dig level. The cover system is likely to be completed with Topsoil placement towards the end of plot specific development with the placement of Topsoil.

The aim of the remediation is not to remove all contamination identified on site but to reduce the identified risk to an acceptable level with respect to human health, the built environment and controlled waters.

It should be noted that the NHBC would not accept the deposition of asbestos impacted soils beneath house footprints as part of development related works on this site. In addition, the EA may not accept the deposition of asbestos impacted soils under roads where such soils then require compaction as this can potentially cause breakdown of the asbestos containing materials.

3.0 GROUND GAS

Intrusive ground investigation works undertaken over several phases identified the presence of deep Made Ground and/or landfill material within the former chalk pit located adjacent to the farmyard area. The investigations have included several phases of ground gas monitoring and most recently, a surface emissions survey. The findings of the various phases of investigation and monitoring have been assessed in detail by EPG as part of completion of a DQGRA, which concluded that no ground gas protection measures were required for the proposed residential development on the chalk pit area and thus no protection measures are required for plots bordering the former chalk pit area.

4.0 SOILS

The ground conditions within the farmyard have been established through several phases of intrusive investigation. Encountered soils comprised Made Ground and/or in isolated locations a mantle of Topsoil, overlying sandy clay and clay with occasional bands of sand, overlying Chalk.

Made Ground was encountered within the majority of investigation locations to depths between 0.25m bgl and 2.20m bgl, and was found to comprise gravelly clay with brick, concrete, flint cobbles, tarmac and chalk fragments, ash and charcoal; clayey fine to coarse flint and chalk gravel with brick, concrete, tarmac and pieces of tree; sandy clay with plastic, decaying roots, flint gravel and glass. Possible asbestos tiles were noted to be present at c.0.50m bgl within TP239.

Cement tile and cement sheet fragments were observed to be present sporadically across the farmyard area following demolition and clearance. It was considered that these surface fragments potentially comprised Asbestos Containing Material and could require a 'forensic litter picking' exercise to be completed prior to commencing any remediation or ground works.

A review of chemical analysis of the soil samples from the farmyard area was undertaken, including the most recent samples taken for delineation purposes, and the results compared individually against the relevant GAC, SSAC or C4SL for a proposed residential end use (with plant uptake). Individual exceedances above the respective assessment criteria were identified for Arsenic, Beryllium, Lead, Nickel, and PAH compounds as summarised in Table 1.

Determinand	Tier 1 Criteria mg/kg	Depth m bgl	Concentration mg/kg	Geology
Arsenic	S4UL – 37 SSAC – 38.03	TP314 at 1.6	243	Natural
Beryllium	S4UL – 1.7 SSAC – 1.72	TP220 at 0.2 TP312 at 1.45 TP315 at 2.3 TP316 at 1.9 TP317 at 0.65	3.0 2.9 2.1 1.7 6.9	Made Ground Natural
Lead	S4UL – 200	TP315 at 0.2	220	Made Ground
Nickel	S4UL – 180 SSAC – 149	TP314 at 1.6	271	Natural
Benzo(b)fluoranthene	S4UL – 2.6 SSAC – 4.94	TP215 at 0.3 TP315 at 0.2	3.0 3.1	Made Ground
Benzo(a)pyrene	S4UL – 2.2 SSAC – 3.93	TP215 at 0.3 TP315 at 0.2	3.1 2.7	Made Ground
Dibenzo(a,h)anthracene	S4UL – 0.24 SSAC – 0.39	TP215 at 0.3 TP225 at 0.25 TP239 at 0.3 TP312 at 0.2 TP313 at 0.25 TP315 at 0.2	0.6 0.8 0.3 0.3 0.3 0.5	Made Ground

Table 1 Summary of exceedances against Tier 1 assessment criteria

The tier 1 exceedances where screened against the Site Specific Assessment Criteria (SSAC) calculated for the site. A number of those initially identified as exceedances were found to be below the calculated SSAC. The following initial exceedances were found to be below the SSAC:

- Beryllium, TP316 at 1.9m, identified 1.70mg/kg compared to a SSAC of 1.72mg/kg;
- Benzo(b)fluoranthene TP215 at 0.3m and TP315 at 0.20m, identified 3mg/kg and 3.1mg/kg compared to a SSAC of 4.94mg/kg;
- Benzo(a)pyrene, TP215 at 0.30m and TP315 at 0.20m, identified 3.1mg/kg and 2.7mg/kg compared to a SSAC of 3.93mg/kg;
- Dibenzo(a,h)anthracene, TP239 at 0.30m, TP312 at 0.20m, and TP313 at 0.25m, all reported as 0.3mg/kg compared to a SSAC of 0.39mg/kg.

The calculated SSAC were based on a residential exposure scenario with plant uptake so as to provide a conservative assessment and cover the most sensitive end use scenario. It is therefore considered that the initial exceedances found to be below the calculated SSAC do not require further assessment nor is further remedial action warranted with respect to these substances and/or locations.

Table 2 summarises the results that were found to exceed the calculated SSAC for a residential end use with plant uptake.

Determinand	Tier 1 Criteria mg/kg	Depth m bgl	Concentration mg/kg	Geology
Arsenic	S4UL – 37 SSAC – 38.03	TP314 at 1.6	243	Natural
Beryllium	S4UL – 1.7 SSAC – 1.72	TP220 at 0.2 TP312 at 1.45 TP315 at 2.3 TP317 at 0.65	3.0 2.9 2.1 6.9	Made Ground Natural
Lead	S4UL – 200	TP315 at 0.2	220	Made Ground
Nickel	S4UL – 180 SSAC – 149	TP314 at 1.6	271	Natural
Dibenzo(a,h)anthracene	S4UL – 0.24 SSAC – 0.39	TP215 at 0.3 TP225 at 0.25 TP315 at 0.2	0.6 0.8 0.5	Made Ground

Table 2 Summary of exceedances against the calculated SSAC

Therefore, the results were assessed further through statistical assessment as described below.

Statistical analysis of the samples within the dataset was undertaken in accordance with guidance contained in the CIEH/CL:AIRE report 'Comparing Soil Contamination Data with a Critical Concentration' (May 2008). If the contamination status of the soils is considered in a planning context, the null hypothesis tested by the analysis is whether the true mean concentration is equal to or greater than the critical concentration for a given determinand, with the critical concentration being the relevant SSAC or GAC (the soil screening value) for that determinand in the context of the intended end use of the site. If the analysis shows that the true mean concentration is less than the critical concentration the null hypothesis can be rejected. The guidance recommends that for the null hypothesis to be rejected the analysis should show that there is a 95% (or higher) likelihood that the true mean concentration is below the critical concentration. Where this is the case the site is considered to be acceptable for the planned end use without any necessary remedial measures.

Statistical assessment was undertaken on all results of geochemical testing undertaken by Geo-Environmental, for heavy metals and PAH from within the farmyard area of the site only. Due to the depth and extent of Made Ground

encountered within the farmyard area, it was deemed appropriate to assess the results from this area in isolation as they were not deemed to be representative of the soils encountered elsewhere on the wider site.

The statistical analysis showed that whilst potential statistical outliers were recorded within the datasets the null hypothesis could be rejected for Arsenic, Beryllium, Lead and Nickel. Initial assessment of the dataset for Dibenzo(a,h)anthracene indicated that the null hypothesis could be rejected, however further detailed assessment that assessed the results solely from the Made Ground beneath the farmyard area showed that the null hypothesis could not be rejected. As such the identified elevated concentrations of Dibenzo(a,h)anthracene were considered representative of the Made Ground beneath the farmyard area. Whilst statistical outliers were identified for a number for other substances, all reported concentrations (and statistical upper confidence limit concentrations) were below the relevant SSAC. The results of the statistical assessments are presented within Appendix B.

In addition, the identified elevated concentrations of both Arsenic and Nickel were found within a soil sample from 1.60m bgl (TP314). Given the depth that these elevated concentrations were identified it is considered unlikely that sensitive receptors would be exposed to these identified elevated concentrations, assuming finished development levels are similar to or higher than current ground level. Notwithstanding this, remedial measures to address other identified contaminants within the Made Ground are required.

All samples were submitted for asbestos screening and where asbestos was identified quantification testing was carried out. The locations where asbestos was identified are summarised in Table 3.

Location and Depth (m bgl)	Type	Free Fibres (%)	Total (%)
TP225 at 0.25	Chrysotile	<0.001	3.54
TP239 at 0.5	Chrysotile	<0.001	25.0
TP315 at 0.2	Chrysotile (fibre bundle)	<0.001	<0.001

Table 3 Summary of locations of asbestos identified

The asbestos identified within TP239 was in the form of asbestos tiling. The tile fragments discovered were relatively intact within the ground. During the additional delineation investigation works carried out in May 2018, demolition of the farm buildings within the farmyard area had been completed and the resultant crushed materials were being stockpiled within this area. Potential asbestos containing materials (ACM) were observed by engineers from Geo-Environmental within these stockpiled materials and also as sporadic occurrences at ground level across the farmyard area. It is therefore considered prudent to assume the presence or likely presence of ACM within the surface soils across the farmyard area. Photographs taken of these materials showing their location within the farmyard area are presented within Appendix C. In addition, previous investigations undertaken by third parties also identified the presence of asbestos within soils in the farmyard complex area.

Based on the above assessment it is considered that remedial action would be warranted to protect end users of a residential development on this site in relation to the presence Asbestos and concentrations of Dibenzo(a,h)anthracene identified within the Made Ground within the farmyard area, as shown on Figure 4 and Figure 5. Remedial action to protect end users from impacted soil is discussed in Section 4.2 below.

4.1 Site Workers

It is the responsibility of the Principal Contractor and their appointed sub-contractors to implement and manage safe systems of work, prepare their own risk assessments in accordance with Health and Safety legislation in order to protect persons in their employ, as well as mitigate the risk of harm to others due to works in their control. Special consideration should be given to the provisions of the Construction (Design & Management) Regulations 2015, Health and Safety at Work Act and the Control of Substances Hazardous to Human Health regulations to protect the safety of persons in their employment. Additional guidance can be sought from the CIRIA publications

entitled "A Guide for Safe Working on Contaminated Sites" and “Environmental Good Practice on site guide (fourth edition)”.

In addition to the safe systems of works to be implemented alongside appropriate risk assessments and method statements, all site personnel shall benefit from on-site hygiene facilities including wash area, toilets and drying room.

Separate canteen area and welfare facilities should be provided. All eating and drinking should be restricted to the canteen area and only once site personnel have removed outer PPE and washed exposed skin.

In the event of dry spells, or where the exposed surface becomes dry, regular damping down of the surface of the site will be required to prevent the release of soil dust which could impact on site operatives or migrate off-site, thereby mitigating both off-site exposure and nuisance for neighbours.

4.2 End Users

The tier 1 contamination assessment has identified several locations where reported concentrations were either elevated or exceeded the Tier 1 screening criteria within the Made Ground of the farmyard area. In addition, ACMs and asbestos fibres have been identified both visually and within chemical analysis to be present within the Made Ground. Potential ACM was also observed to be present as sporadic occurrence at ground level following demolition and clearance of the former farm buildings.

A combination of a reduced dig (as shown in Figures 6-13), to accommodate the soil cover system in the finished level, or complete removal of the Made Ground where Made Ground is found to be shallower, and the installation of a clean cover system within private gardens and areas of communal soft landscaping will be required within the farmyard area. Table 4 below presents minimum reduced dig depths required to accommodate the soil cover system and achieve the development levels for specific plots within the Farmyard area.

Plot Number	Minimum Depth of Reduced Dig (m bgl)
79 -80	0.68 or full extent of Made Ground if Made Ground shallower than reduced dig depth
Former Farmhouse	0.75 or full extent of Made Ground if Made Ground shallower than reduced dig depth
116	0.48 or full extent of Made Ground if Made Ground shallower than reduced dig depth
117 - 118	0.60 or full extent of Made Ground if Made Ground shallower than reduced dig depth
119 - 122	0.44 in areas of proposed soft landscaping
123 - 124	0.52 or full extent of Made Ground if Made Ground shallower than reduced dig depth
125	0.21
126	0.17

Table 4 Specific Plots in Farmyard area requiring reduced dig

In order to achieve the development levels, soils won from reduced dig areas are to be relocated to garden plots where they can be accommodated below the soil cover system. The movement of materials shall not commence until such time as an MMP is in place and QP Declaration submitted to, and accepted by CL:AIRE who subsequently notify the EA. It is preferable, and thus proposed, that the excavated soils shall be relocated directly from the reduced dig area to their final placement location without any requirement for stockpiling.

Validation inspections will be undertaken at the base and sides of the excavation to demonstrate that a reduced dig has been undertaken and where the full extent of the Made Ground has been removed.

Given the nature of the contaminants identified within the Made Ground across the farmyard area (principal risk driver is Asbestos) a soil cover system will be installed within all gardens and soft landscaping areas. The cover systems should comprise certifiably 'clean' Topsoil and subsoil. Both aspects of the cover system should be both chemically and physically suitable for the proposed end use. Given the presence of asbestos a BRE Soil Cover system with a minimum soil cover thickness of 600mm would be required in proposed gardens and 450mm in areas of soft landscaping. The upper 300mm of a cover system should comprise Topsoil.

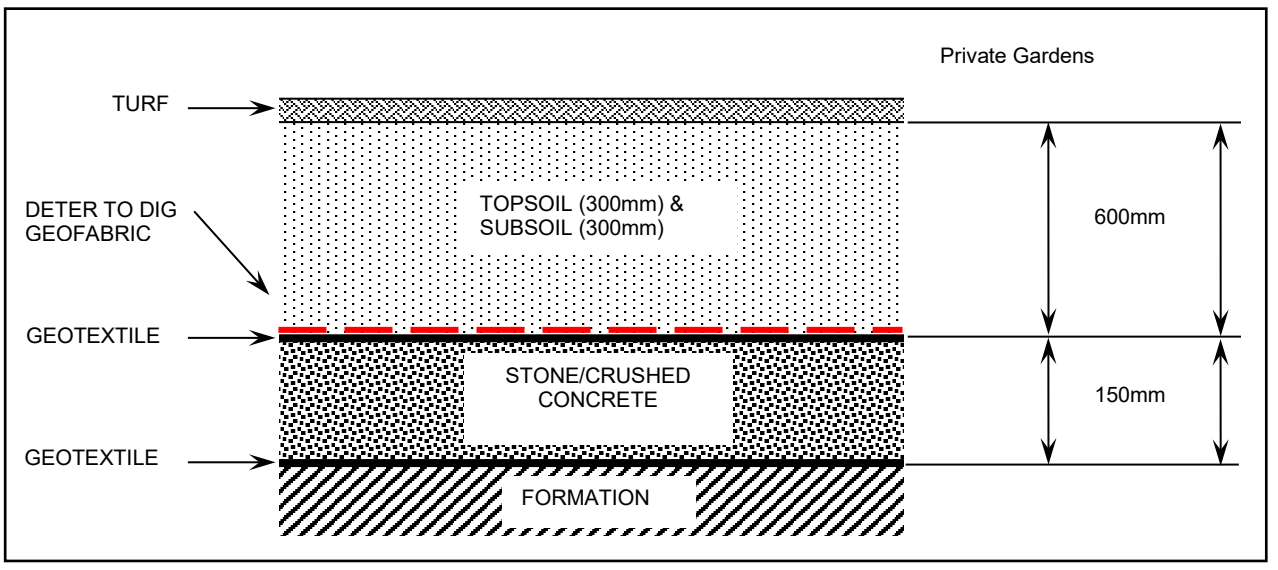
Where the reduced dig removes all of the Made Ground, subject to verification inspection and testing if required, the cover system shall comprise subsoil and a minimum 300mm thickness of Topsoil.

Prior to commencement of the reduced dig exercise, a 'forensic litter picking' exercise will be required to remove ACM from the ground surface. This shall be undertaken by the appropriate contractor and verified by the Environmental Consultant.

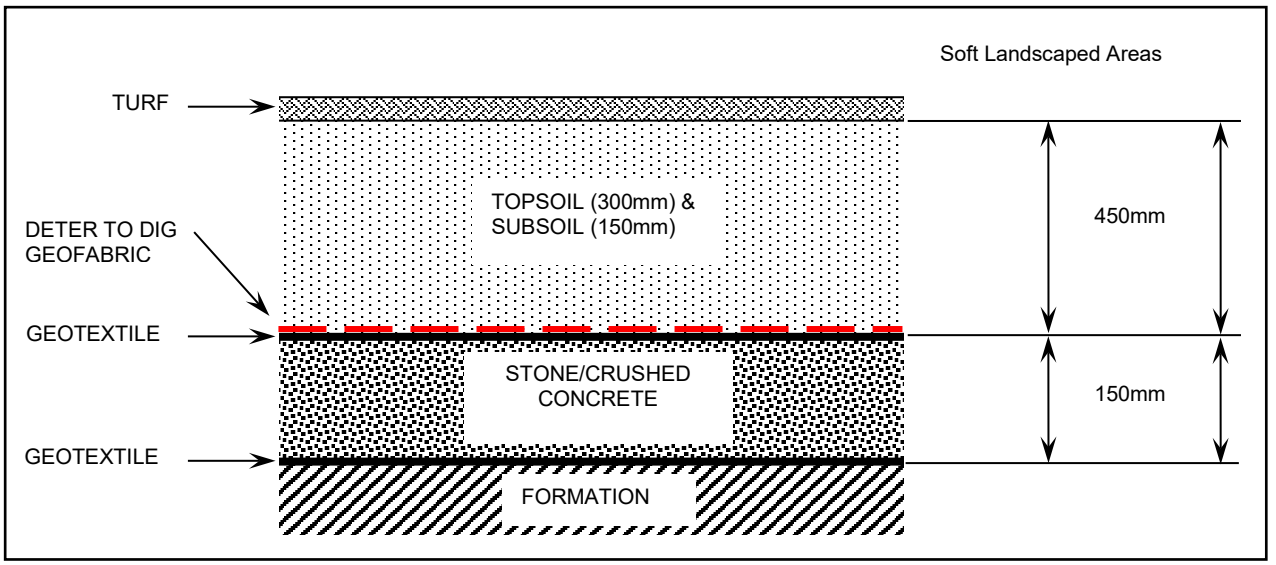
Where Made Ground remains in place following the reduced dig, or where a reduced dig is not required due to proposed final site levels, the cover system should incorporate a capillary break layer comprising 150mm depth of stone or crushed concrete, between two layers of geotextile. A high visibility deter to dig geofabric shall be laid over the upper geotextile to provide a visible deterrent to excavation. Any soils imported onto the site should be verified free from contamination with chemical testing undertaken to confirm their suitability for use within private gardens and areas of soft landscaping.

The reduced dig areas, anticipated depths and approximate volumes are presented on Figures 10-13.

An example of the recommended cover system for use in private gardens where Made Ground is to remain in-situ is provided below:



An example of the recommended cover system for use in areas of communal soft landscaping where Made Ground is to remain in-situ is provided below:



With regards to private gardens and areas of soft landscaping, it is recommended that Topsoil is placed to provide a suitable growing medium for proposed planting areas as part of the cover system described above.

It is anticipated that site won Topsoil stripped from uncontaminated areas of the wider site will be available for deposition as part of the cover system in gardens and soft landscaping. Thus, it is considered unlikely that it will be necessary to import Topsoil to the site, however if it is necessary to import topsoil on to the development then, prior to importation, the chemical, physical and nutritional suitability is to be verified by the Contractor. Importation of Topsoil or subsoil from unverified or unsuitable sources would require their removal from site and replacement with suitable materials. As a matter of good practice, it is recommended that the location, approximate extent and thickness of any imported topsoil are recorded and presented in the Validation/Verification Report to be prepared by the Environmental Consultant. Soil importation criteria is detailed in Appendix D.

Where impacted soils remain beneath building footprints or hard standing, the plausible pollutant linkage for direct contact is removed and thus risk of harm to end users from exposure to the contaminants is removed, as roads, buildings and permanent hard cover would sever the pollutant linkage and thus the impacted shallow soils could remain in these areas. Deposition of asbestos impacted soils beneath house footprints is not acceptable to the NHBC and deposition of such soils as fill beneath roads and hard standing is unlikely to be acceptable to the EA due to compaction changing the condition of the asbestos contaminating materials. However, limited works may be required in these areas to provide a suitable working platform for development to proceed.

Any soils imported onto the site should be verified free from contamination with chemical testing undertaken to confirm their suitability for use within areas of soft landscaping.

The proposed re-use of Made Ground and contaminated soils from impacted areas of the site (Farmyard and Chalk Pit), on the site of origin means that a Materials Management Plan will be required for the site under the Code of Practice.

As such excavated soils on site will be re-used under the CL:AIRE Definition of Waste, Code of Practice where it can be demonstrated that there is a need for the use of the materials and where the risk is demonstrated to be

acceptable under an MMP. The MMP must be completed and approved prior to commencement of material movement on site. Where a RSVP is in place for the site, agreement of re-use must also be agreed with the regulators.

4.3 Inspection/Validation

Verification of remediation measures shall be required through regular inspection at key stages of the works to include:

- Reduced dig and Made Ground excavation;
- Transfer of the excavated Made Ground and/or contaminated soils to the final placement/re-use location;
- The placement of a cover system, including verification of any additional subsoil and/or Topsoil in order to allow for the installation of the cover system required in private gardens and soft landscaping areas.

It is likely that verification will be undertaken in stages, i.e. site preparation, reduced dig, re-profiling; geotextiles, crushed stone/crushed concrete layer and deter to dig membrane; subsoil placement and topsoil placement. As such, final verification of the completed cover system is likely to be at the end of construction for any given plot.

Details of these works would be presented within a verification report for the site, to include the requirements of the Code of Practice should materials be proposed to be re-used under the Definition of Waste Code of Practice.

Two stage verification reporting is proposed, i.e. the first verification report addressing the reduced dig works and relocation of the excavated soils to their final placement/re-use locations; and a second report stage on completion of the soil cover system on the individual plots (anticipated verification as batches of plots as development progresses).

4.4 Built Environment

Buried plastics laid in contact with contaminated soils may be susceptible to attack by aggressive chemicals; therefore, potable water supplies may potentially become contaminated or tainted. Proposed remedial measures to address contaminants found within the Made Ground in the farmyard area include a reduced dig of either 1.00m bgl or the depth of the Made Ground if shallower. Whilst the upper metre of impacted materials will be removed from garden areas water supply pipes are likely to be installed within Made Ground soils.

The use of barrier pipe possibly with cast iron connections is likely to be required for potable water supplies through the farmyard area.

The utility company should be consulted in order to confirm their specific requirements in this respect. Potable supply pipe installation should be confirmed and verified through inspection during construction.

As a matter of good practice and to maximise the protection to maintenance workers, clean, granular backfill should be used in service runs and marker tapes for all buried services. This would not mitigate the requirement for the water supply pipe.

5.0 WASTE

5.1 Waste Classification and Segregation

Waste may be defined as any substance or object in Annex 1 of the Waste Framework Directive which the holder discards, intends to discard, or is required to discard. The holder of waste is anyone in possession of waste or generates it and therefore both the contractor and ultimately the developer are responsible for safe disposal of waste.

The following information is provided for preliminary guidance purposes, as different facilities or operators may have differing acceptance criteria and further Waste Acceptance Criteria (WAC) analysis may be required to confirm the exact classification.

Waste Acceptance Criteria (WAC) testing was undertaken on samples of the Made Ground within the farmyard area from TP225 at 0.3m bgl and details are provided below:

- TP225 at 0.3m bgl (Made Ground) soils classified as 'Inert Waste'.

However, asbestos was identified within the Made Ground in the farmyard area. Quantification of this asbestos was undertaken and based on these results Made Ground within the farmyard area would have an initial classification of Hazardous for waste disposal purposes. As such, it is recommended that once materials for disposal have been identified, then further WAC testing should be undertaken to further classify the materials for the purpose of disposal. However, it is understood that wherever possible, site won materials including Made Ground from the farmyard area will be retained for re-use where suitable and subject to regulatory approval.

In the event of dry spells, or where the exposed surface becomes dry, it is recommended that the surface of the site is regularly damped down to prevent the release of soil dust which could migrate off-site and thereby mitigate both off-site exposure and nuisance for neighbours.

It is proposed to re-use materials on site under a Materials Management Plan which will be developed for the construction works on this site. This will include contingency plans in any unexpected contamination is encountered during the development. Soils (including Made Ground) demonstrated to contain low concentrations of asbestos fibres can (with the agreement of the Local Authority Environmental Health Officer and Environment Agency) be re-used at depth beneath a suitable capping layer, where it can be demonstrated that there is a requirement for such materials and where the risk is acceptable and demonstrated to have not increased from baseline levels determine for the site, i.e. the source, pathway, receptor linkage has been severed. This should also take consideration of longer term maintenance works that may be required across the site.

In accordance with CL:AIRE Code of Practice (2011) materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded by the holder'. Current guidance recommends the retention and re-use of site won soils where there is a need for the materials and where the risk is acceptable

The Code of Practice therefore allows soils to be reused on site where the following criteria are met:

- Pollution of the environment and harm to human health is prevented and not increased in reusing the excavated materials;
- The material are suitable for use (without any further processing);
- There is certainty of use; and
- The quantity that is absolutely necessary (and no more) is used.

In order to comply with the Code of Practice, a Material Management Plan (MMP) that confirms the above criteria are met has to be prepared. The material management plan must be reviewed by a 'Qualified Person' who then issues a declaration to the Environment Agency. Geo-Environmental can provide this service should it be required.

Where materials do not meet the required criteria, it may be possible to treat them under an environmental permit so that they may be re-used on site.

Should material be required and reused under the Definition of Waste Code of Practice, the reuse of material will need to be fully documented and included within the Verification Report produced on completion of the works.

6.0 DISCOVERY STRATEGY

Whilst the site has been the subject of several phases of investigation and assessment, it remains possible that previously unexpected soil conditions may be encountered during the process of site preparation and construction.

Examples may include oily pockets within the soil, pockets of cement boarding or fibrous materials within the soil, black ashy materials, soils exhibiting strong odours, brightly coloured materials, and former structures or brickwork.

Should previously undiscovered contamination be encountered during the demolition/construction of the new buildings the following course of action should be adhered to:

- Works in the area of the suspected contamination should seize immediately. The ground workers should report any suspected contamination immediately to the Client's site supervisor. The supervisor should contact the Environmental Consultant, who should visit the site to assess the extent of the 'contamination'.

- The Environmental Consultant shall make records of their inspection, and pass details of these to the Local Authority.

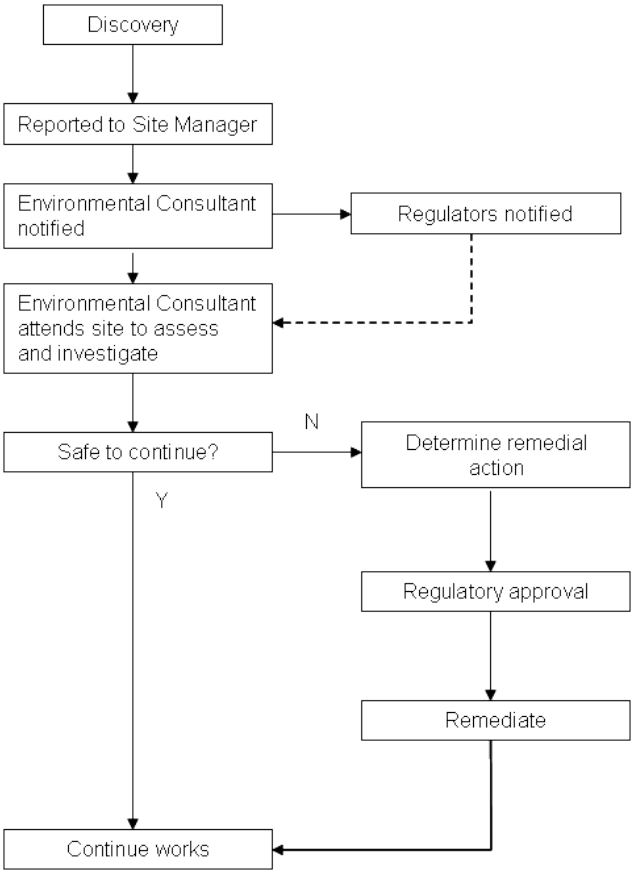
- Where the conditions revealed differ from those previously anticipated, the Environmental Consultant shall take samples as deemed appropriate to be dispatched for appropriate chemical testing.

- Depending on the results of the testing either: 1) no further work will be required; 2) a further detailed risk assessment will be required; and/or 3) localised specific remedial measures will be necessary. Appraisal criteria will vary depending on the nature of the assessment.

- The results of any such testing will be sent to the Regulatory Authority for consultation. If further remediation is required, the Regulatory Authority will be informed of the date and time of the proposed works.

- Any further remediation will be undertaken in accordance with a method statement submitted to the Local Authority for approval. The works shall be supervised by the Environmental Consultant who shall provide a Verification Report for the Local Authorities purposes.

The process is summarised overleaf:



A copy of this strategy should be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious or contaminated materials they may encounter.

7.0 VERIFICATION

Verification is required to be undertaken throughout the course of the remediation works. The Verification Report will be submitted to the Client, NHBC CL:AIRE and Local Authority for formal approval and Environment Agency if requested as part of any works completed under the Definition of Waste Code of Practice.

The Verification Report will refer to the works as set out within this RSVP and as required by any relevant planning conditions. The report will detail findings of any further investigation works (if undertaken on the site) in relation to Asbestos and Dibenzo(a,h)anthracene within the Made Ground of the farmyard area within proposed private gardens and areas of managed soft landscaping, as well as include relevant site based information such as records from site inspections, locations where the impacted soils were excavated and re-used on site or disposed of and validation sampling where required.

Photographs of specific remedial or waste handling measures and an audit trail for any imported subsoil and Topsoil, including source, provenance, analytical results, placement location and thickness (should subsoil and/or Topsoil be imported).

A summary of verification proposals is presented in Table 5 below.

The remedial works will be inspected and validated by the Environmental Consultant (Geo-Environmental). In addition, the MMP and any QP review and declaration will be prepared by Geo-Environmental.

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
1.0 Verification general principles	Geo-Environmental have been commissioned to supervise remedial works within the Farmyard Area at Woodcroft Farm, Lovedean. These works require excavations of impacted Made Ground and installation of a soil cover system within private gardens and areas of soft landscaping. The aforementioned work is in line with the approach adopted for site investigation and risk assessment and previously undertaken by Geo-Environmental in respect of the development.	Construction	**Yes –** See below	Details of construction programme to be provided by client/contractor.
2.0 Excavation of Made Ground	Reduced dig exercise to excavate areas of Made Ground within the farmyard to accommodate the soil cover system thickness or to natural strata if shallower to be overseen and verified by Geo-Environmental.	Construction	**Yes – 5 days' notice required**	Regular visits to site required to confirm works being undertaken, validation sampling within the natural soils following removal of the impacted material. Excavation areas, reduced dig depths and approximate volumes shown on Figures 6-13 and are based on engineering layout drawing ref 17-110/2210 and development levels plans ref 192931-073, 192931-074 and 192931-075. Verification reporting stage 1.
3.0 Re-location and deposition of soils won from reduced dig areas	Made Ground and contaminated soils excavated as part of the reduced dig works are to be relocated to final deposition locations (under soil cover system) in accordance with an approved remedial strategy and MMP.	Construction	**Yes – 5 days' notice required**	Regular visits to site required to confirm works being undertaken in accordance with the RSVP and MMP. Deposition locations and volume requirements are shown on Figures 10-13 and are based on engineering layout drawing ref 17-110/2210 and development levels plans ref 192931-073, 192931-074 and 192931-075. Verification reporting stage 1.

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
4.0 Cover System	Cover system to be constructed by the ground workers and inspected by the Environmental Consultant	Construction	**Yes - 5 days' notice required**	Provenance of site won soils used to raise levels under the soil cover system are to be verified by the groundworks contractor. Source of Topsoil and subsoil (uncontaminated, naturally occurring site won soils) to be used in the soil cover system are to be evidenced by the groundworks contractor. Thickness and construction of cover system to be verified. Verification reporting stage 2.
5.0 Waste Management	Waste soils arisings from the site strip will be disposed of appropriately with WAC testing undertake once soils for disposal have been identified. The results should be presented to the landfill site prior to removal for confirmation of the classification.	Design and Construction	**No (unless further testing required where 5 days' notice required)**	Chemical test results (WAC) only required if waste soils generated.
	Waste tickets for the removal of arisings should be compiled for submission as part of the verification report for each phase of the development. The waste tickets will be required to demonstrate that the approximate amount of material being removed is equal to the summed volume on the waste tickets.			Waste tickets
	Where is it demonstrated that there is a need for materials to be re-used on site and that the risk is acceptable, soils may be re-used on site under the Definition of Waste Code of Practice under a Materials Management Plan for the site.			Records of material movements on site to be provided by the Contractor for inclusion in the validation report. It is assumed that tracking of soil movements around the site will be recorded by the

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
				groundworks contractor, with periodic independent inspections by Geo- Environmental.
6.0 Imported Soils	In-situ testing of any soils imported onto site for landscaping purposes will be carried out after placement at a frequency of one sample per 50m^3 or one sample per landscaped area (whichever is the smallest) with comparison of results to assessment criteria for residential end use.	Construction	**Yes**	Pre import certification verifying the chemical quality of the topsoil and subsoil to be provided to the Environmental Consultant for review prior to Importation.

Table 5 Details of verification visits required on site

FIGURES



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Site Location Plan
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	11/05/2018		
Figure:	1	**Scale:**	Not To Scale		



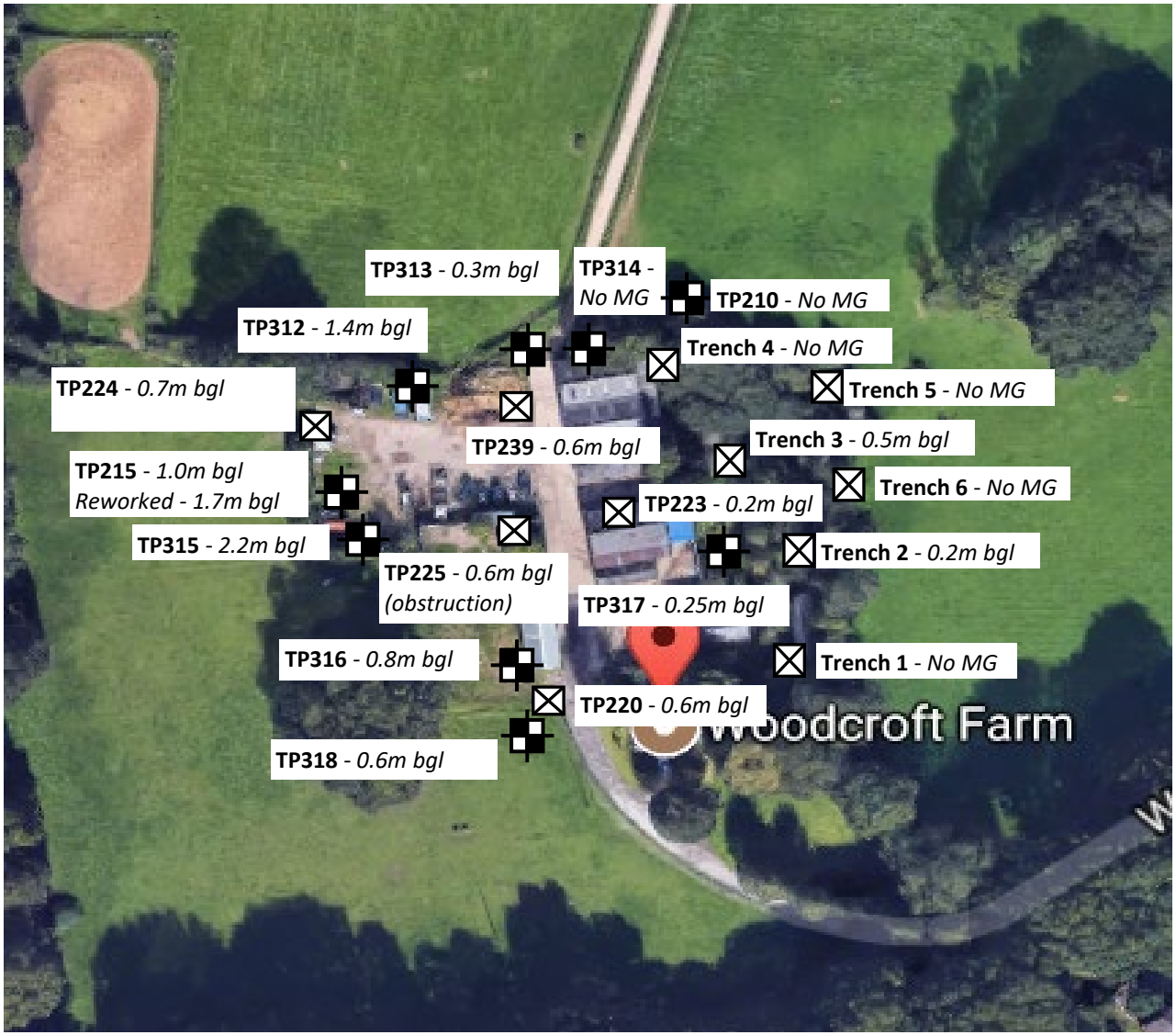
Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Location of Farmyard Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	25/06/2018		
Figure:	2	**Scale:**	Not To Scale		



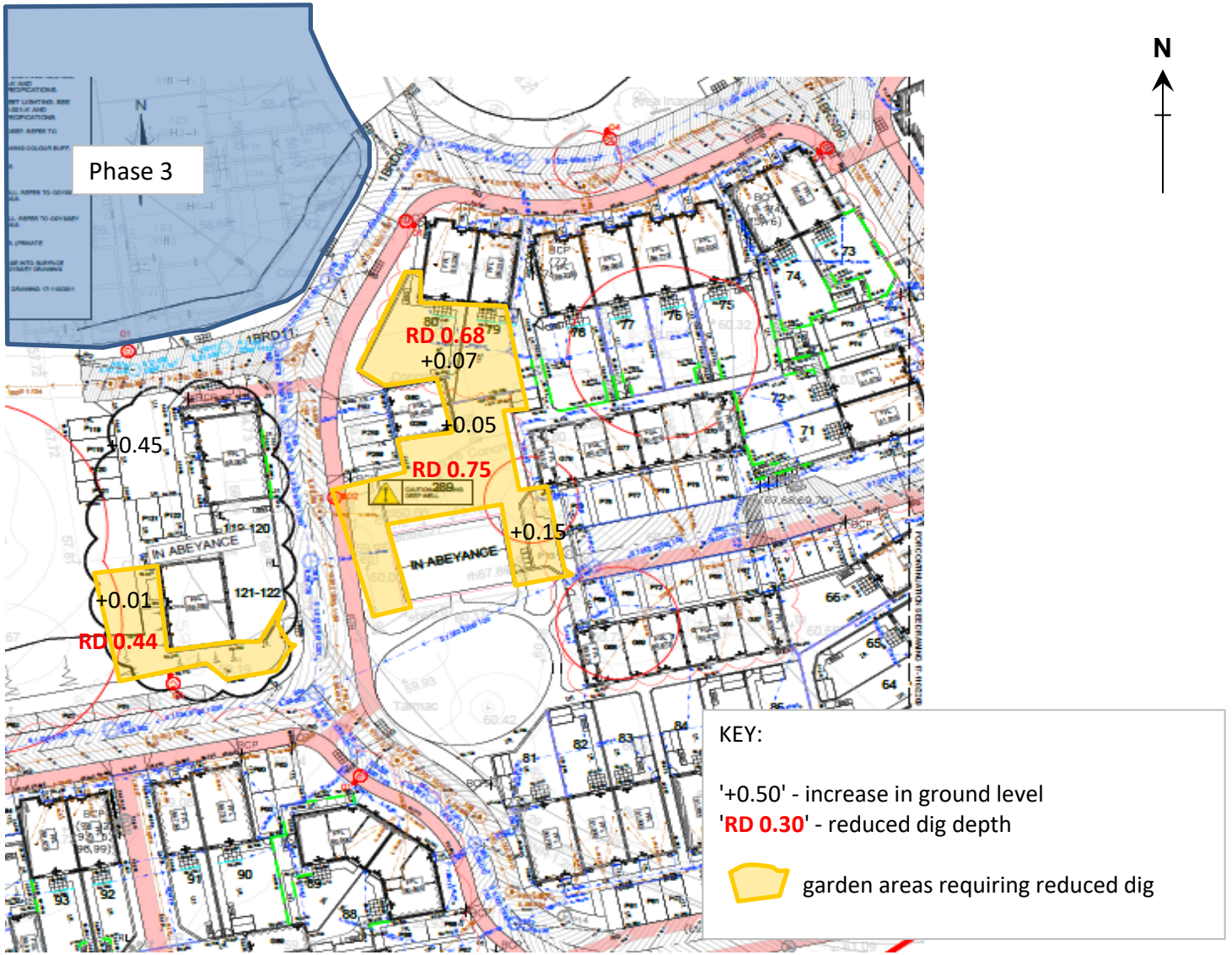
Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Exploratory Hole Locations - Farmyard Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	11/05/2018		
Figure:	3	**Scale:**	Not To Scale		



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Soil Contamination Exceedances - Farmyard Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	11/05/2018		
Figure:	4	**Scale:**	Not To Scale		



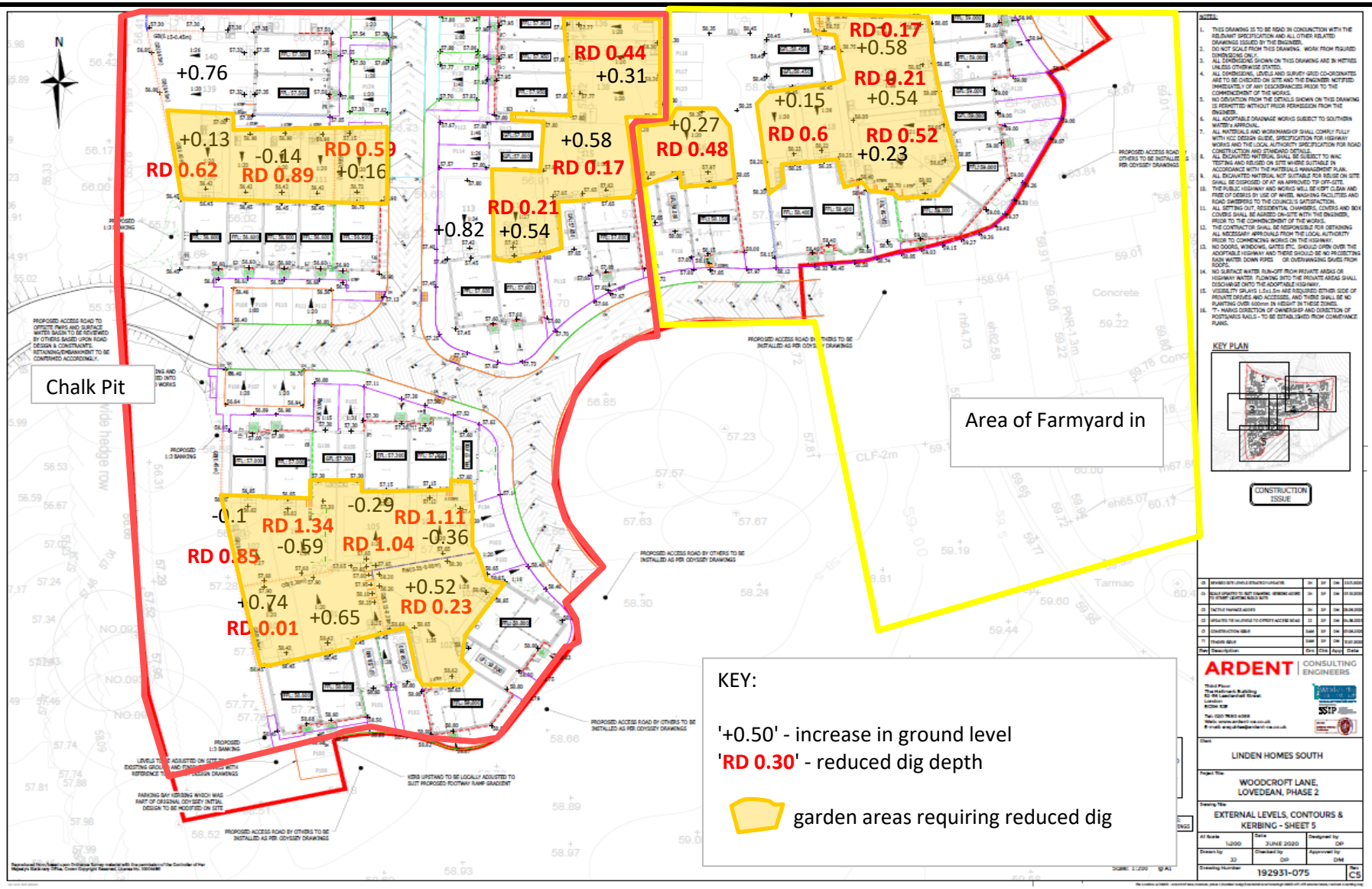
Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Depth of Made Ground - Farmyard Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	20/06/2018		
Figure:	5	**Scale:**	Not To Scale		



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Development Levels Plan - Phase 2B Farmyard (RSVP-FY-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943 **Revision:** 2		
Drawn:	FG **Date:** 18/12/2020		
Figure:	RSVP-FY 6 **Scale:** Not To Scale		

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Unit 7 Danworth Farm, Cuckfield Road
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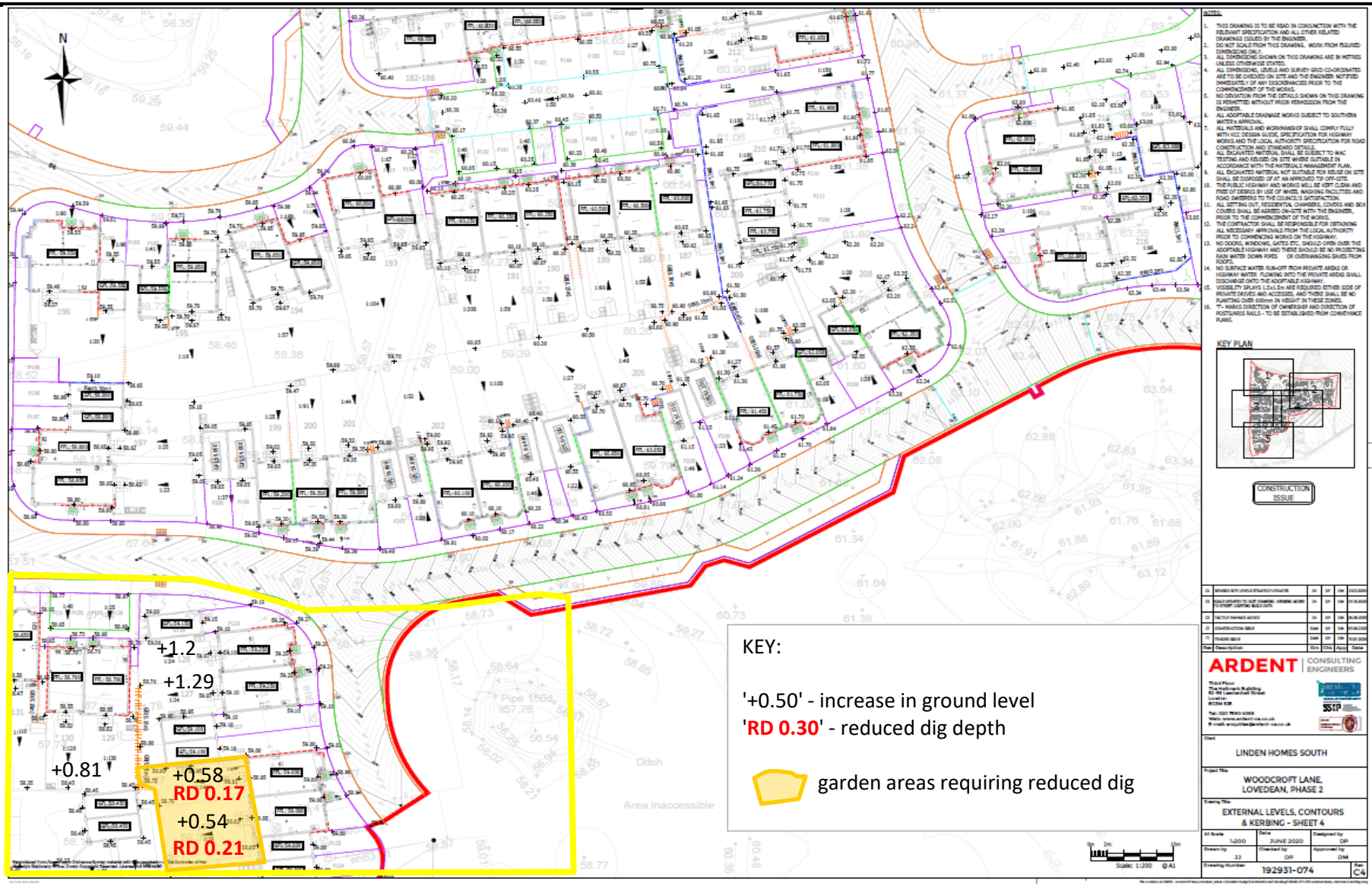
Geo-Environmental



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Development Levels Plan - Phase 3 Farmyard and Chalk Pit (RSVP-FY-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943 **Revision:** 2		
Drawn:	FG **Date:** 17/12/2020		
Figure:	RSVP-FY 7 **Scale:** Not To Scale		

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Geo-Environmental



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Development Levels Plan - Phase 3 Farmyard (RSVP-FY-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2
Drawn:	FG	**Date:**	17/12/2020
Figure:	RSVP-FY 8	**Scale:**	Not To Scale

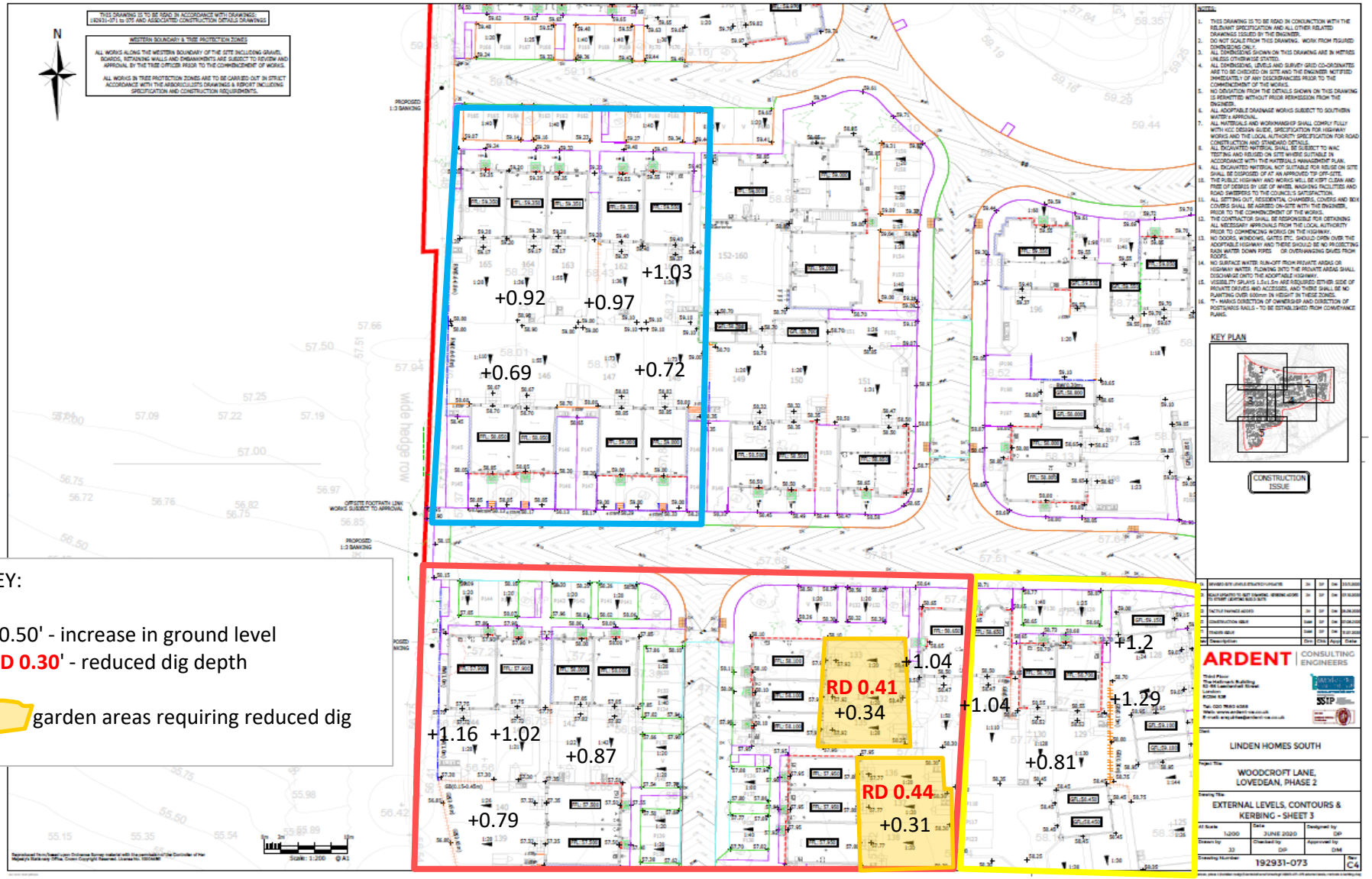
Geo-Environmental Services Ltd

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+44(0)1273 832972 www.gesl.net

Geo-Environmental



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Development Levels Plan - Phase 3 Horse Arena, Chalk Pit and Farmyard (RSVP-FY-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2
Drawn:	FG	**Date:**	17/12/2020
Figure:	RSVP-FY 9	**Scale:**	Not To Scale

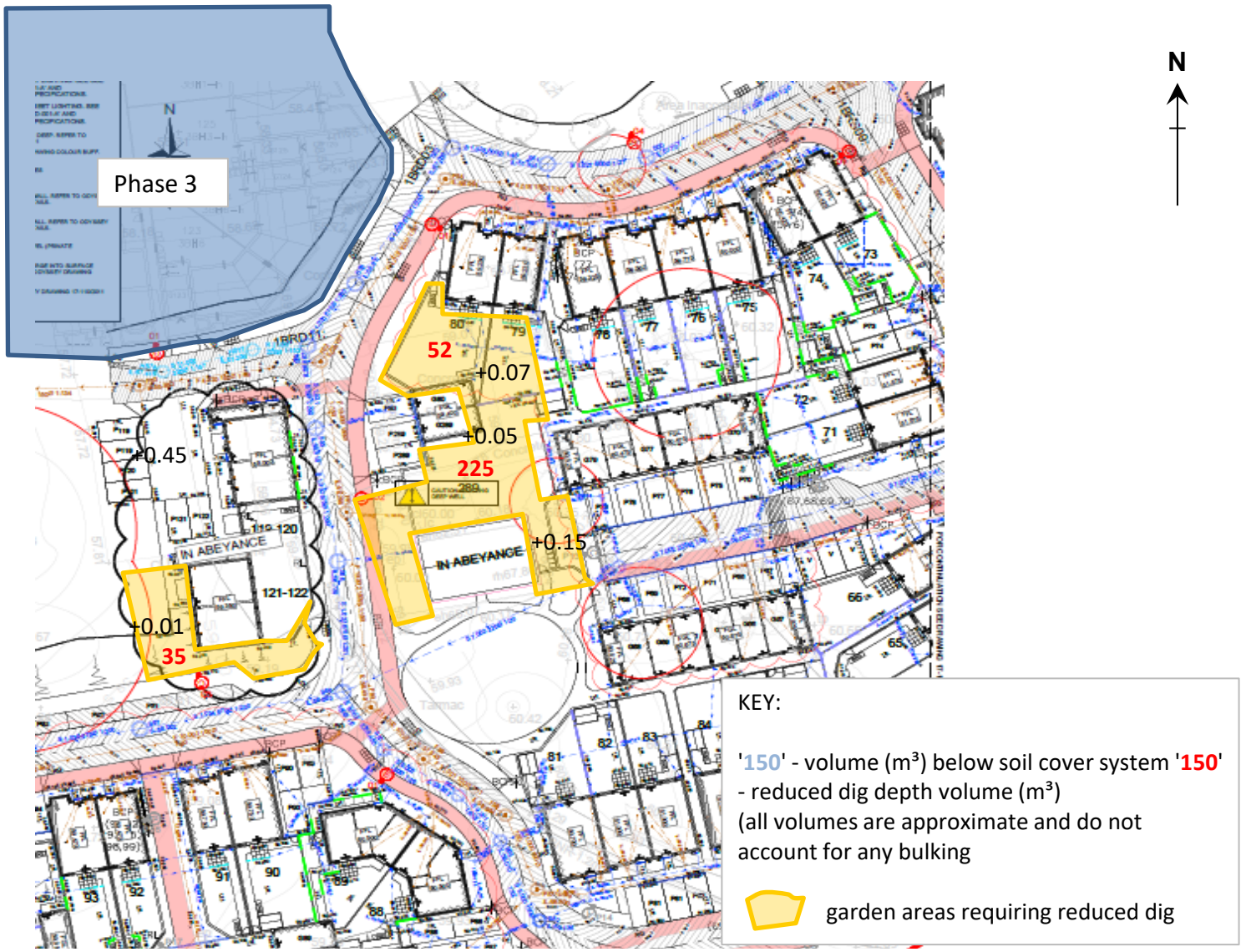
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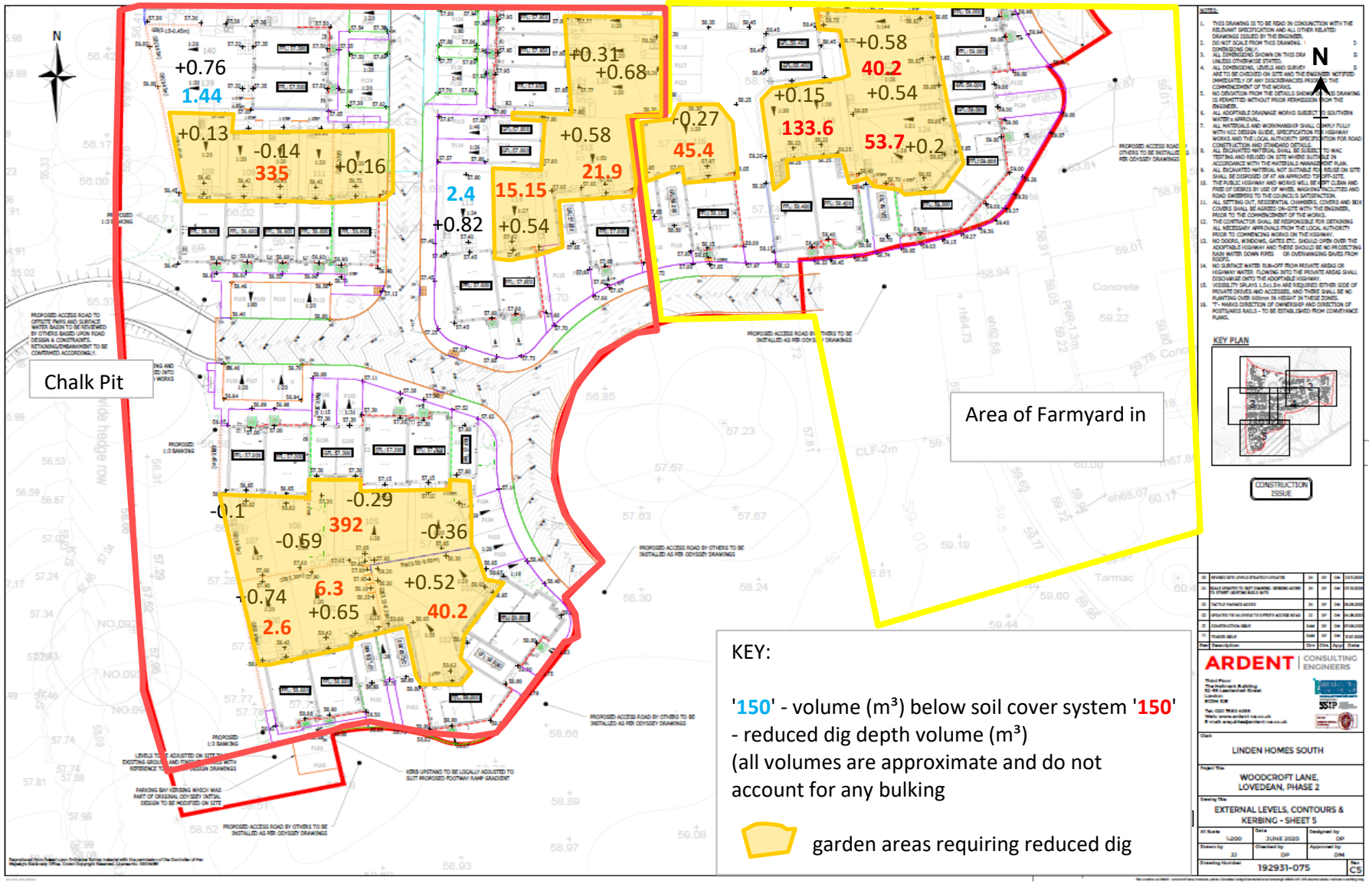
Geo-Environmental



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Remediation Strategy Plan - Phase 2B Farmyard Volumes (RSVP-FY-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	0
Drawn:	FG	**Date:**	21/08/2020
Figure:	RSVP-FY 10	**Scale:**	Not To Scale

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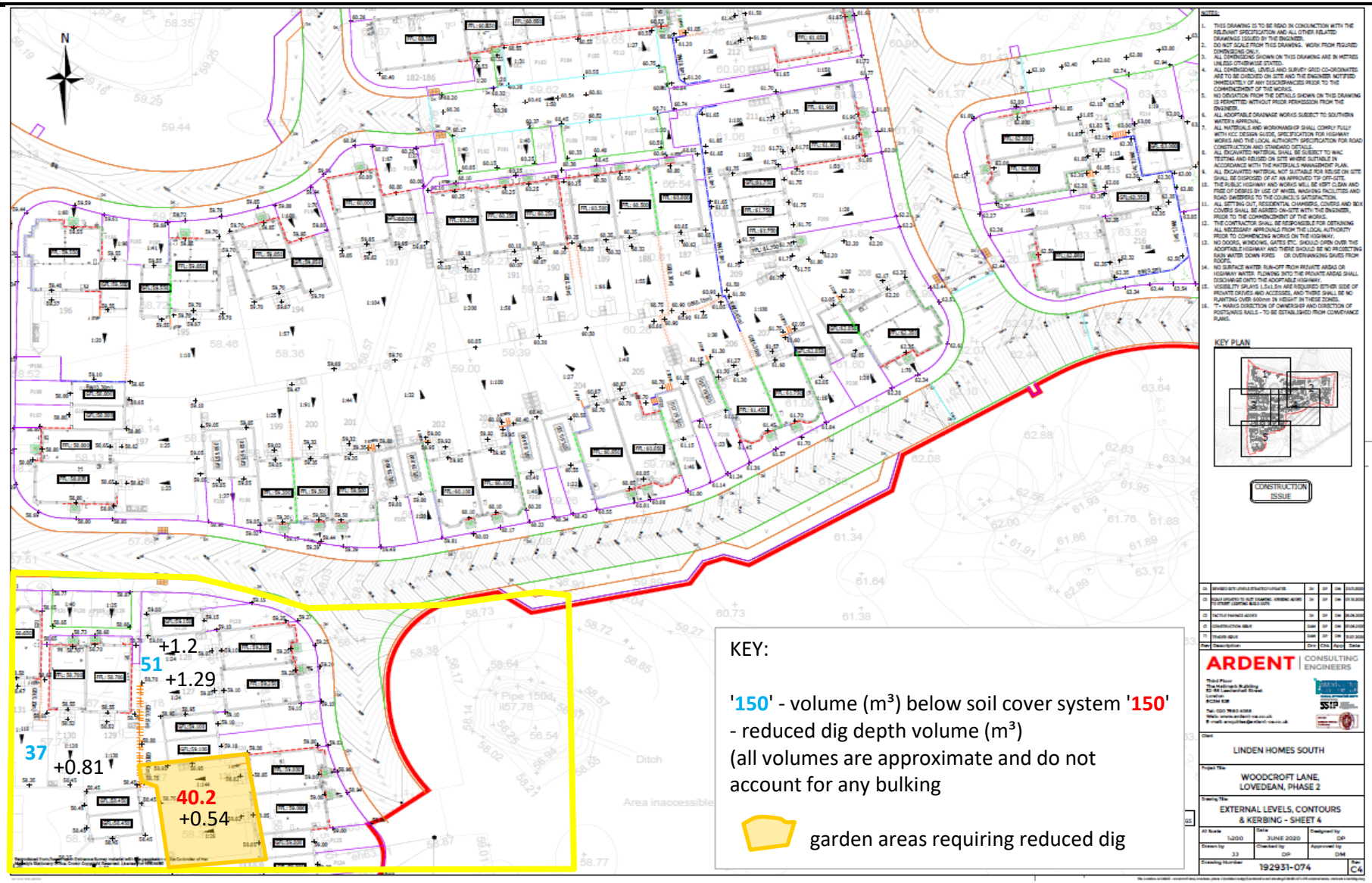
Geo-Environmental



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Remediation Strategy Plan - Phase 3 Farmyard and Chalk Pit Volumes (RSVP-FY-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2
Drawn:	FG	**Date:**	17/12/2020
Figure:	RSVP-FY 11	**Scale:**	Not To Scale

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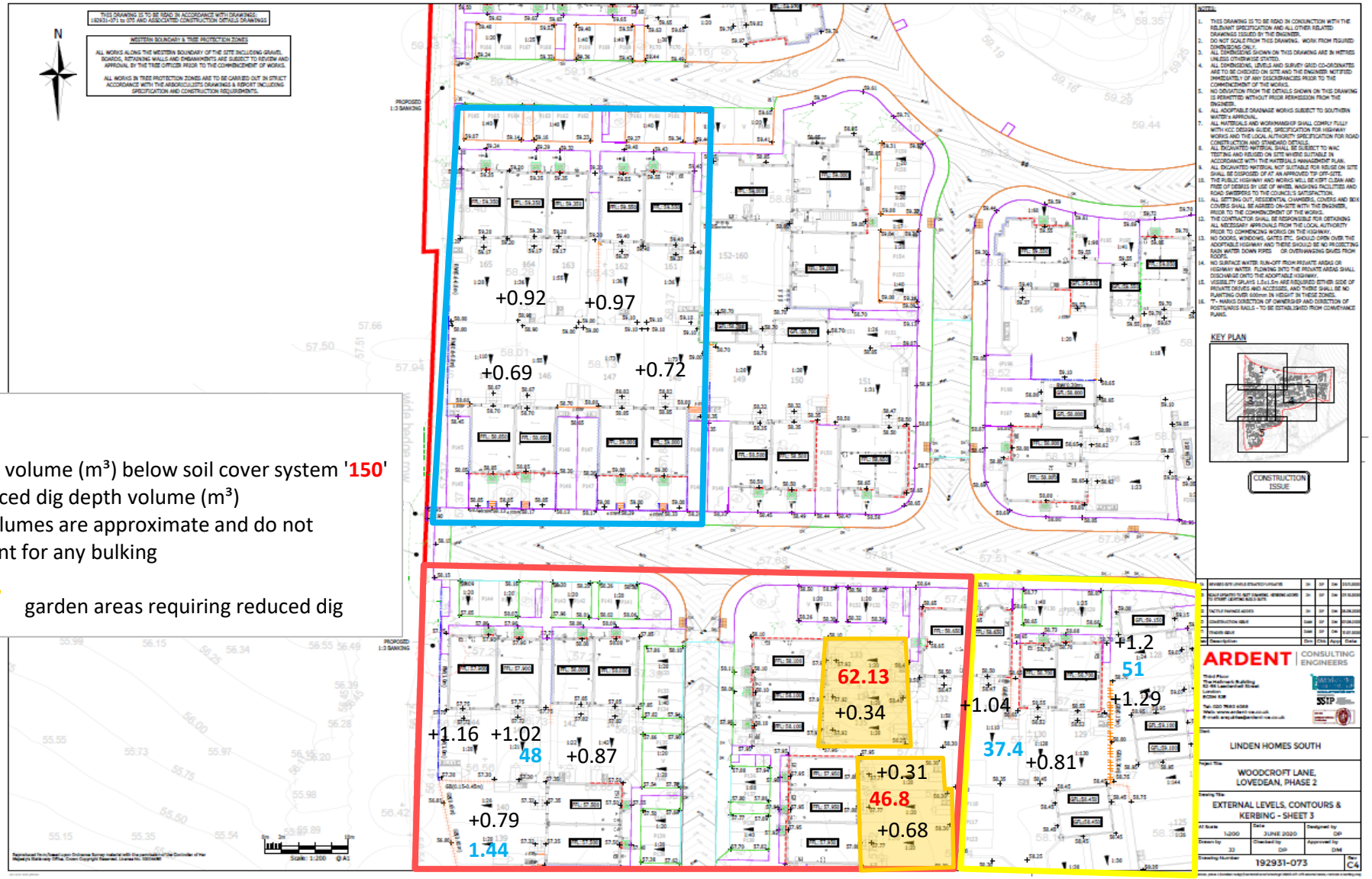
Geo-Environmental



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Remediation Strategy Plan - Phase 3 Farmyard Volumes (RSVP-FY-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2
Drawn:	FG	**Date:**	17/12/2020
Figure:	RSVP-FY 12	**Scale:**	Not To Scale

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Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Remediation Strategy Plan - Phase 3 Horse Arena, Chalk Pit & Farmyard Volumes (RSVP-FY-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2
Drawn:	FG	**Date:**	17/12/2020
Figure:	RSVP-FY F13	**Scale:**	Not To Scale

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APPENDIX A

Exploratory Hole Logs

and In-situ Test Results



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Trial Pit Log

TrialPit No
TP205
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468335.00 - 112129.00 Level: 69.34	Date 23/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.70 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.25	69.09		Grass over, Light brown sandy, gravelly CLAY, with frequent roots (2-4mm) and rootlets TOPSOIL
	0.50 0.50 0.50	B D ES					Firm orange and grey mottled slightly sandy CLAY with frequent roots (2-4mm) and rootlets. Sand is medium (large roots (7-10mm) at 0.4m)
	1.00	D		1.20	68.14		
				1.40	67.94		Firm orange and grey mottled slightly sandy CLAY with frequent rootlets. Sand is medium
	1.70	D		1.70	67.64		Firm orange and grey mottled slightly sandy CLAY with red bandings of sandy clay and frequent rootlets. Sand is medium
							End of Pit at 1.70m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP206
Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords: 468329.00 - 112033.00 Level: 66.23	Date 23/08/2017
Location:	Woodcroft Farm, Lovedean,	Dimensions (m): Depth 1.80	1.20 × 0.60	Scale 1:25
Client:	Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.25	65.98		Grass over, Light brown sandy, gravelly CLAY, with frequent flint gravels and rootlets TOPSOIL
				0.30	65.93		Stiff orange and grey mottled sandy, gravelly CLAY with abundant roots (4-7mm). Sand is medium (Large roots (50mm) at 0.3m)
	0.50	B					
	0.50	D					Firm orange and grey mottled very sandy CLAY with frequent roots (2-6mm). Sand is medium
	0.50	ES		0.60	65.63		Stiff orange and grey mottled slightly sandy CLAY with roots (2-4mm). Sand is medium
	1.00	D					
				1.20	65.03		Stiff orange and grey mottled slightly sandy CLAY with red bandings of sandy clay and roots (2-4mm). Sand is medium
	1.80	D		1.80	64.43		End of Pit at 1.80m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP207
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468244.00 - 112050.00 Level: 64.18	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 2.00 x 0.60 Depth 2.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	63.98		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets and occasional flint gravel TOPSOIL
	0.30	ES					Firm orange and grey mottled CLAY with occasional sandy red banding and rootlets (charcoal fragments at 1m and decaying roots)
	0.50	B					
	0.80	D					
				1.20	62.98		Firm red and grey mottled slightly sandy CLAY (charcoal fragments at 1.4m)
				1.60	62.58		Firm red and grey mottled sandy CLAY
	2.00	D		2.00	62.18		End of Pit at 2.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP208
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468227.00 - 112031.00 Level: 63.03	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 2.00 x 0.60 Depth 2.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.15	62.88		Grass over, Dark brown clayey sand with abundant tree roots (2-5mm) and rootlets (large tree root (50mm) at 0.15m) TOPSOIL
	0.50	D					Firm orange brown sandy CLAY. Sand is fine to medium (large tree root (20mm) at 0.9m)
	1.00	D		1.10	61.93		Stiff orange slightly sandy CLAY with abundant roots (between 2mm and 8mm). Sand is medium
	1.50	D		1.50	61.53		Stiff grey and orange mottled slightly sandy CLAY with occasional roots between 2mm and 6mm (no roots from 1.7m)
	2.00	D		2.00	61.03		End of Pit at 2.00m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP209
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468200.00 - 112025.00 Level: 61.57	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 2.00 — 2.00 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets and occasional flint gravel TOPSOIL
				0.30	61.27		Firm orange brown slightly gravelly CLAY with occasional cobbles of flint. Gravel is medium sub-angular of flint (roots (10mm) at 0.5m)
	0.50	D					
				0.80	60.77		Firm orange brown slightly sandy CLAY with frequent cobbles of flint. Sand is medium
				1.50	60.07		Firm orange and grey mottled slightly sandy CLAY. Sand is fine to medium
	2.00	D		2.00	59.57		End of Pit at 2.00m

1 2 3 4 5

Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP210
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468151.00 - 112030.00 Level: 58.51	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.40 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.15	58.36		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50	B					Firm grey and orange mottled slightly sandy CLAY with rootlets. Sand is medium
	1.00	D		0.90	57.61		Firm grey and orange mottled slightly sandy CLAY. Sand is medium (charcoal fragments at 1.35m)
				1.40	57.11		End of Pit at 1.40m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP211
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468148.00 - 112098.00 Level: 58.65	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.30 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.10	58.55		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.30	58.35		Brown sandy clay with flint cobbles, chalk fragments and occasional brick fragments MADE GROUND
	0.50	D					Firm brown slightly sandy CLAY with occasional rootlets. Sand is medium
				0.80	57.85		Firm red brown sandy CLAY. Sand is medium
	1.00	D					
				1.30	57.35		End of Pit at 1.30m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP212
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468050.00 - 112055.00 Level: 57.68	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.40	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.15	57.53		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.35	57.33		Soft orange brown very sandy CLAY with occasional sub-angular flint gravel. Sand is medium
	0.50 0.50	B D					Firm orange brown CLAY with frequent flint cobbles and chalk fragments
	0.80	D					
	1.10	D		1.10	56.58		Structureless CHALK composed of: medium to coarse sub-angular white GRAVEL. Fragments are weak CIRIA Grade DM
				1.40	56.28		End of Pit at 1.40m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP213
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468023.00 - 112009.00 Level: 56.66	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	56.56		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.20	56.46		Brown sandy clay with brick fragments and chalk gravel MADE GROUND
	0.50	B					Stiff light brown gravelly CLAY MADE GROUND
	0.50	D					
				0.80	55.86		Brown sandy clay with brick, concrete fragments, possible asbestos tiles, and decaying roots MADE GROUND
	1.00	ES					
				1.70	54.96		Soft light grey CLAY (decaying root (3mm) at 2m)
	2.00	D					
				2.20	54.46		End of Pit at 2.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP214
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468056.00 - 112002.00 Level: 57.16	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	57.06		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.20	56.96		Brown clay with bricks and chalk cobbles MADE GROUND
	0.50	B					Firm light brown and grey mottled CLAY, with frequent flint gravel (decaying root (4mm) at 0.5m) MADE GROUND
	0.50	D					
	0.90	ES		0.90	56.26		Dark brown clay with ashy deposits, plastic, brick fragments, chalk gravel, and wood MADE GROUND
				1.90	55.26		Firm light brown and grey mottled CLAY
	2.00	D		2.00	55.16		End of Pit at 2.00m

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Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP215
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468082.00 - 111995.00 Level: 57.87	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.90	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES					Ashy deposits overlying brown gravelly clay with bricks, concrete, flint cobbles, tarmac and chalk fragments MADE GROUND
				1.00	56.87		Soft orange brown sandy re-worked CLAY MADE GROUND
				1.70	56.17		Structureless CHALK composed of: medium to coarse sub-angular white sandy GRAVEL, sand is medium and fragments are weak CIRIA Grade DM
				2.30	55.57		Structureless CHALK composed of: medium to coarse sub-angular white sandy GRAVEL, fragments are weak CIRIA Grade DM
	2.90 2.90	D D		2.90	54.97		End of Pit at 2.90m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP216
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468060.00 - 111982.00 Level: 56.78	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	56.68		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.20	56.58		Brown sandy clay with charcoal and brick fragments MADE GROUND
	0.50 0.50 0.60	B D ES					Firm light brown and grey mottled gravelly CLAY. Gravel is medium, sub angular of flint
	1.00	D		1.00	55.78		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP217
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468063.00 - 111949.00 Level: 58.26	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.00 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	58.21		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.20	ES					Firm light brown and grey mottled CLAY, with frequent rootlets
	0.50	D					
	1.00	D		1.00	57.26		End of Pit at 1.00m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP218
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468068.00 - 111932.00 Level: 58.52	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 0.90 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.15	58.37		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50 0.50	B D					Firm light brown and grey mottled CLAY
	1.00	D		0.90	57.62		End of Pit at 0.90m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP219
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468127.00 - 111929.00 Level: 59.42	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	59.22		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets and chalk fragments TOPSOIL
							Firm light brown and grey mottled CLAY
	0.50	D					
	1.00 1.00	D ES		1.00	58.42		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP220
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468116.00 - 111958.00 Level: 59.41	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 2.00 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Grass over, dark brown gravelly clay with chalk and brick fragments MADE GROUND
				0.60	58.81		Soft brown and grey mottled CLAY
				0.80	58.61		Firm brown and grey mottled CLAY, with red sandy banding at 1.5m
	1.00 1.00	D ES					
				2.00	57.41		End of Pit at 2.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP221
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468161.00 - 111926.00 Level: 60.74	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.20 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.30	60.44		Soft orange brown slightly sandy CLAY with occasional chalk fragments and roots (1-3mm)
	0.50	D					
	0.50	ES					
				0.70	60.04		Firm orange and grey mottled slightly sandy CLAY with roots (1-3mm) and rootlets
	1.00	D					
				1.20	59.54		End of Pit at 1.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP222
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468221.00 - 111986.00 Level: 61.18	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.50 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25	60.93		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	ES		0.50	60.68		Firm orange brown slightly sandy CLAY with occasional flint gravels and roots (1-2mm). Sandy is medium
	1.00	D		1.00	60.18		Firm orange brown slightly sandy CLAY with occasional flint gravels. Sandy is medium
				1.50	59.68		Stiff orange brown slightly sandy, slightly gravelly CLAY. Sand is medium, gravel is medium, sub-angular of flint End of Pit at 1.50m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

Geo-Environmental

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Trial Pit Log

TrialPit No
TP223
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468126.00 - 111996.00 Level: 58.54	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.10	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	58.49		Concrete MADE GROUND
				0.25	58.29		Brown gravelly clay with concrete and brick fragments MADE GROUND
	0.40	ES					Soft grey and orange mottled slightly sandy CLAY
	0.50	D					
	0.50	ES					
	1.00	D					
				1.10	57.44		End of Pit at 1.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP224
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468077.00 - 112011.00 Level: 57.74	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 2.20 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Ashy deposits overlying brown gravelly clay with bricks, flint cobbles, chalk fragments and tarmac MADE GROUND
				0.70	57.04		Soft blue grey re-worked CLAY with bricks MADE GROUND
				1.60	56.14		Firm grey brown CLAY (Large flint cobble at 1.8m)
	2.20 2.20	D D		2.20	55.54		End of Pit at 2.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP225
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468112.00 - 111991.00 Level: 58.45	Date 23/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 0.60 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	58.30		Chippings over tarmac MADE GROUND
	0.25 0.30	ES ES					Brown gravelly clay with tarmac, brick fragments, chalk fragments, flint gravel, ash and charcoal (concrete encountered at 0.6m) MADE GROUND
				0.60	57.85		End of Pit at 0.60m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks Concrete encounted at 0.6m, pit terminated

Stability

AGS

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Trial Pit Log

TrialPit No
TP226
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468103.00 - 112028.00 Level: 57.24	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.10 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	57.04		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	D					Firm orange brown slightly sandy CLAY. Sand is medium
				0.80	56.44		Firm orange brown slightly sandy CLAY with frequent cobbles of flint and occasional charcoal fragments. Sand is medium
				1.10	56.14		End of Pit at 1.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP227
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468105.00 - 112061.00 Level: 57.53	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.00 — 0.60 × 1.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.25	57.28		
	0.40	D					Firm orange brown slightly sandy, slightly gravelly CLAY. Sand is medium and gravel is fine to medium, sub-angular of flint
				0.70	56.83		Firm orange brown CLAY
				0.90	56.63		
				1.00	56.53		Structureless CHALK composed of: medium to coarse sub-angular white GRAVEL. Fragments are weak CIRIA Grade DM
							End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP228
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468169.00 - 112048.00 Level: 60.35	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.70 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.25	60.10		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50	D					Soft brown orange sandy CLAY with occasional flint gravel and rootlets. Sand is medium
	1.20	D		1.10	59.25		Yellow fine medium SAND
				1.70	58.65		End of Pit at 1.70m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP229
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468030.00 - 112090.00 Level: 58.55	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.80 — 0.60 × 1.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Grass over, Orange brown sandy CLAY with frequent rootlets TOPSOIL
	0.60 0.60	D ES		0.60	57.95		Firm orange brown very sandy CLAY with occasional flint cobbles. Sand is medium
				0.80	57.75		Firm orange brown CLAY with occasional flint cobbles
	1.00	D					
				1.40	57.15		Firm grey slightly sandy CLAY with frequent cobbles of flint. Sand is medium
	1.50	D					
				1.80	56.75		End of Pit at 1.80m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP230
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468086.00 - 112103.00 Level: 59.34	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.20 (1.20 × 0.60)	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	59.19		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.30	ES					Soft orange brown very sandy CLAY. Sand is medium
	0.50	D					
				0.70	58.64		Firm grey and orange mottled CLAY with frequent flint cobbles
	1.10	D					
				1.20	58.14		End of Pit at 1.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP231
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468130.00 - 112119.00 Level: 59.64	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.20 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	59.44		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	ES					Soft orange brown very gravelly sandy CLAY. Gravel is medium, sub-angular of flint and sand is medium
				0.60	59.04		
	0.80	D					Firm orange brown slightly sandy CLAY with occasional rootlets. Sand is medium
				1.20	58.44		End of Pit at 1.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP232
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468210.00 - 112065.00 Level: 62.16	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.30 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.30	61.86		Firm orange and grey mottled slightly sandy CLAY. Sand is fine to medium
				0.70	61.46		
	0.80	D					Firm orange and grey mottled sandy CLAY. Sand is fine to medium
				1.30	60.86		End of Pit at 1.30m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP233
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468228.00 - 112111.00 Level: 64.08	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.10 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	63.78		Grass over, Brown sandy, gravelly CLAY with frequent roots and rootlets TOPSOIL
	0.40 0.40	ES ES					Firm orange brown gravelly CLAY. Gravel is medium to coarse sub-angular of flint
				0.65	63.43		Stiff grey and orange mottled CLAY with occasional red bands of sandy CLAY
	0.80	D					
				1.10	62.98		End of Pit at 1.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP234
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468242.00 - 112136.00 Level: 65.41	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.00 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	65.21		Grass over, Brown sandy, gravelly CLAY with frequent roots and rootlets TOPSOIL
	0.30	ES					Firm brown very gravelly CLAY. Gravel is medium to coarse sub-angular of flint
				0.45	64.96		Stiff orange and grey mottled CLAY (Large tree root (70mm) at 0.7m and tree root (4mm) at 1m)
	1.00	D		1.00	64.41		End of Pit at 1.00m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP235
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468165.00 - 112133.00 Level: 60.77	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25	60.52		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50 0.50	D ES					Orange brown clayey medium SAND with occasional flint gravel
	1.00	D					
				1.80	58.97		Grey and orange fine to medium SAND
				2.20	58.57		End of Pit at 2.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP236
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468115.00 - 112146.00 Level: 60.93	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.70	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES		0.40	60.53		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	1.00	D		1.00	59.93		Soft orange brown slightly gravelly sandy CLAY. Sand is medium and gravel is medium, sub-angular of flint
				1.70	59.23		Orange slightly clayey medium SAND End of Pit at 1.70m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP237
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468036.00 - 112164.00 Level: 62.19	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	62.04		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	ES					Soft orange brown very sandy CLAY. Sand is medium
	0.50	D					
				0.85	61.34		Firm orange brown CLAY
	1.00	D		1.00	61.19		End of Pit at 1.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP238
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468045.00 - 112137.00 Level: 60.22	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25	59.97		Grass over, Orange brown sandy CLAY with frequent rootlets TOPSOIL
	0.50	D					Stiff orange brown CLAY with occasional cobbles of sub angular flint
	0.80	ES					
	1.00	D		1.00	59.22		End of Pit at 1.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP239
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468112.00 - 112015.00 Level: 58.28	Date 23/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.80, 0.60 x 1.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Grass over brown sandy gravelly clay with brick, chalk fragments, concrete, and flint gravel MADE GROUND
	0.50	ES		0.50	57.78		
				0.60	57.68		Brown sandy clay with tiles of possible asbestos, chalk fragments, concrete and brick MADE GROUND
							Soft brown very sandy CLAY. Sand is medium
				1.40	56.88		Soft brown very sandy CLAY. Sand is medium
	1.50	ES					
	1.80	D		1.80	56.48		End of Pit at 1.80m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS201** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468236E - 111994N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	62.76	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.25	D		0.20	62.56		Grass over, brown sandy clay with flint gravel and frequent rootlets TOPSOIL
		0.25	PP	1.3kg/cm2				Firm orange and grey mottled slightly sandy CLAY. Sand is medium
		0.50	D					
		0.50	PP	0.7kg/cm2				
		0.75	D		0.80	61.96		
		0.75	PP	0.7kg/cm2				Firm orange and grey mottled slightly sandy CLAY with occasional bands of red sandy clay. Sand is medium
		1.00	D		1.10	61.66		
		1.00	PP	0.9kg/cm2				Stiff orange and grey mottled sandy CLAY. Sand is medium
		1.25	D					
		1.25	PP	1.3kg/cm2				
		1.50	D					
		1.50	PP	1.3kg/cm2				
		1.75	D					
		1.75	PP	1.7kg/cm2				
		2.00	D		2.00	60.76		
		2.00	PP	1.2kg/cm2				Firm orange very sandy CLAY. Sand is fine
		2.25	D		2.30	60.46		
		2.25	PP	0.5kg/cm2				Yellow greyish clayey fine SAND
		2.50	D					
		2.75	D					
		3.00	D		3.00	59.76		End of Borehole at 3.00m

1 2 3 4 5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS202** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468174E - 111973N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	60.57	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	60.27		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50 0.50	D PP	1.6kg/cm2				Stiff orange, red and grey mottled slightly sandy CLAY with occasional rootlets. Sand is medium
		0.75 0.75	D PP	1.7kg/cm2				
		1.00 1.00	D PP	1.8kg/cm2				*.....Occasional roots (1-3mm)*
		1.25 1.25	D PP	2.0kg/cm2	1.10	59.47		Stiff orange and grey mottled sandy CLAY with occasional roots (2mm) and occasional red banding of sandy clay. *.....Occasional roots (2mm)*
		1.50 1.50	D PP	1.8kg/cm2				
		1.75 1.75	D PP	1.7kg/cm2				*.....Large root (5mm)*
		2.00 2.00	D PP	1.6kg/cm2				
		2.25 2.25	D PP	1.5kg/cm2				
		2.50 2.50	D PP	0.7kg/cm2	2.40	58.17		Firm orange and grey mottled very sandy CLAY with occasional roots (2-4mm) and rootlets. Sand is medium *.....Occasional roots (2-4mm)*
		2.75 2.75	D PP	0.5kg/cm2	2.80	57.77		Yellow/ Orange fine SAND
		3.00	D		3.00	57.57		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS203** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords: 468173E - 111996N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level: 60.57	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates: 05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15	60.42		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.25 0.25	D PP	1.6kg/cm2				Firm orange brown gravelly CLAY with occasional flint cobbles. Gravel is medium sub angular to sub rounded of flint
		0.50 0.50	D PP	0.9kg/cm2				
		0.75 0.75	D PP	1.1kg/cm2	0.70	59.87		Firm orange, red and grey mottled slightly sandy CLAY. Sand is fine
		1.00 1.00	D PP	0.5kg/cm2				
		1.25 1.25	D PP	1.0kg/cm2	1.10	59.47		Firm orange and grey mottled sandy CLAY. Sand is fine
		1.50 1.50	D PP	0.8kg/cm2				
		1.75 1.75	D PP	1.3kg/cm2				
		2.00 2.00	D PP	1.5kg/cm2	1.90	58.67		Firm orange and grey mottled very sandy CLAY. Sand is fine
		2.25 2.25	D PP	0.9kg/cm2				
		2.50	D		2.30	58.27		Yellow/ Orange fine SAND
		2.75	D					
		3.00	D		3.00	57.57		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS204** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468179E - 112013N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	60.47	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	60.17		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50 0.50	D PP	0.9kg/cm2				Stiff orange/ brown slightly sandy CLAY with frequent rootlets. Sand is fine
		0.75 0.75	D PP	1.0kg/cm2				
		1.00 1.00	D PP	1.2kg/cm2	1.10	59.37		
		1.25 1.25	D PP	1.4kg/cm2				Stiff orange/ brown slightly sandy CLAY with rare rootlets. Sand is fine
		1.50 1.50	D PP	1.5kg/cm2				
		1.75 1.75	D PP	1.3kg/cm2				
		2.00 2.00	D PP	1.0kg/cm2				
		2.25 2.25	D PP	1.1kg/cm2	2.30	58.17		Firm orange and grey mottled sandy CLAY. Sand is fine
		2.50 2.50	D PP	0.9kg/cm2				
		2.75 2.75	D PP	0.7kg/cm2				
		3.00 3.00	D PP	0.8kg/cm2	3.00	57.47		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS205** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468150E - 112033N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	58.83	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.25	58.58		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50	D					Brown clayey fine SAND
		0.75	D					
					0.90	57.93		
		1.00	D					Orange fine SAND
		1.25	D					
		1.50	D					
					1.70	57.13		
		1.75	D					Orange clayey fine SAND
		2.00	D		2.00	56.83		
		2.00	PP	1.1kg/cm2				Stiff grey slightly sandy CLAY. Sand is fine
		2.25	D					
		2.25	PP	1.2kg/cm2				
		2.50	D					
		2.50	PP	1.0kg/cm2				
					2.60	56.23		Soft brown slightly sandy CLAY. Sand is fine
		2.75	D					
		2.75	PP	0.4kg/cm2	2.80	56.03		Structureless CHALK composed of: medium to coarse sub-angular white sandy GRAVEL, sand is medium and fragments are weak CIRIA Grade DM
		3.00	D		3.00	55.83		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS206** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords: 468081E - 111960N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level: 57.22	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates: 05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.35	56.87		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50 0.50	D PP	1.2kg/cm2				Firm brown orange slightly sandy gravelly CLAY with frequent rootlets. Sand is fine, gravel is medium sub angular to sub rounded of flint.
		0.75 0.75	D PP	1.6kg/cm2				
		1.00 1.00	D PP	1.5kg/cm2				
		1.25 1.25	D PP	1.1kg/cm2				
		1.50 1.50	D PP	0.8kg/cm2				
		1.75 1.75	D PP	1.3kg/cm2				
					1.90	55.32		Firm brown very gravelly CLAY. Gravel is medium sub angular to sub rounded of flint.
		2.00 2.00	D PP	1.8kg/cm2				
		2.25 2.25	D PP	1.7kg/cm2				
		2.50 2.50	D PP	1.5kg/cm2				
		2.75 2.75	D PP	1.6kg/cm2				
		3.00 3.00	D PP	1.5kg/cm2	3.00	54.22		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS207** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468075E - 111938N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	58.31	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15	58.16		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.25 0.25	D PP	 1.0kg/cm2				Firm orange and grey mottled CLAY with frequent rootlets and occasional flint gravel
		0.50 0.50	D PP	 1.0kg/cm2				
		0.75 0.75	D PP	 0.7kg/cm2				
		1.00 1.00	D PP	 0.6kg/cm2				
								.....Decaying root (6mm)
		1.25 1.25	D PP	 0.9kg/cm2	1.20	57.11		Stiff orange and grey mottled slightly sandy CLAY with occasional rootlets. Sand is fine
					1.40	56.91		*.....Occasional roots (2mm)*
		1.50 1.50	D PP	 1.5kg/cm2				Stiff orange and grey mottled slightly sandy CLAY with occasional rootlets and red banding of sandy clay. Sand is fine
		1.75 1.75	D PP	 1.5kg/cm2				*.....Occasional roots (2mm)*
		2.00 2.00	D PP	 1.5kg/cm2				
		2.25 2.25	D PP	 1.7kg/cm2	2.20	56.11		Stiff orange and grey mottled slightly sandy CLAY with frequent rootlets. Sand is fine
		2.50 2.50	D PP	 1.5kg/cm2				
		2.75 2.75	D PP	 1.7kg/cm2	2.80	55.51		Stiff grey CLAY with chalk fragments
		3.00 3.00	D PP	 1.8kg/cm2	3.00	55.31		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

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Trial Pit Log

TrialPit No: TP301
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468021.00 - 112011.00 Level: 56.66	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.40 × 0.60 Depth 2.70	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	56.46		Grass over dark brown sandy gravelly CLAY with abundant roots and rootlets TOPSOIL
	0.25	ES					
	0.40	ES		0.45	56.21		Made Ground comprising dark brown soft sandy, gravelly CLAY with brick, brick fragments, tile, slate, wood, and glass. Sand is medium and gravel is fine to medium sub angular to sub rounded of flint. Made Ground comprising Fines 60%, Coarse 30%, Brick 5%, Wood 4%, Glass 0.5%, Slate 0.5% MADE GROUND
				0.90	55.76		Made Ground comprising light brown firm slightly sandy CLAY with flint gravel, brick and wood/decaying roots. Sand is medium. Made Ground comprising Fines 50%, Coarse 30%, Gravel 10%, Brick 5% and Wood 5% MADE GROUND
				1.30	55.36		Made Ground comprising light brown firm CLAY with brick, wood, rope and flint gravel. Made Ground comprising Fines 60%, Coarse 20%, Brick 5% and Wood 5%. (At 0.95m bgl large concrete slab - 1.1m x 0.2m and 0.2m thick) MADE GROUND
	1.40	ES					
							Made Ground comprising light grey and black soft CLAY with wood, chalk gravel, brick and plastic. Made Ground comprising Fines 40%, Coarse 20%, Wood 15%, Brick 15% and Plastic 10%. (At 1.4m bgl large decaying tree root - 1.2m x 0.2m) MADE GROUND
				2.70	53.96		End of Pit at 2.70m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP302
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468063.00 - 112007.00 Level: 57.59	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.40 × 0.60 Depth 2.80	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.25	57.34		Grass over Made Ground comprising clayey sandy fine to coarse sub angular to sub rounded GRAVEL with tarmac, calk fragments, brick, tile, charcoal and wood. Made Ground comprising Fines 25%, Coarse 70%, Brick 3%, Wood 2%. (At 0.1m bgl large piece of tarmac) MADE GROUND
	0.50	ES		0.40	57.19		Made Ground comprising light brown and grey with black and dark grey staining firm CLAY with brick and decaying roots. Made Ground comprising Fines 70%, Coarse 20%, Brick 5%, Wood 5% MADE GROUND
							Made Ground comprising dark grey and grey mottled firm CLAY with wood, brick, cement, plastic and chipboard. Made Ground comprising Fines 60%, Coarse 20%, Wood 10%, Brick 5%, Plastic 3% and Cement 2% MADE GROUND
	1.30	ES		1.20	56.39		Made Ground comprising brown with occasional black staining soft gravelly sandy CLAY with wood, brick, charcoal and plastic. Sand is medium and gravel is fine to medium sub angular to sub rounded of flint. Made Ground comprising Fines 60%, Coarse 20%, Wood 10%, Brick 5%, Charcoal 3% and Plastic 2% MADE GROUND
	2.70	ES		2.80	54.79		End of Pit at 2.80m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP303
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468094.00 - 111975.00 Level: 57.47	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.20 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	57.37		Grass over dark brown silty sandy CLAY with frequent roots and rootlets TOPSOIL
	0.30	ES		0.35	57.12		Made Ground comprising light brown soft slightly sandy CLAY with brick, glass, flint gravel, concrete, wood and possible asbestos. Sand is medium. Made Ground comprising Fines 70%, Coarse 20%, Gravel 5%, Brick 3%, Concrete 1%, Glass 0.5% and Wood 0.5% MADE GROUND
	0.70	ES		0.80	56.67		Made Ground comprising light brown firm CLAY with brick and chalk gravel, Fines 80%, Coarse 10%, Gravel 8% and Brick 2%. (Between 0.4m bgl and 0.5m bgl live tree roots) MADE GROUND
				1.20	56.27		Stiff light brown and grey mottled CLAY
				1.40	56.07		Firm light grey and brown sandy gravelly CLAY. Sand is medium and gravel is fine to medium sub angular to sub rounded of flint. (At 1.3m bgl and 1.5m bgl large flint cobbles)
				1.80	55.67		Firm brown very gravelly CLAY. Gravel is medium to coarse sub angular of chalk
	1.90	ES					White/light grey structureless very weak weather CHALK in communicated matrix CIRIA Grade DM
				2.40	55.07		End of Pit at 2.40m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP304
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468071.00 - 111965.00 Level: 56.82	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.10 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	56.72		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Made Ground comprising grey and brown mottled with frequent black staining soft sandy CLAY with chalk gravel, brick, wood, plastic occasional glass and charcoal. Sand is medium. Made Ground comprising Fines 50%, Coarse 25%, Gravel 15%, Brick 5%, Wood 3%, Plastic 1.5% Other 0.5% MADE GROUND
				0.60	56.22		Made Ground comprising light brown and grey mottled with occasional black staining soft CLAY with chalk gravel and brick MADE GROUND
				1.00	55.82		Soft light brown gravelly CLAY. Gravel is fine to medium sub angular to sub rounded of flint. (Large flint cobbles at 1m bgl)
	1.20	ES		1.20	55.62		Stiff light brown and grey mottled slightly sandy CLAY. Sand is medium. (Large flint cobbles at 2.2m bgl)
				2.40	54.42		End of Pit at 2.40m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP305
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468037.00 - 111960.00 Level: 57.32	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): Depth 1.20, 1.80 x 0.60	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	57.12		Grass over dark brown silty sandy CLAY with abundant roots and rootlets, and occasional flint gravel TOPSOIL
	0.80	ES		0.90	56.42		Made Ground comprising firm brown and grey mottled slightly sandy CLAY with occasional flint gravel. (At 0.85m large piece of metal) MADE GROUND
	1.10	ES		1.20	56.12		Made Ground comprising light grey with occasional black staining firm slightly sandy CLAY with wood and decaying tree roots. Made Ground comprising Fines 70%, Coarse 20% and Wood/ Tree roots 10% MADE GROUND
							End of Pit at 1.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks Rapid groundwater ingress at 1.1m bgl. Pit abandoned due to instability caused by rapid water ingress

Stability

AGS

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Trial Pit Log

TrialPit No
TP306
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468024.00 - 112109.00 Level: 59.05	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): Depth 2.80, 0.60 x 2.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	58.75		Grass over soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.40	ES					Firm orange/brown slightly sandy CLAY with occasional flint gravel. Sand is fine
	0.80	ES					
				1.60	57.45		Firm orange/brown and grey mottled slightly sandy CLAY. Sand is medium
				2.10	56.95		Soft orange/brown very sandy CLAY. Sand is medium
				2.60	56.45		Stiff grey CLAY with frequent sub rounded flint cobbles
				2.80	56.25		End of Pit at 2.80m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP307
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468040.00 - 112091.00 Level: 58.94	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.90 × 0.60 Depth 2.60	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	58.74		Grass over soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Soft orange/brown slightly sandy CLAY with occasional flint gravel. Sand is fine
				0.70	58.24		
	0.80	ES					Firm grey and orange/brown mottled CLAY with frequent flint cobbles
				1.00	57.94		
	1.20	ES					Orange and yellow medium SAND
				2.10	56.84		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.60	56.34		End of Pit at 2.60m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP308
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468023.00 - 112077.00 Level: 58.20	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.00 × 0.60 Depth 2.60	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.25	57.95		Grass over soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Soft brown very sandy CLAY with occasional flint gravel. Sand is fine
	0.70	ES		0.80	57.40		Stiff brown/grey gravelly CLAY. Gravel is medium to coarse sub angular to sub rounded of flint
				1.70	56.50		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.60	55.60		End of Pit at 2.60m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP309
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468042.00 - 112072.00 Level: 58.36	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.90 × 0.60 Depth 2.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	58.26		Soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.25	ES		0.30	58.06		Made Ground comprising brown sandy CLAY with flint gravel, flint cobbles and occasional black staining MADE GROUND
	0.50	ES					Firm brown/orange slightly sandy CLAY with frequent flint cobbles. (At 0.6-0.7m bgl chalk gravel and chalk fragments. At 0.8m bgl large flint cobbles)
	0.65	ES					
				1.15	57.21		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles
				2.10	56.26		End of Pit at 2.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP310
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468022.00 - 112039.00 Level: 57.56	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): Depth 2.10 — 0.60 × 2.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10	57.46		Soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
							Soft brown/orange sandy desiccated CLAY. Sand is medium
	0.50	ES		0.40	57.16		Stiff brown slightly sandy CLAY with frequent flint cobbles. Sand is medium
	1.50	ES		1.20	56.36		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.10	55.46		End of Pit at 2.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP311
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468040.00 - 112038.00 Level: 57.21	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.80 × 0.60 Depth 2.00	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10	57.11		Soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
				0.30	56.91		Firm brown slightly silty sandy CLAY. Sand is fine
	0.40	ES					Firm brown slightly sandy CLAY with occasional flint gravel. Sand is fine
	0.80	ES		0.90	56.31		Firm orange/brown slightly sandy, slightly gravelly CLAY with occasional cobbles of flint. Sand is fine and gravel is fine to medium sub angular to sub rounded of flint
				1.45	55.76		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.00	55.21		End of Pit at 2.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP312
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468087.00 - 112016.00 Level: 57.59	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.10 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10	57.49		Made Ground comprising light brown clayey fine to coarse flint GRAVEL with brick and concrete. Made Ground comprising Fines 30%, Coarse 60%, Brick 15% and Concrete 5% MADE GROUND
							Made Ground comprising white/brown clayey fine to coarse chalk GRAVEL with brick, concrete, tarmac, and large pieces of tree. Made Ground comprising Fines 25%, Coarse 60%, Tarmac 10%, Brick 5%, Concrete 3% and Tree 2% MADE GROUND
	0.90	ES		0.80	56.79		Made Ground comprising dark brown/grey soft slightly sandy CLAY with plastic, decaying roots and flint gravel. Sand is medium. Made Ground comprising Fines 70%, Coarse 20%, Gravel 7%, Roots 2% and Plastic 1% MADE GROUND
	1.45	ES		1.40	56.19		Firm orange/brown and grey mottled slightly sandy CLAY with occasional flint gravel. Sand is medium. (Large flint cobbles at 1.5m bgl)
				2.30	55.29		White/cream structureless weak weather CHALK in communicated matrix with flint gravel CIRIA Grade DM
				2.40	55.19		End of Pit at 2.40m

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Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP313
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468113.00 - 112026.00 Level: 58.03	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.80 × 0.60 Depth 2.50	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	57.93		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.25	ES		0.30	57.73		Made Ground comprising white/brown clayey fine to coarse sub angular to sub rounded chalk GRAVEL with large flint cobbles MADE GROUND
	0.50	ES					
				0.60	57.43		Brown very clayey fine to medium sub angular to sub rounded flint GRAVEL
							Firm orange/brown and grey mottled CLAY with occasional bands of orange medium SAND.
				1.50	56.53		
	1.55	ES					Orange medium SAND
				1.60	56.43		Stiff orange/brown sandy CLAY with occasional flint gravel. Sand is medium
				1.80	56.23		Orange/brown medium SAND with bands of grey firm CLAY
				2.50	55.53		End of Pit at 2.50m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP314
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468124.00 - 112027.00 Level: 58.20	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.30 × 0.60 Depth 2.50	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	58.10		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Firm orange/brown slightly sandy CLAY with frequent tree roots (3mm-6mm). Sand is medium
	0.70	ES		0.60	57.60		Stiff orange/brown and slightly grey mottled CLAY with occasional bands of orange medium SAND. (Tree roots at 0.9m bgl, band of off white structureless weak weathered CHALK at 1.8m bgl)
	1.60	ES					
				2.50	55.70		End of Pit at 2.50m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP315
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468081.00 - 111991.00 Level: 57.67	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.20 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Loose chippings over brown/grey clayey flint and chalk GRAVEL with tarmac, brick and concrete. Made Ground comprising Fines 30%, Coarse 60%, Brick 5%, Concrete 3% and Tarmac 2% MADE GROUND
				0.50	57.17		
	0.60	ES					Made Ground comprising brown and dark grey firm CLAY with brick, concrete, tree roots, flint cobbles and lead pipe. Made Ground comprising Fines 70%, Coarse 20%, Brick 5%, Other 3%, Concrete 2% MADE GROUND
				2.20	55.47		
	2.30	ES					Firm brown and grey mottled CLAY with occasional bands of orange medium SAND
				2.40	55.27		End of Pit at 2.40m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP316
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468111.00 - 111958.00 Level: 59.73	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.30 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Grass over light brown sandy CLAY with brick, concrete, plastic and glass. Made Ground comprising Fines 40%, Coarse 20%, Brick 20%, Concrete 15% and other 5% MADE GROUND
	0.90	ES		0.80	58.93		Firm orange/brown and grey mottled slightly sandy desiccated CLAY. Sand is medium
	1.90	ES		1.80	57.93		Stiff orange/brown, grey and red mottled CLAY
				2.20	57.53		End of Pit at 2.20m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP317
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468146.00 - 111985.00 Level: 58.97	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.90 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.15	58.82		Loose chippings over dark brown silty sandy CLAY with frequent roots and rootlets and occasional brick rubble and gravel. (Plastic drainage pipe at 0.1m bgl) MADE GROUND
				0.25	58.72		Made Ground comprising soft dark brown silty CLAY MADE GROUND
	0.65	ES					Firm orange/brown sandy CLAY. Sand is medium
	1.40	ES		1.35	57.62		Orange/brown clayey medium SAND
				1.60	57.37		Orange/brown fine to medium SAND with occasional bands of CLAY
				2.20	56.77		End of Pit at 2.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP318
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468116.00 - 111949.00 Level: 59.78	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.40 × 0.60 Depth 1.90	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.15	59.63		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
				0.60	59.18		Made Ground comprising dark brown soft very gravelly CLAY with flint and brick. Gravel is fine to coarse of chalk. Made Ground comprising Fines 50%, Coarse 30%, Gravel 15% and Brick 5% MADE GROUND
	0.70	ES		0.80	58.98		Firm orange/brown and grey mottled CLAY with frequent flint gravel
	1.80	ES		1.90	57.88		Stiff orange/brown and grey mottled CLAY with occasional flint gravel End of Pit at 1.90m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 01
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468158.00 - 111950.00 Level: 60.98	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 3.40 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	60.88		Dark brown slightly sandy silty CLAY with abundant roots and rootlets TOPSOIL
							Firm grey and orange mottled slightly sandy CLAY
				1.00	59.98		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 02
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468157.00 - 111967.00 Level: 60.20	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 6.40 × 0.60 Depth 0.70	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	60.00		Made Ground comprising dark brown sandy silty CLAY with slate, brick, gravel and wood MADE GROUND
							Firm orange/brown slightly sandy CLAY. Sand is fine
				0.70	59.50		End of Pit at 0.70m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks Private water pipe running through trench

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 03
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468145.00 - 112001.00 Level: 59.01	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.60 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising dark brown sandy silty CLAY with wood, gravel, brick, pipe and concrete MADE GROUND
				0.50	58.51		Firm grey sandy CLAY. Sand is fine
				1.00	58.01		End of Pit at 1.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
Trench 04
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468133.00 - 112020.00 Level: 58.36	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.80 × 0.60 Depth 0.50	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.50	57.86		Firm orange/brown sandy CLAY with occasional flint gravel. Sand is fine End of Pit at 0.50m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
Trench 05
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468164.00 - 112017.00 Level: 60.06	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 3.60 x 0.60 Depth 0.75	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	59.91		Dark brown slightly sandy silty CLAY with abundant roots and rootlets TOPSOIL
							Soft brown very sandy CLAY. Sand is fine
				0.75	59.31		End of Pit at 0.75m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
Trench 06
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468169.00 - 111997.00 Level: 59.91	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.20 × 0.60 Depth 0.70	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	59.76		Dark brown slightly sandy silty CLAY with abundant roots and rootlets TOPSOIL
							Soft light brown sandy CLAY. Sand is fine
				0.70	59.21		End of Pit at 0.70m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 07
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468033.00 - 112020.00 Level: 57.17	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.80 × 0.60 Depth 1.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Grass over Made Ground comprising light brown clayey sandy fine to coarse sub angular to sub rounded chalk and flint GRAVEL with tarmac, flint cobbles, wood, charcoal and glass. Made Ground comprising Fines 30%, Coarse 60%, Tarmac 5%, Wood 3%and Other 2%. Sand is medium MADE GROUND
				0.50	56.67		Firm orange/ brown slightly gravelly desiccated CLAY. Gravel is fine to medium sub angular to sub rounded of flint
				1.10	56.07		End of Pit at 1.10m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 08
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468046.00 - 112019.00 Level: 57.41	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 3.80 × 0.60 Depth 1.15	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising brown and white clayey sandy fine to coarse sub angular to sub rounded chalk and flint GRAVEL with brick, tile and concrete. Sand is medium. Made Ground comprising Fines 30%, Coarse 63%, Brick 3%, Tile 2% and Concrete 2% MADE GROUND
				0.70	56.71		Soft orange/brown gravelly CLAY. Gravel is fine to medium sub angular to sub rounded of flint (Flint cobbles in base of pit)
				1.15	56.26		End of Pit at 1.15m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 09
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468068.00 - 112013.00 Level: 57.70	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.50 × 0.60 Depth 1.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising brown and white clayey sandy fine to coarse sub angular to sub rounded chalk and flint GRAVEL with brick, tarmac and flint cobbles. Sand is medium. Made Ground comprising Fines 30%, Coarse 60%, Brick 5% and Tarmac 5% MADE GROUND
				0.70	57.00		Firm orange/ brown slightly sandy desiccated CLAY. Sand is medium
				1.10	56.60		End of Pit at 1.10m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 10
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468068.00 - 112008.00 Level: 57.60	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.20 × 0.60 Depth 1.20	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising light brown clayey sandy fine to coarse sub angular to sub rounded flint and chalk GRAVEL with brick, concrete, tree roots, clay pipe. Sand is medium. Made Ground comprising Fines 30% Coarse 60%, Brick 4%, Concrete 4% and Other 2% MADE GROUND
				0.50	57.10		Made Ground comprising dark grey and grey mottled soft CLAY with brick, plastic, roots, wood, chalk fragments, flint gravel and tile. Made Ground comprising Fines 60%, Coarse 20%, Brick 3%, Plastic 2%, Wood/Roots 2%, Other 3% MADE GROUND
				1.20	56.40		End of Pit at 1.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS401** Sheet 1 of 2

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468050E - 112012N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.60	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	56.50		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
		0.60 - 0.80	ES					Brown clay with gravel of flint and red brick MADE GROUND
					0.90	55.70		Grey clay with flint gravel ash wood and red brick fragments MADE GROUND
		1.40 - 1.70	ES					
					2.00	54.60		Grey clay with chalk and flint gravel. Red brick at 3.6-3.7m bgl MADE GROUND
		2.30 - 2.60	ES					
					3.70	52.90		Brown clay with abundant fine chalk gravel and rare red brick fragments MADE GROUND
					4.80	51.80		Off white CHALK recovered as silty chalk matrix and fine gravel size weak chalk clasts CIRIA Grade
					5.00	51.60		Continued on Next Sheet

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

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Borehole Log

Borehole No.
WS401
Sheet 2 of 2

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468050E - 112012N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.60	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								DM/CM End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks
No water encountered

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS402** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468056E - 111983N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.73	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	56.63		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
		0.50	ES					Firm to stiff brown and grey mottled silty clay MADE GROUND
					0.90	55.83		Brown and grey clay with some gravel of flint red brick and slate MADE GROUND
		1.50	ES		1.40	55.33		Grey clay with pockets of light grey sandy gravel possibly concrete fragments ash charcoal dead roots and wood fragments and abundant concrete fragments at 2.7-2.8m MADE GROUND
		2.50	ES					
					2.80	53.93		Brown and grey clay with concrete fragments MADE GROUND
		3.70 - 4.00	ES		3.70	53.03		Dark grey to black fibrous material possibly decomposed paper and wood fragments with red brick. Wood at4.2-4.5m MADE GROUND
					4.50	52.23		Off white grey and black chalk with ashy or possibly fine organic matter in matrix MADE GROUND
					5.00	51.73		End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS403** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468054E - 111977N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.75	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	56.65		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
		0.30 - 0.50	ES					Brown clay with some fine to medium flint gravel and rare red brick fragments MADE GROUND
					1.10	55.65		Grey clay with clinker ah red brick fragments and occasional wood fragments MADE GROUND
		1.50 - 1.60	ES					
					1.70	55.05		Brown and grey clay with occasional gravel of flint and chalk and occasional inclusions of possible ash ferruginous fragments and red brick MADE GROUND
		2.40 - 2.60	ES					
					3.90	52.85		Off white CHALK recovered as structureless mass with some localised orange brown staining CIRIA Grade DM
					5.00	51.75		End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

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Borehole Log

Borehole No.
WS404
Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468054E - 111963N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 58.00	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.40	ES		0.10	57.90		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
								Dark grey silty gravelly clay. Gravel of flint and brick MADE GROUND
					0.60	57.40		Stiff light grey and orange brown mottled silty CLAY. Becoming very gravelly from 1.7m bgl
		1.10 - 1.30	ES					
					1.90	56.10		White CHALK composed of silt chalk matrix with moderately strong chalk clasts. Unable to penetrate beyond 2.5m bgl CIRIA Grade DM/CM
					2.80	55.20		End of Borehole at 2.80m

1 2 3 4 5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks
No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS405** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords:	468038E - 111989N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level:	56.56	Scale 1:25
Client:	Grainger plc		Dates:	15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.20	ES					Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
					0.20	56.36		
		0.40 - 0.60	ES					Brown and grey clay with occasional roots flint gravel decomposed plant remains and wood MADE GROUND
					1.00	55.56		
		1.20	ES					Grey clay with gravel of flint red brick and concrete MADE GROUND
					2.50	54.06		
								off white chalk recovered as structureless mass with some localised orange brown staining and flint CIRIA Grade DM
					3.00	53.56		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS406** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords:	468060E - 111985N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level:	56.79	Scale 1:25
Client:	Grainger plc		Dates:	15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.50	ES		0.10	56.69		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
								Brown and grey mottled silty clay with pockets of sandy gravel of concrete occasional red brick and ash and rare wood MADE GROUND
								Bituminous felt (roofing felt) fragments
		1.60 - 1.90	ES					
		3.10 - 3.50	ES		3.10	53.69		Dark grey to black clay with decomposed wood and plant fragments with red brick. MADE GROUND
					3.70	53.09		Off white CHALK recovered as structureless mass with some localised orange brown staining CIRIA Grade DM
					5.00	51.79		End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS407** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords:	468073E - 111977N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level:	57.22	Scale 1:25
Client:	Grainger plc		Dates:	15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30 - 0.50	ES		0.10	57.12		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL Brown clay with some to much gravel of flint and red brick MADE GROUND	
		1.00 - 2.00	ES		1.00	56.22		Grey silty sand with much ash charcoal and red brick and occasional glass. Poor recovery MADE GROUND	1
		3.00 - 4.00	ES						2
					4.00	53.22		Off white CHALK recovered as structureless silty matrix with weal chalk clasts of fine to medium gravel size CIRIA Grade DM/CM	3
					5.00	52.22		End of Borehole at 5.00m	4
									5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental

APPENDIX B

Geochemical Laboratory Results

and Statistical Assessment



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2683

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	17-13705
Issue:	1
Date of Issue:	31/08/2017
Contact:	Fiona Goode
Customer Details:	GESL Unit 7 Danworth Farm Hurstpierpoint West SussexBN6 9GL
Quotation No:	Q14-00021
Order No:	2253
Customer Reference:	GE16662
Date Received:	24/08/2017
Date Approved:	31/08/2017
Details:	Woodcroft
Approved by:	

John Wilson, Operations Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683

Sample Summary

Report No.: 17-13705

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
109920	TP201 0.10	23/08/2017	24/08/2017		
109921	TP201 0.50	23/08/2017	24/08/2017		
109922	TP202 0.10	23/08/2017	24/08/2017	Silty loam	
109923	TP202 0.50	23/08/2017	24/08/2017		
109924	TP203 0.10	23/08/2017	24/08/2017		
109925	TP203 0.50	23/08/2017	24/08/2017	Silty clayey loam	
109926	TP204 0.10	22/08/2017	24/08/2017		
109927	TP204 0.50	22/08/2017	24/08/2017	Silty clayey loam	
109928	TP205 0.10	23/08/2017	24/08/2017		
109929	TP205 0.50	23/08/2017	24/08/2017	Clayey loam	
109930	TP206 0.10	23/08/2017	24/08/2017	Silty loam	
109931	TP206 0.50	23/08/2017	24/08/2017		
109932	TP207 0.30	21/08/2017	24/08/2017	Silty clayey loam	
109933	TP208 0.10	21/08/2017	24/08/2017		
109934	TP209 0.10	21/08/2017	24/08/2017		
109935	TP210 0.10	21/08/2017	24/08/2017		
109936	TP211 0.10	22/08/2017	24/08/2017		
109937	TP212 0.20	21/08/2017	24/08/2017		
109938	TP213 1.00	21/08/2017	24/08/2017	Silty loam	
109939	TP214 0.90	21/08/2017	24/08/2017	Silty loam	
109940	TP215 0.30	22/08/2017	24/08/2017	Sandy silty loam	
109941	TP215 2.90	23/08/2017	24/08/2017	Chalk	
109942	TP216 0.60	21/08/2017	24/08/2017		
109943	TP217 0.20	21/08/2017	24/08/2017	Silty clayey loam	
109944	TP218 0.15	21/08/2017	24/08/2017		
109945	TP219 1.00	21/08/2017	24/08/2017		
109946	TP220 0.20	22/08/2017	24/08/2017	Sandy silty loam	
109947	TP220 1.00	22/08/2017	24/08/2017	Silty clayey loam	
109948	TP221 0.10	22/08/2017	24/08/2017	Silty loam	
109949	TP221 0.50	22/08/2017	24/08/2017		
109950	TP222 0.40	21/08/2017	24/08/2017	Silty clayey loam	
109951	TP223 0.40	22/08/2017	24/08/2017	Clayey loam	
109952	TP223 0.50	22/08/2017	24/08/2017	Clayey loam	
109953	TP224 0.20	22/08/2017	24/08/2017	Sandy silty loam + Chalk	
109954	TP224 2.20	22/08/2017	24/08/2017	Silty loam	
109955	TP225 0.25	23/08/2017	24/08/2017	Sandy silty loam	
109956	TP225 0.30	23/08/2017	24/08/2017	Sandy loam	
109957	TP226 0.10	21/08/2017	24/08/2017	Silty loam	c
109958	TP227 0.10	21/08/2017	24/08/2017		
109959	TP228 0.15	22/08/2017	24/08/2017	Silty loam	
109960	TP229 0.60	21/08/2017	24/08/2017	Loamy sand	
109961	TP230 0.30	21/08/2017	24/08/2017		
109962	TP231 0.40	21/08/2017	24/08/2017	Sandy silty loam	
109963	TP232 0.10	21/08/2017	24/08/2017	Silty loam	
109964	TP233 0.40	21/08/2017	24/08/2017	Silty clayey loam	
109965	TP234 0.30	21/08/2017	24/08/2017	Silty loam	
109966	TP235 0.50	22/08/2017	24/08/2017	Loamy sand	
109967	TP236 0.30	21/08/2017	24/08/2017	Loamy sand	
109968	TP237 0.40	21/08/2017	24/08/2017	Silty loam	
109969	TP238 0.80	21/08/2017	24/08/2017		
109970	TP239 0.20	23/08/2017	24/08/2017	Sandy loam	
109971	TP239 0.50	23/08/2017	24/08/2017		
109972	TP239 1.50	23/08/2017	24/08/2017	Loamy sand	
109973	TP224 0.30	22/08/2017	24/08/2017		

Results Summary

Report No.: 17-13705

	ELAB Reference	109922	109925	109927	109929	109930	109932
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP202	TP203	TP204	TP205	TP206	TP207
	Sample Depth (m)	0.10	0.50	0.50	0.50	0.10	0.30
	Sampling Date	23/08/2017	23/08/2017	22/08/2017	23/08/2017	23/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	9.5	11.1	9.9	12.1	4.5	11.8
Barium	U / mg/kg / 10	34.6	48.8	45.9	17.2	16.7	30.1
Beryllium	U / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	34.7	60.8	53.7	30.9	12.4	38.0
Copper	M / mg/kg / 5	20.3	29.5	23.9	14.6	8.0	20.3
Lead	M / mg/kg / 5	21.0	24.3	18.8	27.0	11.5	15.3
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	18.3	21.5	22.0	8.9	5.4	9.2
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium	M / mg/kg / 5	33.5	86.7	77.1	69.9	23.4	54.1
Zinc	M / mg/kg / 5	41.1	52.1	58.4	28.8	17.6	27.1
Anions							
Water Soluble Chloride	M / mg/kg / 40	48	54	45	53	< 40	70
Water Soluble Sulphate	M / g/l / 0.02	0.06	0.05	0.04	0.04	0.03	0.05
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.07	0.11	0.04	0.07	0.04	0.05
Water Soluble Boron	N / mg/kg / 0.5	0.8	0.5	< 0.5	0.8	< 0.5	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	n/t	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
pH	M / pH units / 0.1	7.7	7.4	7.5	5.7	5.7	7.6
Total Organic Carbon	N / % / 0.01	0.50	0.54	0.23	0.19	0.36	0.19
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	0.9	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M / mg/kg / 0.1	0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M / mg/kg / 0.4	1.1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

	ELAB Reference	109922	109925	109927	109929	109930	109932
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP202	TP203	TP204	TP205	TP206	TP207
	Sample Depth (m)	0.10	0.50	0.50	0.50	0.10	0.30
	Sampling Date	23/08/2017	23/08/2017	22/08/2017	23/08/2017	23/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
BTEX							
Benzene	M / ug/kg / 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M / ug/kg / 10	35.9	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M / ug/kg / 10	40.3	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M / ug/kg / 10	312	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Total BTEX	M / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
TPH CWG							
>C5-C6 Aliphatic	N / mg/kg / 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N / mg/kg / 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N / mg/kg / 1	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N / mg/kg / 1	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N / mg/kg / 1	2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N / mg/kg / 1	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N / mg/kg / 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N / mg/kg / 0.01	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N / mg/kg / 1	9.0	< 1.0	3.2	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N / mg/kg / 1	14.4	< 1.0	5.3	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N / mg/kg / 1	3.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N / mg/kg / 1	35.5	< 1.0	8.5	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons							
Mineral Oil	U / mg/kg / 5	n/t	n/t	n/t	n/t	n/t	n/t
PCB (ICES 7 congeners)							
PCB (Total of 7 Congeners)	M / mg/kg / 0.03	n/t	n/t	n/t	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

	ELAB Reference	109938	109939	109940	109941	109943	109946
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP213	TP214	TP215	TP215	TP217	TP220
	Sample Depth (m)	1.00	0.90	0.30	2.90	0.20	0.20
	Sampling Date	21/08/2017	21/08/2017	22/08/2017	23/08/2017	21/08/2017	22/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	9.0	13.8	10.4	^ 4.7	32.6	25.7
Barium	U / mg/kg / 10	61.4	72.5	162	11.5	86.2	373
Beryllium	U / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	2.5	3.0
Cadmium	M / mg/kg / 0.5	0.5	< 0.5	0.8	^ 0.6	< 0.5	1.1
Chromium	M / mg/kg / 5	18.4	36.4	26.0	^ 8.6	63.2	36.9
Copper	M / mg/kg / 5	14.7	20.4	22.0	^ 6.9	37.4	93.0
Lead	M / mg/kg / 5	62.6	56.0	44.4	^ < 5.0	24.3	170
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	^ < 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	16.7	19.4	18.0	^ 11.8	19.1	56.2
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	^ < 1.0	< 1.0	< 1.0
Vanadium	M / mg/kg / 5	27.7	59.1	32.2	^ 7.8	117	133
Zinc	M / mg/kg / 5	72.7	101	121	^ 15.9	30.3	335
Anions							
Water Soluble Chloride	M / mg/kg / 40	< 40	50	55	^ < 40	53	< 40
Water Soluble Sulphate	M / g/l / 0.02	0.03	0.30	0.16	^ 0.04	0.05	0.03
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	1050	< 20	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	8	< 2	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	^ < 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.07	0.13	0.11	0.04	0.06	0.08
Water Soluble Boron	N / mg/kg / 0.5	0.6	1.7	0.6	< 0.5	< 0.5	1.0
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	n/t	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
pH	M / pH units / 0.1	8.4	8.0	10.0	^ 8.8	8.2	8.2
Total Organic Carbon	N / % / 0.01	0.49	0.92	0.47	0.02	0.32	4.9
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	0.2
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	0.3	^ < 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	0.3	^ < 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	0.4	0.2	2.4	^ < 0.1	< 0.1	0.3
Anthracene	M / mg/kg / 0.1	0.1	< 0.1	0.9	^ < 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	1.3	0.6	5.9	^ < 0.1	< 0.1	0.7
Pyrene	M / mg/kg / 0.1	1.3	0.6	5.1	^ 0.1	< 0.1	0.8
Benzo(a)anthracene	M / mg/kg / 0.1	0.8	0.3	2.9	^ < 0.1	< 0.1	0.4
Chrysene	M / mg/kg / 0.1	0.8	0.4	3.0	^ < 0.1	< 0.1	0.5
Benzo (b) fluoranthene	M / mg/kg / 0.1	1.1	< 0.1	3.0	^ < 0.1	< 0.1	0.6
Benzo(k)fluoranthene	M / mg/kg / 0.1	1.0	< 0.1	2.9	^ < 0.1	< 0.1	0.6
Benzo (a) pyrene	M / mg/kg / 0.1	1.0	0.4	3.1	^ 0.2	< 0.1	0.5
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	0.9	0.2	2.2	^ < 0.1	< 0.1	0.4
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	0.5	0.2	0.6	^ < 0.1	< 0.1	0.2
Benzo[g,h,i]perylene	M / mg/kg / 0.1	0.9	0.3	2.1	^ < 0.1	< 0.1	0.5
Total PAH(16)	M / mg/kg / 0.4	10.4	3.2	34.6	^ < 0.4	< 0.4	5.8
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109938	109939	109940	109941	109943	109946
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP213	TP214	TP215	TP215	TP217	TP220
			Sample Depth (m)	1.00	0.90	0.30	2.90	0.20	0.20
			Sampling Date	21/08/2017	21/08/2017	22/08/2017	23/08/2017	21/08/2017	22/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	2.9	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	14.4	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	2.1	< 1.0	18.8	9.2	< 1.0	3.3
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	3.5	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	6.9	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	7.1	< 1.0	28.2	10.9	< 1.0	7.2
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	14.6	< 1.0	< 1.0	1.8
Total (>C5-C40) Ali/Aro	N	mg/kg	1	9.3	< 1.0	65.1	44.4	< 1.0	12.3
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

	ELAB Reference	109947	109948	109950	109951	109952	109953
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP220	TP221	TP222	TP223	TP223	TP224
	Sample Depth (m)	1.00	0.10	0.40	0.40	0.50	0.20
	Sampling Date	22/08/2017	22/08/2017	21/08/2017	22/08/2017	22/08/2017	22/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	11.0	8.6	12.1	9.5	n/t	^ 7.8
Barium	U / mg/kg / 10	99.6	42.6	45.7	30.9	n/t	65.4
Beryllium	U / mg/kg / 1	1.2	< 1.0	< 1.0	1.0	n/t	< 1.0
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	n/t	^ 0.5
Chromium	M / mg/kg / 5	39.5	24.2	42.3	33.0	n/t	^ 19.5
Copper	M / mg/kg / 5	21.6	26.3	20.6	19.7	n/t	^ 16.4
Lead	M / mg/kg / 5	20.1	26.5	16.9	18.1	n/t	^ 37.9
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	n/t	^ < 0.5
Nickel	M / mg/kg / 5	20.6	15.2	17.4	20.4	n/t	^ 16.4
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	^ < 1.0
Vanadium	M / mg/kg / 5	74.6	37.3	62.6	41.2	n/t	^ 27.3
Zinc	M / mg/kg / 5	39.7	53.8	43.6	41.0	n/t	^ 51.1
Anions							
Water Soluble Chloride	M / mg/kg / 40	48	41	49	92	n/t	^ 167
Water Soluble Sulphate	M / g/l / 0.02	0.08	0.04	0.04	0.06	n/t	^ 0.09
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	< 20	< 20	n/t	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	n/t	< 0.8
Total Sulphide	N / mg/kg / 2	4	< 2	< 2	< 2	n/t	< 2
Total Cyanide	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	^ < 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.07	0.06	0.05	0.06	n/t	0.07
Water Soluble Boron	N / mg/kg / 0.5	< 0.5	0.5	< 0.5	0.5	n/t	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	n/t	n/t	< 0.1	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	n/t	n/t	2.82	n/t
pH	M / pH units / 0.1	7.3	7.7	7.5	8.3	7.7	^ 8.3
Total Organic Carbon	N / % / 0.01	0.29	0.69	0.19	0.15	0.18	0.10
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	< 6	< 6	n/t	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.5
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.1
Fluoranthene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 1.0
Pyrene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 0.9
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.6
Chrysene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 0.7
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.6
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 0.6
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	0.2	< 0.1	n/t	^ 0.6
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	0.2	< 0.1	n/t	^ 0.6
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	0.3	< 0.1	n/t	^ 0.2
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.5
Total PAH(16)	M / mg/kg / 0.4	< 0.4	< 0.4	0.9	< 0.4	n/t	^ 7.0
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	n/t	n/t	< 2	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109947	109948	109950	109951	109952	109953
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP220	TP221	TP222	TP223	TP223	TP224
			Sample Depth (m)	1.00	0.10	0.40	0.40	0.50	0.20
			Sampling Date	22/08/2017	22/08/2017	21/08/2017	22/08/2017	22/08/2017	22/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t	n/t	< 0.01	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	11.3
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	5.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	1.5
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	41.2
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	28.5
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	87.5
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t	n/t	< 5	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t	n/t	< 0.03	n/t

Results Summary

Report No.: 17-13705

	ELAB Reference	109954	109955	109956	109957	109959	109960
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP224	TP225	TP225	TP226	TP228	TP229
	Sample Depth (m)	2.20	0.25	0.30	0.10	0.15	0.60
	Sampling Date	22/08/2017	23/08/2017	23/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	6.6	13.2	n/t	11.5	10.4	38.2
Barium	U / mg/kg / 10	63.4	124	n/t	46.0	40.0	51.2
Beryllium	U / mg/kg / 1	1.1	< 1.0	n/t	< 1.0	< 1.0	1.8
Cadmium	M / mg/kg / 0.5	< 0.5	0.5	n/t	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	28.9	52.8	n/t	21.7	19.5	37.3
Copper	M / mg/kg / 5	18.4	59.3	n/t	16.1	12.2	23.7
Lead	M / mg/kg / 5	18.5	82.9	n/t	25.9	23.7	18.9
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	30.5	43.4	n/t	24.5	19.1	52.0
Selenium	M / mg/kg / 1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	1.1
Vanadium	M / mg/kg / 5	41.5	32.9	n/t	33.8	33.8	61.2
Zinc	M / mg/kg / 5	64.4	230	n/t	64.7	50.3	98.9
Anions							
Water Soluble Chloride	M / mg/kg / 40	56	140	n/t	65	< 40	< 40
Water Soluble Sulphate	M / g/l / 0.02	0.04	0.35	n/t	0.11	0.04	0.03
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	n/t	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	n/t	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	< 2	n/t	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	1.0	1.1	n/t	2.4	1.1	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.05	0.77	n/t	0.12	0.07	0.05
Water Soluble Boron	N / mg/kg / 0.5	< 0.5	0.7	n/t	0.6	0.7	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	0.2	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	2.63	n/t	n/t	n/t
pH	M / pH units / 0.1	7.7	11.1	11.4	9.2	7.4	7.2
Total Organic Carbon	N / % / 0.01	0.33	0.41	0.40	1.1	0.69	0.10
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	n/t	c < 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	0.4	n/t	c < 0.1	< 0.1	< 0.1
Anthracene	M / mg/kg / 0.1	< 0.1	0.1	n/t	c < 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	0.2	1.2	n/t	c 0.3	< 0.1	< 0.1
Pyrene	M / mg/kg / 0.1	< 0.1	1.1	n/t	c 0.3	0.1	< 0.1
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	0.8	n/t	c 0.2	< 0.1	< 0.1
Chrysene	M / mg/kg / 0.1	< 0.1	0.9	n/t	c 0.2	< 0.1	< 0.1
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	0.9	n/t	c 0.3	< 0.1	< 0.1
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	1.0	n/t	c 0.5	< 0.1	< 0.1
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	1.0	n/t	c 0.3	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	0.8	n/t	c 0.3	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	0.3	n/t	c 0.3	< 0.1	< 0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	0.8	n/t	c 0.2	< 0.1	< 0.1
Total PAH(16)	M / mg/kg / 0.4	< 0.4	9.4	n/t	c 3.0	< 0.4	< 0.4
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	25	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

			ELAB Reference	109954	109955	109956	109957	109959	109960
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP224	TP225	TP225	TP226	TP228	TP229
			Sample Depth (m)	2.20	0.25	0.30	0.10	0.15	0.60
			Sampling Date	22/08/2017	23/08/2017	23/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	< 0.01	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	6.4	n/t	c < 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	12.3	n/t	c 3.4	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	4.2	n/t	c 1.4	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	22.9	n/t	c 4.9	< 1.0	< 1.0
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	11	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	< 0.03	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

	ELAB Reference	109962	109963	109964	109965	109966	109967
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP231	TP232	TP233	TP234	TP235	TP236
	Sample Depth (m)	0.40	0.10	0.40	0.30	0.50	0.30
	Sampling Date	21/08/2017	21/08/2017	21/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	33.1	5.6	n/t	6.9	14.7	30.4
Barium	U / mg/kg / 10	31.8	27.5	n/t	30.8	18.9	38.8
Beryllium	U / mg/kg / 1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	1.5
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	31.6	17.6	n/t	21.3	13.2	41.5
Copper	M / mg/kg / 5	17.8	12.8	n/t	12.5	8.9	22.0
Lead	M / mg/kg / 5	14.6	17.3	n/t	26.3	12.9	19.6
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	18.9	14.3	n/t	8.2	7.2	30.2
Selenium	M / mg/kg / 1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
Vanadium	M / mg/kg / 5	63.1	26.9	n/t	33.7	27.5	84.2
Zinc	M / mg/kg / 5	38.5	38.3	n/t	37.5	25.8	71.7
Anions							
Water Soluble Chloride	M / mg/kg / 40	42	< 40	n/t	41	44	< 40
Water Soluble Sulphate	M / g/l / 0.02	0.03	0.03	n/t	0.03	0.03	< 0.02
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	n/t	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	n/t	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	< 2	n/t	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	1.1	1.3	n/t	1.6	1.8	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.06	0.08	n/t	0.07	0.05	0.07
Water Soluble Boron	N / mg/kg / 0.5	< 0.5	0.6	n/t	1.0	< 0.5	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	< 0.1	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	1.81	n/t	n/t	n/t
pH	M / pH units / 0.1	6.2	6.6	6.7	6.2	5.9	5.3
Total Organic Carbon	N / % / 0.01	0.30	1.4	0.15	1.4	0.14	0.10
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	n/t	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Pyrene	M / mg/kg / 0.1	0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Chrysene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	0.3	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	0.2	< 0.1	< 0.1
Total PAH(16)	M / mg/kg / 0.4	< 0.4	< 0.4	n/t	0.7	< 0.4	< 0.4
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	< 2	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109962	109963	109964	109965	109966	109967
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP231	TP232	TP233	TP234	TP235	TP236
			Sample Depth (m)	0.40	0.10	0.40	0.30	0.50	0.30
			Sampling Date	21/08/2017	21/08/2017	21/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	< 0.01	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	< 5	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	< 0.03	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109968	109970	109972
			Customer Reference			
			Sample ID			
			Sample Type	SOIL	SOIL	SOIL
			Sample Location	TP237	TP239	TP239
			Sample Depth (m)	0.40	0.20	1.50
			Sampling Date	21/08/2017	23/08/2017	23/08/2017
Determinand	**Codes**	**Units**	**LOD**			
Metals						
Arsenic	M	mg/kg	1	14.1	4.5	17.5
Barium	U	mg/kg	10	81.7	33.9	42.2
Beryllium	U	mg/kg	1	1.4	< 1.0	1.3
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	40.8	17.4	32.7
Copper	M	mg/kg	5	21.1	13.1	15.9
Lead	M	mg/kg	5	16.2	13.4	20.1
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	28.8	11.3	21.3
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5	58.3	18.4	90.2
Zinc	M	mg/kg	5	62.9	31.0	43.6
Anions						
Water Soluble Chloride	M	mg/kg	40	54	126	107
Water Soluble Sulphate	M	g/l	0.02	0.03	0.10	0.04
Inorganics						
Elemental Sulphur	N	mg/kg	20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.04	0.04	0.10
Water Soluble Boron	N	mg/kg	0.5	< 0.5	0.5	< 0.5
Miscellaneous						
Acid Neutralisation Capacity	N	mol/kg	0.1	n/t	n/t	n/t
Loss On Ignition (450°C)	M	%	0.01	n/t	n/t	n/t
pH	M	pH units	0.1	6.6	8.8	7.9
Total Organic Carbon	N	%	0.01	0.16	0.21	0.09
Phenols						
Total Phenols	N	mg/kg	6	< 6	< 6	< 6
Polyaromatic hydrocarbons						
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	0.6	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	0.7	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	0.6	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	0.3	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	0.4	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	5.2	< 0.4
Total PAH (Including Coronene)	N	mg/kg	2	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

			ELAB Reference	109968	109970	109972
			Customer Reference			
			Sample ID			
			Sample Type	SOIL	SOIL	SOIL
			Sample Location	TP237	TP239	TP239
			Sample Depth (m)	0.40	0.20	1.50
			Sampling Date	21/08/2017	23/08/2017	23/08/2017
Determinand	**Codes**	**Units**	**LOD**			
BTEX						
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t
TPH CWG						
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	4.6	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	4.6	< 1.0
Total Petroleum Hydrocarbons						
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t
PCB (ICES 7 congeners)						
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

WAC Analysis								
Elab Ref:	109964					**Landfill Waste Acceptance Criteria Limits**		
Sample Date:	21/08/2017					**Inert Waste Landfill**	**Stable Non-reactive Hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:	TP233							
Depth (m)	0.4							
Site:	Woodcroft							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.15	3	5	6
Loss on Ignition		M	%		1.8	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		< 5	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			6.7	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	< 0.005		< 0.05	0.5	2	25
Barium		N	< 0.005		< 0.05	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	< 0.005		< 0.05	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	< 0.001		< 0.05	0.4	10	40
Lead		N	< 0.001		< 0.05	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	< 0.005		< 0.05	4	50	200
Chloride		N	< 5		< 50	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	5		45.70	1000	20000	50000
Total Dissolved Solids		N	< 10		< 100	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	9.780		98.00	500	800	1000
Leach Test Information								
pH		N	5.7					
Conductivity (uS/cm)		N	28					
Dry mass of test portion (g)			100.000					
Dry Matter (%)			83					
Moisture (%)			21					
Eluent Volume (ml)			952					

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ELAB cannot be held responsible for any discrepencies with current legislation

Results Summary

Report No.: 17-13705

WAC Analysis								
Elab Ref:	109956					**Landfill Waste Acceptance Criteria Limits**		
Sample Date:	23/08/2017					**Inert Waste Landfill**	**Stable Non-reactive Hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:	TP225							
Depth (m)	0.3							
Site:	Woodcroft							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.40	3	5	6
Loss on Ignition		M	%		2.6	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		11	500	--	--
Total (of 17) PAHs		N	mg/kg		25.0	100	--	--
pH		M			11.4	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		0.2	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	0.009		0.09	0.5	2	25
Barium		N	0.010		0.10	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	0.016		0.16	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	0.003		< 0.05	0.4	10	40
Lead		N	0.007		0.07	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	0.016		0.16	4	50	200
Chloride		N	7		67.00	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	12		120.00	1000	20000	50000
Total Dissolved Solids		N	< 10		< 100	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	12.300		123.00	500	800	1000
Leach Test Information								
pH		N	8.3					
Conductivity (uS/cm)		N	154					
Dry mass of test portion (g)			100.000					
Dry Matter (%)			81					
Moisture (%)			24					
Eluent Volume (ml)			953					

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ELAB cannot be held responsible for any discrepencies with current legislation

Results Summary

Report No.: 17-13705

WAC Analysis								
Elab Ref:	109952					**Landfill Waste Acceptance Criteria Limits**		
Sample Date:	22/08/2017					**Inert Waste Landfill**	**Stable Non-reactive Hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:	TP223							
Depth (m)	0.5							
Site:	Woodcroft							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.18	3	5	6
Loss on Ignition		M	%		2.8	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		< 5	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			7.7	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	< 0.005		< 0.05	0.5	2	25
Barium		N	< 0.005		< 0.05	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	0.011		0.11	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	0.003		< 0.05	0.4	10	40
Lead		N	< 0.001		< 0.05	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	< 0.005		< 0.05	4	50	200
Chloride		N	6		65.00	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	6		58.00	1000	20000	50000
Total Dissolved Solids		N	< 10		< 100	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	54.400		544.00	**500**	800	1000
Leach Test Information								
pH		N	7.7					
Conductivity (uS/cm)		N	117					
Dry mass of test portion (g)			100.000					
Dry Matter (%)			79					
Moisture (%)			27					
Eluent Volume (ml)			931					

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ELAB cannot be held responsible for any discrepencies with current legislation

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Results Summary

Report No.: 17-13705

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #)
in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
109922	0.10	TP202	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
109925	0.50	TP203	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
109927	0.50	TP204	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
109929	0.50	TP205	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
109930	0.10	TP206	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
109932	0.30	TP207	Clay, stones	No asbestos detected	n/t	n/t	n/t	n/t
109938	1.00	TP213	Brown sandy soil, stones, concrete, brick, clinker	Chrysotile Crocidolite (asbestos cement)	2.66	Asbestos cement (2.663%)	< 0.001	2.66
109939	0.90	TP214	Brown sandy soil, stones, brick, clinker, wood	No asbestos detected	n/t	n/t	n/t	n/t
109940	0.30	TP215	Brown sandy soil, stones, concrete, brick, clinker	No asbestos detected	n/t	n/t	n/t	n/t
109941	2.90	TP215	Chalk, stones	No asbestos detected	n/t	n/t	n/t	n/t
109943	0.20	TP217	Clay, stones	No asbestos detected	n/t	n/t	n/t	n/t
109946	0.20	TP220	Brown sandy soil, stones, chalk, brick, clinker	No asbestos detected	n/t	n/t	n/t	n/t
109947	1.00	TP220	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
109948	0.10	TP221	Brown sandy soil, stones, chalk, organics	No asbestos detected	n/t	n/t	n/t	n/t
109950	0.40	TP222	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109951	0.40	TP223	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109953	0.20	TP224	Brown soil,Stones,Brick	No asbestos detected	n/t	n/t	n/t	n/t
109954	2.20	TP224	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
109955	0.25	TP225	Brown sandy soil,Stones,Brick	Chrysotile (Cement Fragment)	3.54	Cement Fragment (3.543)	< 0.001	3.54
109957	0.10	TP226	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
109959	0.15	TP228	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109960	0.60	TP229	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
109962	0.40	TP231	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109963	0.10	TP232	Brown soil,stones	No asbestos detected	n/t	n/t	n/t	n/t
109965	0.30	TP234	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109966	0.50	TP235	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
109967	0.30	TP236	Brown sandy soil,stones	No asbestos detected	n/t	n/t	n/t	n/t
109968	0.40	TP237	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109970	0.20	TP239	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109971	0.50	TP239	Cement fragment	Chrysotile	25.0	Cement Fragment (25)	< 0.001	25.0
109972	1.50	TP239	Sand	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 17-13705

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	25/08/2017	109	Colorimetry
Hexavalent chromium	N	As submitted sample	25/08/2017	110	Colorimetry
Acid Soluble Sulphate	U	Air dried sample	29/08/2017	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	25/08/2017	118	ICPMS
Phenols in solids	N	As submitted sample	25/08/2017	121	HPLC
Elemental Sulphur	N	Air dried sample	25/08/2017	122	HPLC
PAH (GC-FID)	M	As submitted sample	29/08/2017	133	GC-FID
Water soluble anions	M	Air dried sample	25/08/2017	172	Ion Chromatography
Water soluble boron	N	Air dried sample	25/08/2017	202	Colorimetry
Total cyanide	M	As submitted sample	25/08/2017	204	Colorimetry
Aliphatic hydrocarbons in soil	N	As submitted sample	29/08/2017	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	29/08/2017	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	29/08/2017	214	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	25/08/2017	214	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	25/08/2017	214	GC-MS
Asbestos identification	U	As submitted sample	25/08/2017	260	Microscopy
Leachate					
Arsenic*	N		30/08/2017	101	ICPMS
Cadmium*	N		30/08/2017	101	ICPMS
Chromium*	N		30/08/2017	101	ICPMS
Lead*	N		30/08/2017	101	ICPMS
Nickel*	N		30/08/2017	101	ICPMS
Copper*	N		30/08/2017	101	ICPMS
Zinc*	N		30/08/2017	101	ICPMS
Mercury*	N		30/08/2017	101	ICPMS
Selenium*	N		30/08/2017	101	ICPMS
Antimony	N		30/08/2017	101	ICPMS
Barium*	N		30/08/2017	101	ICPMS
Molybdenum*	N		30/08/2017	101	ICPMS
pH Value*	N		30/08/2017	113	Electrometric
Electrical Conductivity*	N		30/08/2017	136	Probe
Dissolved Organic Carbon	N		30/08/2017	102	TOC analyser
Chloride*	N		30/08/2017	131	Ion Chromatography
Fluoride*	N		30/08/2017	131	Ion Chromatography
Sulphate*	N		30/08/2017	131	Ion Chromatography
Total Dissolved Solids	N		30/08/2017	144	Gravimetric
Phenol index	N		30/08/2017	121	HPLC
WAC Solids analysis	N				
pH Value**	M	Air dried sample	29/08/2017	113	Electrometric
Total Organic Carbon	N	Air dried sample	29/08/2017	210	IR
Loss on Ignition**	M	Air dried sample	30/08/2017	129	Gravimetric
Acid Neutralization Capacity to pH 7	N	Air dried sample	29/08/2017	NEN 737	Electrometric
Total BTEX**	M	As submitted sample	25/08/2017	181	GCMS
Mineral Oil**	U	As submitted sample	29/08/2017	117	GCFID
Total PCBs (7 congeners)	M	Air dried sample	25/08/2017	120	GCMS
Total PAH (17)**	N	As submitted sample	29/08/2017	133	GCFID

Tests marked N are not UKAS accredited

Report Information

Report No.: 17-13705

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C)
Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

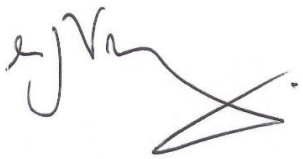
Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage

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2683

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	18-17643
Issue:	1
Date of Issue:	30/05/2018
Contact:	Fiona Goode
Customer Details:	GESL Unit 7 Danworth Farm Hurstpierpoint West Sussex BN6 9GL
Quotation No:	Q14-00021
Order No:	PO-0331
Customer Reference:	GE16943
Date Received:	21/05/2018
Date Approved:	30/05/2018
Details:	Woodcroft, Waterlooville
Approved by:	

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

Sample Summary

Report No.: 18-17643

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
136637	WS401 0.60 - 0.80	15/05/2018	21/05/2018	Clayey loam	
136638	WS401 1.40 - 1.70	15/05/2018	21/05/2018	Silty loam	
136639	WS401 2.30 - 2.60	15/05/2018	21/05/2018	Silty loam	
136640	WS402 0.50	15/05/2018	21/05/2018	Silty clayey loam	
136641	WS402 1.50	15/05/2018	21/05/2018	Silty loam	
136642	WS402 2.50	15/05/2018	21/05/2018	Silty clayey loam	
136643	WS402 3.70 - 4.00	15/05/2018	21/05/2018	Silty loam	
136644	WS403 0.30 - 0.50	15/05/2018	21/05/2018	Silty clayey loam	
136645	WS403 1.50 - 1.60	15/05/2018	21/05/2018	Silty clayey loam	
136646	WS403 2.40 - 2.60	15/05/2018	21/05/2018	Silty loam	
136647	WS404 0.20 - 0.40	15/05/2018	21/05/2018	Silty loam	
136648	WS404 1.10 - 1.30	15/05/2018	21/05/2018	Clayey loam	
136649	WS405 0.00 - 0.20	15/05/2018	21/05/2018	Silty loam	
136650	WS405 0.40 - 0.60	15/05/2018	21/05/2018	Silty clayey loam	
136651	WS405 1.20	15/05/2018	21/05/2018	Silty clayey loam	
136652	WS406 0.20 - 0.50	15/05/2018	21/05/2018	Silty loam	
136653	WS406 1.60 - 1.90	15/05/2018	21/05/2018	Silty loam	
136654	WS406 3.10 - 3.50	15/05/2018	21/05/2018	Silty loam	
136655	WS407 0.30 - 0.50	15/05/2018	21/05/2018	Sandy silty loam	
136656	WS407 1.00 - 2.00	15/05/2018	21/05/2018	Silty loam	
136657	WS407 3.00 - 4.00	15/05/2018	21/05/2018	Silty loam	
136658	TP301 0.25	16/05/2018	21/05/2018	Silty loam	
136659	TP301 0.40	16/05/2018	21/05/2018	Silty loam	
136660	TP301 1.40	16/05/2018	21/05/2018	Silty loam	
136661	TP302 0.20	16/05/2018	21/05/2018	Silty loam	
136662	TP302 0.50	16/05/2018	21/05/2018	Silty clayey loam	
136663	TP302 1.30	16/05/2018	21/05/2018	Silty loam	
136664	TP302 2.70	16/05/2018	21/05/2018	Silty loam	
136665	TP303 0.30	16/05/2018	21/05/2018	Silty loam	
136666	TP303 0.70	16/05/2018	21/05/2018	Silty clayey loam	
136667	TP303 1.90	16/05/2018	21/05/2018	chalk	
136668	TP304 0.30	16/05/2018	21/05/2018	Silty loam	
136669	TP304 1.20	16/05/2018	21/05/2018	Silty clayey loam	
136670	TP305 0.80	16/05/2018	21/05/2018	Clayey loam	
136671	TP305 1.10	16/05/2018	21/05/2018	Clayey loam	
136672	TP306 0.20	15/05/2018	21/05/2018	Silty loam	
136673	TP306 0.40	15/05/2018	21/05/2018	Silty loam	
136674	TP306 0.80	15/05/2018	21/05/2018	Sandy silty loam	
136675	TP307 0.30	15/05/2018	21/05/2018	Silty loam	
136676	TP307 0.80	15/05/2018	21/05/2018	Silty clayey loam	
136677	TP307 1.20	15/05/2018	21/05/2018	Sand	
136678	TP308 0.10	15/05/2018	21/05/2018	Silty loam	
136679	TP308 0.30	15/05/2018	21/05/2018	Sandy silty loam	
136680	TP308 0.70	15/05/2018	21/05/2018	Silty clayey loam	
136681	TP309 0.25	15/05/2018	21/05/2018	Silty loam	
136682	TP309 0.50	15/05/2018	21/05/2018	Silty loam	
136683	TP309 0.65	15/05/2018	21/05/2018	Silty clayey loam	
136684	TP310 0.20	15/05/2018	21/05/2018	Silty loam	
136685	TP310 0.50	15/05/2018	21/05/2018	Silty loam	
136686	TP310 1.50	15/05/2018	21/05/2018	chalk	
136687	TP311 0.20	15/05/2018	21/05/2018	Silty loam	
136688	TP311 0.40	15/05/2018	21/05/2018	Silty loam	
136689	TP311 0.80	15/05/2018	21/05/2018	Silty loam	
136690	TP312 0.20	17/05/2018	21/05/2018	Silty loam	
136691	TP312 0.90	17/05/2018	21/05/2018	Silty loam	
136692	TP312 1.45	17/05/2018	21/05/2018	Silty clayey loam	
136693	TP313 0.25	17/05/2018	21/05/2018	Silty loam + chalk	
136694	TP313 0.50	17/05/2018	21/05/2018	Sandy silty loam	
136695	TP313 1.55	17/05/2018	21/05/2018	Loamy sand	
136696	TP314 0.30	17/05/2018	21/05/2018	Clayey loam	
136697	TP314 0.70	17/05/2018	21/05/2018	Silty loam	
136698	TP314 1.60	17/05/2018	21/05/2018	Silty clayey loam	
136699	TP315 0.20	17/05/2018	21/05/2018	Silty loam	
136700	TP315 0.60	17/05/2018	21/05/2018	Silty loam	

Sample Summary

Report No.: 18-17643

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
136701	TP315 2.30	17/05/2018	21/05/2018	Clayey loam	
136702	TP316 0.20	17/05/2018	21/05/2018	Sandy silty loam	
136703	TP316 0.90	17/05/2018	21/05/2018	Silty clayey loam	
136704	TP316 1.90	17/05/2018	21/05/2018	Clayey loam	
136705	TP317 0.15	17/05/2018	21/05/2018	Silty loam	
136706	TP317 0.65	17/05/2018	21/05/2018	Clayey loam	
136707	TP317 1.40	17/05/2018	21/05/2018	Sandy loam	
136708	TP318 0.15	17/05/2018	21/05/2018	Silty loam	
136709	TP318 0.70	17/05/2018	21/05/2018	Silty clayey loam	
136710	TP319 1.80	17/05/2018	21/05/2018	Clayey loam	

Results Summary

Report No.: 18-17643

			ELAB Reference	136637	136638	136639	136640	136641	136642
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS401	WS401	WS401	WS402	WS402	WS402
			Sample Depth (m)	0.60 - 0.80	1.40 - 1.70	2.30 - 2.60	0.50	1.50	2.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.51	1.9	2.2	0.47	1.4	0.49
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136637	136638	136639	136640	136641	136642
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS401	WS401	WS401	WS402	WS402	WS402
			Sample Depth (m)	0.60 - 0.80	1.40 - 1.70	2.30 - 2.60	0.50	1.50	2.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

	ELAB Reference	136643	136644	136645	136646	136647	136648
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	WS402	WS403	WS403	WS403	WS404	WS404
	Sample Depth (m)	3.70 - 4.00	0.30 - 0.50	1.50 - 1.60	2.40 - 2.60	0.20 - 0.40	1.10 - 1.30
	Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.68	0.61	0.69	0.19	2.5	0.20
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136643	136644	136645	136646	136647	136648
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS402	WS403	WS403	WS403	WS404	WS404
			Sample Depth (m)	3.70 - 4.00	0.30 - 0.50	1.50 - 1.60	2.40 - 2.60	0.20 - 0.40	1.10 - 1.30
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136649	136650	136651	136652	136653	136654
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS405	WS405	WS405	WS406	WS406	WS406
			Sample Depth (m)	0.00 - 0.20	0.40 - 0.60	1.20	0.20 - 0.50	1.60 - 1.90	3.10 - 3.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	1.6	1.0	0.87	0.98	1.4	3.8
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136649	136650	136651	136652	136653	136654
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS405	WS405	WS405	WS406	WS406	WS406
			Sample Depth (m)	0.00 - 0.20	0.40 - 0.60	1.20	0.20 - 0.50	1.60 - 1.90	3.10 - 3.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136655	136656	136657	136658	136659	136660
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS407	WS407	WS407	TP301	TP301	TP301
			Sample Depth (m)	0.30 - 0.50	1.00 - 2.00	3.00 - 4.00	0.25	0.40	1.40
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.72	1.2	2.1	1.7	0.80	2.3
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

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Results Summary

Report No.: 18-17643

			ELAB Reference	136655	136656	136657	136658	136659	136660
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS407	WS407	WS407	TP301	TP301	TP301
			Sample Depth (m)	0.30 - 0.50	1.00 - 2.00	3.00 - 4.00	0.25	0.40	1.40
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

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Results Summary

Report No.: 18-17643

			ELAB Reference	136661	136662	136663	136664	136665	136666
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP302	TP302	TP302	TP302	TP303	TP303
			Sample Depth (m)	0.20	0.50	1.30	2.70	0.30	0.70
			Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.48	0.77	0.64	1.3	2.1	0.21
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

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Results Summary

Report No.: 18-17643

	ELAB Reference	136661	136662	136663	136664	136665	136666
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP302	TP302	TP302	TP302	TP303	TP303
	Sample Depth (m)	0.20	0.50	1.30	2.70	0.30	0.70
	Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes** / **Units** / **LOD**						
TPH CWG							
>C5-C6 Aliphatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136667	136668	136669	136670	136671	136672
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP303	TP304	TP304	TP305	TP305	TP306
			Sample Depth (m)	1.90	0.30	1.20	0.80	1.10	0.20
			Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	9.2
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	51.3
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	< 0.5
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	23.1
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	7.9
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	18.6
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	< 0.5
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	15.7
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	34.7
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	55.8
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	< 40
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	< 0.02
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	< 20
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	< 0.8
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	< 2
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	0.07
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	0.7
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	6.1
Total Organic Carbon	N	%	0.01	0.05	2.7	0.20	0.74	1.2	0.48
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	< 0.4
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136667	136668	136669	136670	136671	136672
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP303	TP304	TP304	TP305	TP305	TP306
			Sample Depth (m)	1.90	0.30	1.20	0.80	1.10	0.20
			Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136673	136674	136675	136676	136677	136678
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP306	TP306	TP307	TP307	TP307	TP308
			Sample Depth (m)	0.40	0.80	0.30	0.80	1.20	0.10
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	19.0	30.7	14.6	19.6	76.9	15.6
Barium	U	mg/kg	10	82.6	63.1	52.6	71.7	36.8	35.7
Beryllium	U	mg/kg	1	1.2	2.0	1.6	6.4	2.9	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	0.6	0.5	2.4	1.4	< 0.5
Chromium	M	mg/kg	5	43.5	39.1	32.0	47.0	37.8	20.4
Copper	M	mg/kg	5	18.2	18.0	11.9	14.6	21.1	7.8
Lead	M	mg/kg	5	17.7	17.2	17.5	16.2	20.4	15.7
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	29.5	27.7	34.2	174	69.3	15.0
Selenium	M	mg/kg	1	< 1.0	1.4	1.1	4.1	1.8	< 1.0
Vanadium	M	mg/kg	5	59.9	80.9	50.9	59.3	188	42.2
Zinc	M	mg/kg	5	58.6	55.8	73.5	91.5	56.6	40.6
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.03
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.06	0.05	0.06	0.06	0.05	0.05
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Miscellaneous									
pH	M	pH units	0.1	6.8	7.0	6.5	7.6	7.4	6.9
Total Organic Carbon	N	%	0.01	0.14	0.11	0.31	0.21	0.05	0.43
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136673	136674	136675	136676	136677	136678
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP306	TP306	TP307	TP307	TP307	TP308
			Sample Depth (m)	0.40	0.80	0.30	0.80	1.20	0.10
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136679	136680	136681	136682	136683	136684
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP308	TP308	TP309	TP309	TP309	TP310
			Sample Depth (m)	0.30	0.70	0.25	0.50	0.65	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	95.8	68.0	23.1	65.6	20.9	15.6
Barium	U	mg/kg	10	48.9	65.2	56.4	83.1	17.6	46.7
Beryllium	U	mg/kg	1	1.4	1.8	1.4	5.1	1.2	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	0.5	1.0	< 0.5	< 0.5
Chromium	M	mg/kg	5	43.5	59.2	29.6	62.4	11.9	21.1
Copper	M	mg/kg	5	17.2	22.1	13.3	18.3	< 5.0	10.0
Lead	M	mg/kg	5	23.5	26.2	27.1	22.2	6.3	24.2
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	22.0	80.3	45.2	190	35.3	24.4
Selenium	M	mg/kg	1	1.9	2.0	1.2	1.6	< 1.0	< 1.0
Vanadium	M	mg/kg	5	127	168	51.0	103	16.8	43.8
Zinc	M	mg/kg	5	58.6	71.0	80.7	143	27.6	60.5
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	0.02	0.11	0.06	0.03	0.03
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	38	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.05	0.06	0.11	0.07	0.03	0.07
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	1.6	< 0.5	< 0.5	0.6
Miscellaneous									
pH	M	pH units	0.1	6.9	7.3	6.6	7.3	8.0	6.7
Total Organic Carbon	N	%	0.01	0.12	0.12	1.7	0.44	0.05	0.03
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	0.3	< 0.1	< 0.1	0.3	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	0.4	< 0.4	< 0.4	0.4	< 0.4	< 0.4
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136679	136680	136681	136682	136683	136684
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP308	TP308	TP309	TP309	TP309	TP310
			Sample Depth (m)	0.30	0.70	0.25	0.50	0.65	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136685	136686	136687	136688	136689	136690
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP310	TP310	TP311	TP311	TP311	TP312
			Sample Depth (m)	0.50	1.50	0.20	0.40	0.80	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	22.7	^ 4.7	15.3	22.7	27.4	5.0
Barium	U	mg/kg	10	73.8	17.9	51.7	60.6	61.9	120
Beryllium	U	mg/kg	1	1.3	< 1.0	1.0	2.3	2.6	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	^ 1.0	< 0.5	< 0.5	1.4	0.7
Chromium	M	mg/kg	5	44.2	^ 6.9	23.3	45.9	54.0	11.3
Copper	M	mg/kg	5	19.2	^ < 5.0	11.3	18.1	24.7	9.9
Lead	M	mg/kg	5	21.8	^ < 5.0	27.6	22.1	17.2	16.0
Mercury	M	mg/kg	0.5	< 0.5	^ < 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	32.0	^ 13.9	29.3	66.7	200	14.3
Selenium	M	mg/kg	1	1.0	^ < 1.0	< 1.0	1.1	2.1	< 1.0
Vanadium	M	mg/kg	5	80.9	^ 9.8	46.8	75.9	66.1	16.3
Zinc	M	mg/kg	5	68.7	^ 21.5	64.1	104	97.9	45.8
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	^ < 40	< 40	< 40	< 40	103
Water Soluble Sulphate	M	g/l	0.02	0.02	^ < 0.02	0.04	0.05	0.02	0.10
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	^ < 20	< 20	22	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	^ < 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.08	0.09	0.08	0.07	0.07	0.07
Water Soluble Boron	N	mg/kg	0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5
Miscellaneous									
pH	M	pH units	0.1	6.7	^ 8.6	7.0	7.2	7.3	8.2
Total Organic Carbon	N	%	0.01	0.15	0.03	0.75	0.27	0.22	0.56
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	0.4
Anthracene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	0.2
Fluoranthene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.4
Pyrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.4
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.3
Chrysene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.3
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.7
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	^ < 0.1	0.2	< 0.1	< 0.1	2.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	0.2	< 0.1	1.8
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.4
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	0.3
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	2.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	^ < 0.4	< 0.4	< 0.4	< 0.4	15.5
BTEX									
Benzene	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136685	136686	136687	136688	136689	136690
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP310	TP310	TP311	TP311	TP311	TP312
			Sample Depth (m)	0.50	1.50	0.20	0.40	0.80	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.1
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	135
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.3
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.2
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	136
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	17.1
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	304

Results Summary

Report No.: 18-17643

				ELAB Reference	136691	136692	136693	136694	136695	136696
				Customer Reference						
				Sample ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Location	TP312	TP312	TP313	TP313	TP313	TP314
				Sample Depth (m)	0.90	1.45	0.25	0.50	1.55	0.30
				Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**							
Metals										
Arsenic	M	mg/kg	1		11.2	20.3	^ 5.1	17.1	34.2	11.5
Barium	U	mg/kg	10		66.4	54.9	28.0	19.2	38.9	40.8
Beryllium	U	mg/kg	1		< 1.0	2.9	< 1.0	< 1.0	1.5	< 1.0
Cadmium	M	mg/kg	0.5		0.6	0.7	^ 0.6	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5		21.4	39.6	^ 10.2	14.5	20.4	34.0
Copper	M	mg/kg	5		18.5	23.8	^ 8.8	7.9	15.2	13.5
Lead	M	mg/kg	5		61.9	25.3	^ 12.3	14.1	20.5	17.3
Mercury	M	mg/kg	0.5		< 0.5	< 0.5	^ < 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5		29.3	93.1	^ 10.7	15.1	26.9	13.7
Selenium	M	mg/kg	1		1.1	1.8	^ < 1.0	< 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5		39.2	64.6	^ 17.0	35.1	43.5	54.1
Zinc	M	mg/kg	5		129	136	^ 32.0	28.5	37.6	31.2
Anions										
Water Soluble Chloride	M	mg/kg	40		124	131	^ < 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02		0.05	0.04	^ < 0.02	< 0.02	< 0.02	< 0.02
Inorganics										
Elemental Sulphur	M	mg/kg	20		< 20	< 20	^ < 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8		< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2		< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1		1.1	< 1.0	^ 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02		0.09	0.09	0.06	0.03	0.06	0.06
Water Soluble Boron	N	mg/kg	0.5		2.8	0.5	< 0.5	< 0.5	< 0.5	0.8
Miscellaneous										
pH	M	pH units	0.1		8.3	7.8	^ 8.3	8.1	8.1	7.7
Total Organic Carbon	N	%	0.01		2.6	0.42	0.28	0.12	0.08	0.24
Phenols										
Total Phenols	N	mg/kg	6		< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons										
Naphthalene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.2	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	0.2	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	0.2	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	1.8	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.1	0.6	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1		0.1	< 0.1	^ 0.6	1.8	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1		0.1	< 0.1	^ 0.6	1.5	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.9	0.8	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.8	0.8	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1		0.2	< 0.1	^ 1.1	0.5	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1		0.3	0.3	^ 1.5	0.8	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1		0.1	< 0.1	^ 1.2	0.7	< 0.1	0.2
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1		< 0.1	< 0.1	^ 1.2	0.4	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.3	0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1		< 0.1	0.1	^ 1.3	0.3	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4		0.9	0.4	^ 9.9	10.5	< 0.4	< 0.4
BTEX										
Benzene	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0

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Results Summary

Report No.: 18-17643

			ELAB Reference	136691	136692	136693	136694	136695	136696
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP312	TP312	TP313	TP313	TP313	TP314
			Sample Depth (m)	0.90	1.45	0.25	0.50	1.55	0.30
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	1.7	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	7.1	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	10.3	< 1.0	< 1.0	< 1.0

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Results Summary

Report No.: 18-17643

			ELAB Reference	136697	136698	136699	136700	136701	136702
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP314	TP314	TP315	TP315	TP315	TP316
			Sample Depth (m)	0.70	1.60	0.20	0.60	2.30	0.20
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	10.6	243	15.5	11.0	8.7	11.1
Barium	U	mg/kg	10	38.3	90.8	359	85.8	305	257
Beryllium	U	mg/kg	1	< 1.0	3.7	< 1.0	< 1.0	2.1	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	3.5	0.7	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	19.3	37.4	15.5	30.8	59.1	23.7
Copper	M	mg/kg	5	7.8	24.4	30.2	13.3	25.7	23.2
Lead	M	mg/kg	5	14.8	28.5	220	64.6	27.2	146
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	11.9	271	16.1	15.0	25.3	15.5
Selenium	M	mg/kg	1	< 1.0	1.1	< 1.0	< 1.0	1.1	< 1.0
Vanadium	M	mg/kg	5	35.8	69.2	23.7	52.0	101	38.4
Zinc	M	mg/kg	5	36.9	139	91.1	58.2	62.5	107
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	0.05	0.03	0.06	< 0.02	0.05
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	188	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.05	0.07	0.08	0.09	0.07	0.11
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	< 0.5	1.1	0.6	0.7
Miscellaneous									
pH	M	pH units	0.1	7.4	7.5	9.1	7.9	6.2	9.3
Total Organic Carbon	N	%	0.01	0.21	0.11	0.88	1.1	0.35	0.70
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	1.9	< 0.1	< 0.1	0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	0.7	< 0.1	< 0.1	0.3
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	3.6	< 0.1	< 0.1	0.7
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	3.3	< 0.1	< 0.1	0.6
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	2.1	< 0.1	< 0.1	0.4
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	2.3	< 0.1	0.1	0.4
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	3.1	0.3	0.1	0.6
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	2.5	< 0.1	< 0.1	0.4
Benzo (a) pyrene	M	mg/kg	0.1	0.1	0.1	2.7	< 0.1	0.3	0.3
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	2.3	< 0.1	< 0.1	0.3
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	3.0	0.1	< 0.1	0.4
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	28.7	0.6	0.6	4.7
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136697	136698	136699	136700	136701	136702
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP314	TP314	TP315	TP315	TP315	TP316
			Sample Depth (m)	0.70	1.60	0.20	0.60	2.30	0.20
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	2.7	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	39.7	< 1.0	< 1.0	8.1
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	9.3	< 1.0	< 1.0	1.4
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	14.8	< 1.0	< 1.0	1.3
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	131	1.3	< 1.0	15.1
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	41.1	< 1.0	< 1.0	6.5
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	241	1.3	< 1.0	32.4

Results Summary

Report No.: 18-17643

			ELAB Reference	136703	136704	136705	136706	136707	136708
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP316	TP316	TP317	TP317	TP317	TP318
			Sample Depth (m)	0.90	1.90	0.15	0.65	1.40	0.15
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	10.1	4.8	16.3	11.4	5.7	9.7
Barium	U	mg/kg	10	75.6	76.8	180	36.7	28.2	169
Beryllium	U	mg/kg	1	< 1.0	1.7	1.4	6.9	1.4	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	0.6	5.2	< 0.5	0.7
Chromium	M	mg/kg	5	35.8	28.4	28.9	35.0	24.1	20.3
Copper	M	mg/kg	5	14.8	11.3	60.8	21.3	17.7	30.0
Lead	M	mg/kg	5	36.7	13.4	165	22.3	15.7	104
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	12.8	20.2	27.2	33.1	26.1	15.5
Selenium	M	mg/kg	1	< 1.0	< 1.0	1.4	1.1	< 1.0	< 1.0
Vanadium	M	mg/kg	5	64.1	47.5	49.0	49.9	39.1	34.5
Zinc	M	mg/kg	5	47.4	27.1	235	59.5	48.0	159
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.05	0.08	< 0.02	< 0.02	< 0.02	0.03
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.08	0.07	0.08	0.05	0.06	0.07
Water Soluble Boron	N	mg/kg	0.5	0.8	0.7	1.3	0.7	< 0.5	0.7
Miscellaneous									
pH	M	pH units	0.1	8.1	5.5	7.6	7.9	7.4	8.5
Total Organic Carbon	N	%	0.01	0.60	0.06	2.9	0.32	0.08	1.9
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.2
Benzo (b) fluoranthene	M	mg/kg	0.1	0.1	0.1	0.1	< 0.1	< 0.1	0.4
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	0.3
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	0.7	< 0.4	< 0.4	2.1
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136703	136704	136705	136706	136707	136708
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP316	TP316	TP317	TP317	TP317	TP318
			Sample Depth (m)	0.90	1.90	0.15	0.65	1.40	0.15
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.7
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.7
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.6
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136709	136710
			Customer Reference		
			Sample ID		
			Sample Type	SOIL	SOIL
			Sample Location	TP318	TP319
			Sample Depth (m)	0.70	1.80
			Sampling Date	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**		
Metals					
Arsenic	M	mg/kg	1	10.5	17.2
Barium	U	mg/kg	10	35.0	49.9
Beryllium	U	mg/kg	1	< 1.0	1.5
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	34.6	58.1
Copper	M	mg/kg	5	16.1	32.6
Lead	M	mg/kg	5	15.1	27.9
Mercury	M	mg/kg	0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	11.9	15.9
Selenium	M	mg/kg	1	< 1.0	1.2
Vanadium	M	mg/kg	5	55.4	106
Zinc	M	mg/kg	5	37.5	37.5
Anions					
Water Soluble Chloride	M	mg/kg	40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.02	0.07
Inorganics					
Elemental Sulphur	M	mg/kg	20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.05	0.07
Water Soluble Boron	N	mg/kg	0.5	< 0.5	0.8
Miscellaneous					
pH	M	pH units	0.1	8.1	7.3
Total Organic Carbon	N	%	0.01	0.13	0.22
Phenols					
Total Phenols	N	mg/kg	6	< 6	< 6
Polyaromatic hydrocarbons					
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4
BTEX					
Benzene	M	ug/kg	10	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136709	136710
			Customer Reference		
			Sample ID		
			Sample Type	SOIL	SOIL
			Sample Location	TP318	TP319
			Sample Depth (m)	0.70	1.80
			Sampling Date	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**		
TPH CWG					
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0

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Results Summary

Report No.: 18-17643

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #)
in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric	Gravimetric Analysis by ACM Type	Free Fibre	Total
136637	0.60 - 0.80	WS401	Brown clay, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136640	0.50	WS402	Brown clay, stones	No asbestos detected	n/t	n/t	n/t	n/t
136645	1.50 - 1.60	WS403	Brown sandy soil, stones, concrete, brick, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136650	0.40 - 0.60	WS405	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
136651	1.20	WS405	Brown sandy soil, stones, concrete, brick, wood	No asbestos detected	n/t	n/t	n/t	n/t
136653	1.60 - 1.90	WS406	Brown sandy soil, stones, concrete, brick, clinker, glass	No asbestos detected	n/t	n/t	n/t	n/t
136655	0.30 - 0.50	WS407	Brown sandy soil, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136657	3.00 - 4.00	WS407	Brown sandy soil, stones, concrete, brick, clinker, chalk, organics	Chrysotile (asbestos cement)	0.729	Asbestos cement (0.729%)	< 0.001	0.729
136658	0.25	TP301	Brown sandy soil, stones, concrete, brick, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136659	0.40	TP301	Brown sandy soil, stones, clinker, wood	No asbestos detected	n/t	n/t	n/t	n/t
136660	1.40	TP301	Brown sandy soil, stones, brick, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136661	0.20	TP302	Brown sandy soil, stones, chalk, clinker, organics	Chrysotile (asbestos cement)	0.147	Asbestos cement (0.147%)	< 0.001	0.147
136662	0.50	TP302	Brown sandy soil, stones, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136664	2.70	TP302	Brown sandy soil, stones, concrete, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136666	0.70	TP303	Brown sandy soil, stones, concrete, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136669	1.20	TP304	Brown sandy clay, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136670	0.80	TP305	Brown sandy clay, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136672	0.20	TP306	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
136673	0.40	TP306	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
136674	0.80	TP306	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
136675	0.30	TP307	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136676	0.80	TP307	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136677	1.20	TP307	Brown sandy soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136678	0.10	TP308	Brown sandy soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136679	0.30	TP308	Brown sandy soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136680	0.70	TP308	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136681	0.25	TP309	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136682	0.50	TP309	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136683	0.65	TP309	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136684	0.20	TP310	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136685	0.50	TP310	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136686	1.50	TP310	Chalk	No asbestos detected	n/t	n/t	n/t	n/t
136687	0.20	TP311	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136688	0.40	TP311	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136689	0.80	TP311	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136690	0.20	TP312	Brown chalky soil with stones and brick	No asbestos detected	n/t	n/t	n/t	n/t
136691	0.90	TP312	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136692	1.45	TP312	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136693	0.25	TP313	Brown chalky soil with stones and clinker	No asbestos detected	n/t	n/t	n/t	n/t
136694	0.50	TP313	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136695	1.55	TP313	Sand	No asbestos detected	n/t	n/t	n/t	n/t
136696	0.30	TP314	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136697	0.70	TP314	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
136698	1.60	TP314	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136699	0.20	TP315	Brown sandy soil,Stones,concrete,brick	Chrysotile (fibre bundle)	< 0.001	Fibre bundle (<0.001)	< 0.001	< 0.001
136700	0.60	TP315	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
136701	2.30	TP315	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
136702	0.20	TP316	Brown sandy soil,Stones,brick,clinker	No asbestos detected	n/t	n/t	n/t	n/t
136703	0.90	TP316	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136704	1.90	TP316	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136705	0.15	TP317	Brown sandy soil,Stones,glass,clinker	No asbestos detected	n/t	n/t	n/t	n/t
136706	0.65	TP317	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136707	1.40	TP317	Brown sandy soil,stones	No asbestos detected	n/t	n/t	n/t	n/t
136708	0.15	TP318	Brown sandy soil,Stones,brick	No asbestos detected	n/t	n/t	n/t	n/t
136709	0.70	TP318	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
136710	1.80	TP319	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 18-17643

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	23/05/2018	109	Colorimetry
Hexavalent chromium	N	As submitted sample	23/05/2018	110	Colorimetry
pH	M	Air dried sample	24/05/2018	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	24/05/2018	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	23/05/2018	118	ICPMS
Phenols in solids	N	As submitted sample	23/05/2018	121	HPLC
Elemental Sulphur	M	Air dried sample	23/05/2018	122	HPLC
PAH (GC-FID)	M	As submitted sample	23/05/2018	133	GC-FID
Water soluble anions	M	Air dried sample	23/05/2018	172	Ion Chromatography
Low range Aliphatic hydrocarbons soil	N	As submitted sample	24/05/2018	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	24/05/2018	181	GC-MS
BTEX in solids	M	As submitted sample	24/05/2018	181A	GC-MS
Water soluble boron	N	Air dried sample	23/05/2018	202	Colorimetry
Total cyanide	M	As submitted sample	23/05/2018	204	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	24/05/2018	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	23/05/2018	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	25/05/2018	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	23/05/2018	214	GC-FID
Asbestos identification	U	Air dried sample	23/05/2018	260	Microscopy

Tests marked N are not UKAS accredited

Report Information

Report No.: 18-17643

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C)
Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage

CLEA Software Version 1.071

Report generated 21/06/2018

Report title Woodcroft Farm, Lovedean

Created by FG at GESL

BASIC SETTINGS

Land Use Residential with produce (C4SL)

Building Small terraced house
Receptor Female (res C4SL) Start age class 1 End age class 6 Exposure Duration 6 years
Soil Sandy loam

Exposure Pathways

Direct soil and dust ingestion	✓	Dermal contact with indoor dust	✓	Inhalation of indoor dust	✓
Consumption of homegrown produce	✓	Dermal contact with soil	✓	Inhalation of soil dust	✓
Soil attached to homegrown produce	✓			Inhalation of indoor vapour	✓
				Inhalation of outdoor vapour	✓

Land Use Residential with produce (C4SL) **Receptor** Female (res C4SL)

Age Class	Exposure Frequencies (days yr^{-1})						Occupation Periods (hr day^{-1})		Soil to skin adherence factors (mg cm^{2})		Direct soil ingestion rate (g day^{-1})	Body weight (kg)	Body height (m)	Inhalation rate (m^{3} day^{-1})	Max exposed skin factor		Total skin area (m^{2})
	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with indoor dust	Dermal contact with soil	Inhalation of dust and vapour, indoor	Inhalation of dust and vapour, outdoor	Indoors	Outdoors	Indoor	Outdoor					Indoor (m^{2} m^{-2})	Outdoor (m^{2} m^{-2})	
1	180	180	180	170	365	365	23.0	1.0	0.06	0.10	0.10	5.60	0.7	5.4	0.32	0.26	3.43E-01
2	365	365	365	170	365	365	23.0	1.0	0.06	0.10	0.10	9.80	0.8	8.0	0.33	0.26	4.84E-01
3	365	365	365	170	365	365	23.0	1.0	0.06	0.10	0.10	12.70	0.9	8.9	0.32	0.25	5.82E-01
4	365	365	365	170	365	365	23.0	1.0	0.06	0.10	0.10	15.10	0.9	10.1	0.35	0.28	6.36E-01
5	365	365	365	170	365	365	19.0	1.0	0.06	0.10	0.10	16.90	1.0	10.1	0.35	0.28	7.04E-01
6	365	365	365	170	365	365	19.0	1.0	0.06	0.10	0.10	19.70	1.1	10.1	0.33	0.26	7.94E-01
7	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	22.10	1.2	12.0	0.22	0.15	8.73E-01
8	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	25.30	1.2	12.0	0.22	0.15	9.36E-01
9	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	27.50	1.3	12.0	0.22	0.15	1.01E+00
10	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	31.40	1.3	12.0	0.22	0.15	1.08E+00
11	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	35.70	1.4	12.0	0.22	0.14	1.19E+00
12	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	41.30	1.4	15.2	0.22	0.14	1.29E+00
13	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	47.20	1.5	15.2	0.22	0.14	1.42E+00
14	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	51.20	1.6	15.2	0.22	0.14	1.52E+00
15	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	56.70	1.6	15.2	0.21	0.14	1.60E+00
16	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	59.00	1.6	15.2	0.21	0.14	1.63E+00
17	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	70.00	1.6	15.7	0.33	0.27	1.78E+00
18	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	70.90	1.6	13.6	0.33	0.27	1.80E+00

Consumption Rates

Environment Agency

Consumption rates (g FW kg^{-1} bodyweight day^{-1}) by Produce Group

Age Class	MEAN RATES						90TH PERCENTILE RATES					
	Green veg	Root veg	Tuber veg	Herb. Fruit	Shrub fruit	Tree fruit	Green veg	Root veg	Tuber veg	Herb. Fruit	Shrub fruit	Tree fruit
1	3.47E+00	5.22E+00	9.22E+00	8.90E-01	1.07E+00	1.87E+00	7.12E+00	1.07E+01	1.60E+01	1.83E+00	2.23E+00	3.82E+00
2	3.34E+00	1.61E+00	3.14E+00	1.93E+00	2.60E-01	5.84E+00	5.87E+00	2.83E+00	6.60E+00	3.39E+00	4.60E-01	1.03E+01
3	3.34E+00	1.61E+00	3.14E+00	1.93E+00	2.60E-01	5.84E+00	5.87E+00	2.83E+00	6.60E+00	3.39E+00	4.60E-01	1.03E+01
4	3.34E+00	1.61E+00	3.14E+00	1.93E+00	2.60E-01	5.84E+00	5.87E+00	2.83E+00	6.60E+00	3.39E+00	4.60E-01	1.03E+01
5	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
6	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
7	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
8	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
9	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
10	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
11	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
12	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
13	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
14	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
15	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
16	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
17	1.26E+00	6.00E-01	1.18E+00	6.90E-01	9.00E-02	1.27E+00	2.36E+00	1.12E+00	2.35E+00	1.29E+00	1.80E-01	2.38E+00
18	1.35E+00	6.40E-01	1.25E+00	7.40E-01	1.00E-01	1.36E+00	2.34E+00	1.12E+00	2.36E+00	1.28E+00	1.80E-01	2.37E+00

Top 2 applied? Yes

Where top 2 method is applied, two produce categories use 90th percentile rates, while the remainder use the mean. Produce categories vary on a chemical-by-chemical basis. Where top 2 method is not used, all produce categories for all chemicals assume 90th percentile rates.

Building Small terraced house

Soil Sandy loam

Building footprint (m^2)	2.80E+01
Living space air exchange rate (hr^{-1})	5.00E-01
Living space height (above ground, m)	4.80E+00
Living space height (below ground, m)	0.00E+00
Pressure difference (soil to enclosed space, Pa)	3.10E+00
Foundation thickness (m)	1.50E-01
Floor crack area (cm^2)	4.23E+02
Dust loading factor ($\mu g\ m^{-3}$)	5.00E+01

Porosity, Total ($cm^3\ cm^{-3}$)	5.30E-01
Porosity, Air-Filled ($cm^3\ cm^{-3}$)	2.00E-01
Porosity, Water-Filled ($cm^3\ cm^{-3}$)	3.30E-01
Residual soil water content ($cm^3\ cm^{-3}$)	1.20E-01
Saturated hydraulic conductivity ($cm\ s^{-1}$)	3.56E-03
van Genuchten shape parameter *m* (dimensionless)	3.20E-01
Bulk density ($g\ cm^{-3}$)	1.21E+00
Threshold value of wind speed at 10m ($m\ s^{-1}$)	7.20E+00
Empirical function (F_x) for dust model (dimensionless)	1.22E+00
Ambient soil temperature (K)	2.83E+02
Soil pH	7.40E+00
Soil Organic Matter content (%)	8.60E-01
Fraction of organic carbon ($g\ g^{-1}$)	4.99E-03
Effective total fluid saturation (unitless)	5.12E-01
Intrinsic soil permeability (cm^2)	4.75E-08
Relative soil air permeability (unitless)	6.42E-01
Effective air permeability (cm^2)	3.05E-08

Soil - Vapour Model

Depth to top of source (no building) (cm)	0
Depth to top of source (beneath building) (cm)	65
Default soil gas ingress rate?	Yes
Soil gas ingress rate ($cm^3\ s^{-1}$)	2.50E+01
Building ventilation rate ($cm^3\ s^{-1}$)	1.87E+04
Averaging time surface emissions (yr)	6
Finite vapour source model?	No
Thickness of contaminated layer (cm)	200

Air Dispersion Model

Mean annual windspeed at 10m ($m\ s^{-1}$)		5.00
Air dispersion factor at height of 0.8m *		2400.00
Air dispersion factor at height of 1.6m *		0.00
Fraction of site cover ($m^2\ m^{-2}$)		0.75

* Air dispersion factor in $g\ m^{-2}\ s^{-1}$ per $kg\ m^{-3}$

Soil - Plant Model

	Dry weight conversion factor	Homegrown fraction		Soil loading factor	Preparation correction factor
		Average	High		
	g DW g^{-1} FW	dimensionless		g g^{-1} DW	dimensionless
Green vegetables	0.096	0.05	0.33	1.00E-03	2.00E-01
Root vegetables	0.103	0.06	0.40	1.00E-03	1.00E+00
Tuber vegetables	0.210	0.02	0.13	1.00E-03	1.00E+00
Herbaceous fruit	0.058	0.06	0.40	1.00E-03	6.00E-01
Shrub fruit	0.166	0.09	0.60	1.00E-03	6.00E-01
Tree fruit	0.157	0.04	0.27	1.00E-03	6.00E-01

Gardener type Average

CLEA Software Version 1.071

Report generated	21-Jun-18
Report title	Woodcroft Farm, Lovedean
Created by	FG at GESL

RESULTS

Environment Agency

		Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?		Top Two applied?	Apply Top 2 Approach to Produce Group					
		oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal		Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
1	Arsenic	3.80E+01	1.21E+02	NR	1.00	0.31	NR	NR	No	No	Yes	No	No	No	No	No	No
2	Beryllium	1.29E+02	1.72E+00	NR	0.01	1.00	NR	NR	Yes	Yes	Yes	No	No	No	No	No	No
3	Benzo(a)pyrene	3.93E+00	1.57E+01	NR	1.00	0.25	NR	7.83E-01 (vap)	No	No	Yes	No	No	No	No	No	No
4	Dibenz(ah)anthracene	3.93E-01	1.40E+00	NR	1.00	0.28	NR	3.38E-03 (vap)	No	No	Yes	No	No	No	No	No	No
5	Nickel	1.49E+02	1.81E+02	NR	1.00	0.70	NR	NR	Yes	Yes	Yes	No	No	No	No	No	No
6	Lead (C4SL adult)	9.04E+01	NR	NR	1.00	NR	NR	NR	No	No	Yes	Yes	No	Yes	No	No	No
7	Benzo(b)fluoranthene	4.94E+00	1.89E+01	NR	1.00	0.26	NR	1.05E+00 (sol)	No	No	Yes	No	No	No	No	No	No
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Environment Agency

	Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?		Top Two applied?	Apply Top 2 Approach to Produce Group					
	oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal		Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
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Environment Agency

		Soil Distribution				Media Concentrations													
		Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
		%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
1	Arsenic	99.9	0.1	0.0	100.0	3.80E+01	NR	1.90E+01	1.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-02	1.52E-02	8.75E-03	1.26E-02	7.61E-03	4.18E-02
2	Beryllium	100.0	0.0	0.0	100.0	1.72E+00	NR	8.62E-01	7.34E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-02	2.07E-03	2.07E-03	2.07E-03	2.07E-03	2.07E-03
3	Benzo(a)pyrene	100.0	0.0	0.0	100.0	3.93E+00	1.08E-05	1.96E+00	1.67E-09	0.00E+00	1.42E-08	3.33E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	Dibenz(ah)anthracene	100.0	0.0	0.0	100.0	3.93E-01	2.28E-06	1.96E-01	1.67E-10	0.00E+00	2.83E-09	2.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	Nickel	99.9	0.1	0.0	100.0	1.49E+02	NR	7.45E+01	6.34E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-01	6.41E-01	2.83E-01	3.73E-01	3.73E-01	5.07E-01
6	Lead (C4SL adult)	100.0	0.0	0.0	100.0	9.04E+01	NR	4.52E+01	3.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E-01	3.63E-01	6.61E-01	6.77E-02	1.85E-02	2.07E-02
7	Benzo(b)fluoranthene	99.9	0.1	0.0	100.0	4.94E+00	1.94E-05	2.47E+00	2.10E-09	0.00E+00	2.53E-08	4.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
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Environment Agency

	Soil Distribution				Media Concentrations													
	Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
	%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
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Environment Agency

		Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
		Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
1	Arsenic	2.82E-04	1.42E-05	3.77E-06	6.29E-07	0.00E+00	0.00E+00	0.00E+00	94.03	4.72	1.26	0.00	0.00	0.00	0.00	0.00
2	Beryllium	1.28E-05	2.67E-06	0.00E+00	2.85E-08	0.00E+00	8.44E-04	9.09E-08	0.00	0.00	0.00	50.00	0.00	0.00	0.00	50.00
3	Benzo(a)pyrene	2.91E-05	1.84E-07	1.69E-06	6.49E-08	1.02E-08	6.19E-06	3.64E-07	93.96	0.59	5.45	0.00	0.00	0.00	0.00	0.00
4	Dibenz(ah)anthracene	2.91E-06	1.84E-08	1.69E-07	6.49E-09	1.92E-09	2.25E-06	2.00E-06	93.96	0.59	5.45	0.00	0.00	0.00	0.00	0.00
5	Nickel	1.11E-03	2.90E-04	2.46E-06	2.46E-06	0.00E+00	7.54E-03	1.57E-05	39.46	10.36	0.09	0.09	0.00	0.00	49.90	0.10
6	Lead (C4SL adult)	4.02E-04	2.27E-04	0.00E+00	9.56E-07	0.00E+00	0.00E+00	0.00E+00	63.85	35.99	0.00	0.15	0.00	0.00	0.00	0.00
7	Benzo(b)fluoranthene	3.66E-05	2.31E-07	2.12E-06	8.17E-08	1.78E-08	6.19E-06	7.88E-07	93.96	0.59	5.45	0.00	0.00	0.00	0.00	0.00
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Environment Agency

	Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
	Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
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Environment Agency

		Oral Health Criteria Value (µg kg^{-1} BW day^{-1})		Inhalation Health Criteria Value (µg kg^{-1} BW day^{-1})		Oral Mean Daily Intake (µg day^{-1})	Inhalation Mean Daily Intake (µg day^{-1})	Air-water partition coefficient (K_{aw}) (cm^3 cm^{-3})	Coefficient of Diffusion in Air (m^2 s^{-1})	Coefficient of Diffusion in Water (m^2 s^{-1})	log K_{oc} (cm^3 g^{-1})	log K_{ow} (dimensionless)	Dermal Absorption Fraction (dimensionless)	Soil-to-dust transport factor (g g^{-1} DW)	Sub-surface soil to indoor air correction factor (dimensionless)	Relative bioavailability via soil ingestion (unitless)	Relative bioavailability via dust inhalation (unitless)
1	Arsenic	ID	0.3	ID	0.002	NR	NR	NR	NR	NR	NR	NR	0.03	0.5	1	1	1
2	Beryllium	TDI	2	TDI	0.000057	15	0.0015	NR	NR	NR	NR	NR	0	0.5	1	1	1
3	Benzo(a)pyrene	ID	0.031	ID	0.0003	0.11	0.006	1.76E-06	4.38E-06	3.67E-10	5.11	6.18	0.13	0.5	1	1	1
4	Dibenz(ah)anthracene	ID	0.0031	ID	0.00003	0.04	0.033	5.40E-06	4.08E-06	3.40E-10	5.27	6.38	0.13	0.5	1	1	1
5	Nickel	TDI	2.8	TDI	0.006	134	0.259	NR	NR	NR	NR	NR	0.005	0.5	1	1	1
6	Lead (C4SL adult)	ID	0.63	NR	0	NR	NR	NR	NR	NR	NR	NR	0	0.5	1	0.6	0.64
7	Benzo(b)fluoranthene	ID	0.039	ID	0.00038	0.11	0.013	2.05E-06	4.36E-06	3.62E-10	5.02	6.08	0.13	0.5	1	1	1
8																	
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	Oral Health Criteria Value (µg kg^{-1} BW day^{-1})		Inhalation Health Criteria Value (µg kg^{-1} BW day^{-1})		Oral Mean Daily Intake (µg day^{-1})	Inhalation Mean Daily Intake (µg day^{-1})	Air-water partition coefficient (K_{aw}) (cm^3 cm^{-3})	Coefficient of Diffusion in Air (m^2 s^{-1})	Coefficient of Diffusion in Water (m^2 s^{-1})	log K_{oc} (cm^3 g^{-1})	log K_{ow} (dimensionless)	Dermal Absorption Fraction (dimensionless)	Soil-to-dust transport factor (g g^{-1} DW)	Sub-surface soil to indoor air correction factor (dimensionless)	Relative bioavailability via soil ingestion (unitless)	Relative bioavailability via dust inhalation (unitless)
21																
22																
23																
24																
25																
26																
27																
28																
29																
30																

Environment Agency

		Soil-to-water partition coefficient ($cm^3\ g^{-1}$)	Vapour pressure (Pa)	Water solubility ($mg\ L^{-1}$)	Soil-to-plant concentration factor for green vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for root vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for tuber vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for herbaceous fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for shrub fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for tree fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)
1	Arsenic	5.00E+02	NR	1.25E+06	0.00043 fw	0.0004 fw	0.00023 fw	0.00033 fw	0.0002 fw	0.0011 fw
2	Beryllium	1.70E+03	NR	1.66E+06	0.007 fw	0.0012 fw	0.0012 fw	0.0012 fw	0.0012 fw	0.0012 fw
3	Benzo(a)pyrene	6.43E+02	2.00E-08	3.80E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	Dibenz(ah)anthracene	9.29E+02	1.66E-10	6.00E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	Nickel	5.00E+02	NR	2.50E+06	0.0038 fw	0.0043 fw	0.0019 fw	0.0025 fw	0.0025 fw	0.0034 fw
6	Lead (C4SL adult)	1.00E+03	NR	2.96E+05	0.00419 fw	0.00402 fw	0.00731 fw	0.00074 fw	0.00020 fw	0.00022 fw
7	Benzo(b)fluoranthene	5.22E+02	6.34E-08	2.00E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
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Environment Agency

	Soil-to-water partition coefficient (cm^3 g^{-1})	Vapour pressure (Pa)	Water solubility (mg L^{-1})	Soil-to-plant concentration factor for green vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for root vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tuber vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for herbaceous fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for shrub fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tree fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

Client/client ref: Grainger PLC
Project ref: GE16943
Site ref: Woodcroft Farm - Farmyard
Data description:
Contaminant(s): Metals
Test scenario: Planning
Date: 11 June 2018
User details: FG

	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Hexavalent Chromium (mg/kg)	Total Cyanide (mg/kg)
Critical concentration, C_c	**38.03**	**1330**	**1.72**	**11**	**910**	**2400**	**200**	**40**	**180**	**250**	**410**	**3700**	~~6~~	~~2~~
Notes														
Full dataset size	31	31	31	31	31	31	31	31	31	31	31	31	0	0
Outliers present?	Yes	No	Yes	Yes	#REF!	Yes	Yes	No	Yes	Yes	Yes	Yes		
Number of outliers temporarily excluded	0													
Number removed by filter	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Sample size, n	**31**	**31**	**31**	**31**	**29**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**0**	**0**
Sample mean, $\bar{x}$	19.383871	101.974194	1.26451613	0.67903226	#REF!	29.4935484	48.2741935	0.25	31.3064516	0.67096774	49.5	82.5322581	No Data	No Data
Standard deviation, s	41.998842	98.3591276	1.34723133	1.02970661	#REF!	33.5433246	55.1896184	0	47.3983821	0.34272783	28.1208464	73.7256101		
Number of non-detects	0	0	**17**	**17**	0	0	**1**	**31**	0	**24**	0	0	0	0
Set non-detect values to:	Detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Non-normal	Non-normal	Non-normal	Non-normal	#REF!	Non-normal	Non-normal	Single value	Non-normal	Non-normal	Non-normal	Non-normal		
Statistical approach	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	#REF!	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto	Auto

Test scenario: Planning: is true mean lower than critical concentration (μ < Cc)? **Evidence level required:** 95% Use Normal distribution to test for outliers

t statistic, t_0 (or k_0)	-2.471907503	-69.51422293	-1.882398967	-55.80688317	#REF!	-393.4738584	-15.30674722	N/A	-17.46664345	-4050.459805	-71.37690762	-273.1914722		
Upper confidence limit (on true mean concentration, μ)	52.2639816	178.977721	2.31923843	1.48517037	#REF!	55.753992	91.4811171	0.25	68.4137615	0.93928297	71.5152865	140.250664		
Evidence level	**86%**	**100%**	**78%**	**100%**	**#REF!**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**		
Base decision on:	evidence level	evidence level	evidence level	evidence level	lower bound	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level		
Result	**μ ≈≥ Cc**	**μ < Cc**	**μ ≈≥ Cc**	**μ < Cc**	**#REF!**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**		
Select dataset	●	○	○	○	○	○	○	○	○	○	○	○	○	○

Back to data | Go to outlier test | Go to normality test | Show individual summary

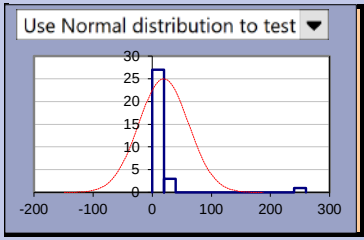
Test Results

Arsenic (mg/kg)

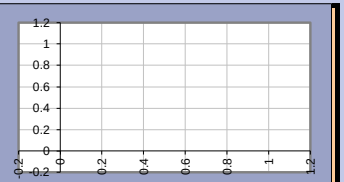
Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Farmyard | Date: 11-Jun-2018

Project ref: GE16943 | Data description: | User details: FG

Dataset: Arsenic (mg/kg)	
Sample mean (mg/kg), $\overline{x}$	19.384
Sample standard deviation, s	41.999
Sample size, n	31
Critical concentration, Cc (mg/kg)	38.03



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	0

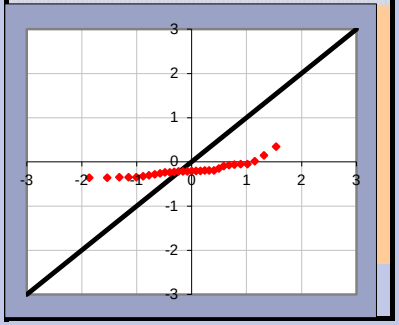


Normality test

Significance le: 5%

Non-normal distribution

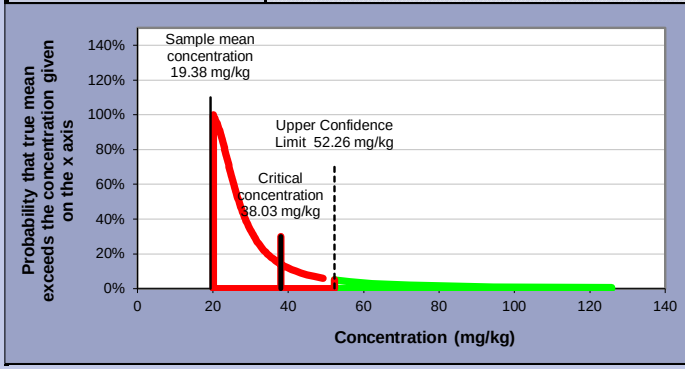
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

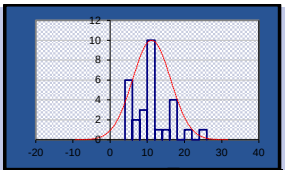


Evidence against Null hypothesis:	**86%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	No

Not enough evidence

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Arsenic		Outliers
TP215	Y	10.4		
TP215	Y	4.7		
TP220	Y	25.7	Outlier	
TP220	Y	11		
TP223	Y	9.5		
TP224	Y	7.8		
TP224	Y	6.6		
TP225	Y	13.2		
TP239	Y	4.5		
TP239	Y	17.5		
TP312	Y	5		
TP312	Y	11.2		
TP312	Y	20.3		
TP313	Y	5.1		
TP313	Y	17.1		
TP313	N			34.2
TP314	Y	11.5		
TP314	Y	10.6		
TP314	N			243
TP315	Y	15.5		
TP315	Y	11		
TP315	Y	8.7		
TP316	Y	11.1		
TP316	Y	10.1		
TP316	Y	4.8		
TP317	Y	16.3		
TP317	Y	11.4		
TP317	Y	5.7		
TP318	Y	9.7		
TP318	Y	10.5		
TP318	Y	17.2		
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{x}$
11.162

Standard deviation, s
5.117

Sample size, n
29

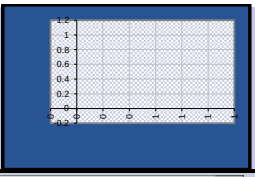
Maxiumum
25.700

Outlier Test Applicability
Applicable

Level of Significance, α
5%

Tn = 2.841
Tcrit = 2.730

Outliers?
Yes
(2 selected)



Dataset: Arsenic (mg/kg) O/T:29/31

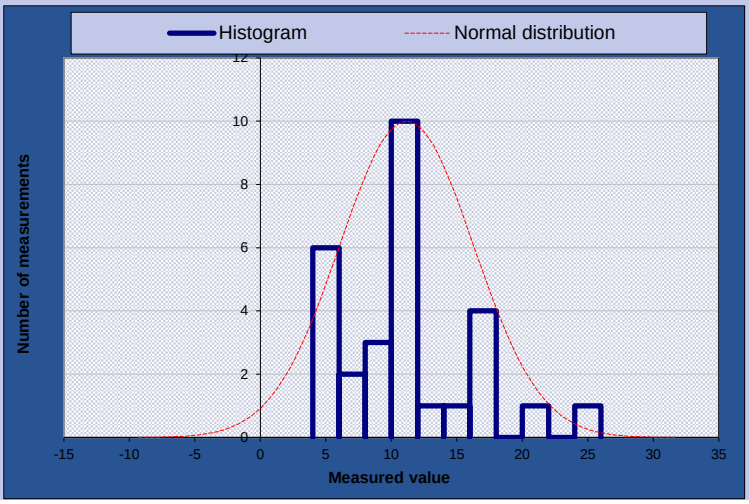
Use Normal distribution to test for outliers

Exclude identified outliers

Show individual summary

Back to summary

Back to data



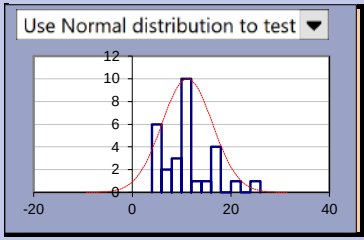
Test Results

Arsenic (mg/kg) O/T:29/31

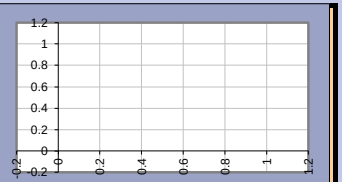
Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Farmyard | Date: 11-Jun-2018

Project ref: GE16943 | Data description: | User details: FG

Dataset: Arsenic (mg/kg) O/T:29/31	
Sample mean (mg/kg), $\overline{x}$	11.162
Sample standard deviation, s	5.1167
Sample size, n	29
Critical concentration, Cc (mg/kg)	38.03



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	2
Non-detects	#NAME?

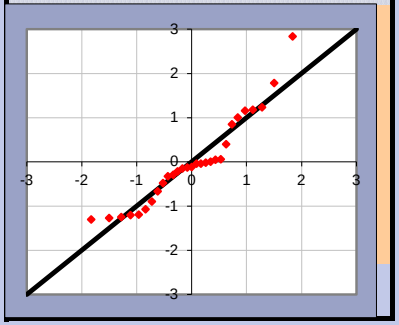


Normality test

Significance le: 5%

Non-normal distribution

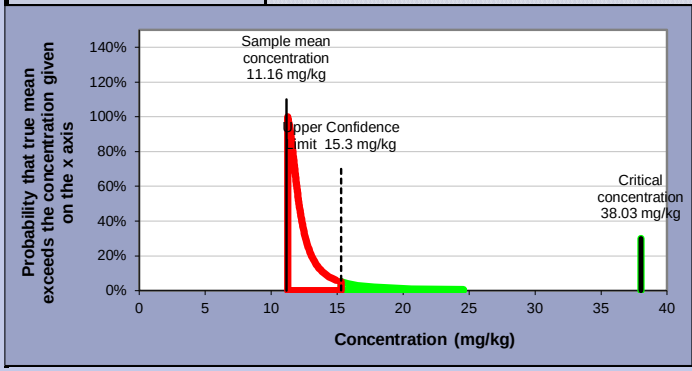
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**100%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Test Results

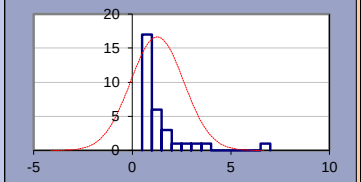
Beryllium (mg/kg)

Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Farmyard | Date: 11-Jun-2018

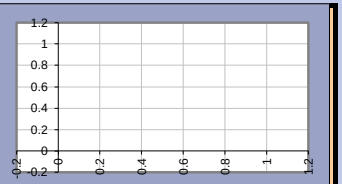
Project ref: GE16943 | Data description: | User details: FG

Dataset: Beryllium (mg/kg)	
Sample mean (mg/kg), $\overline{x}$	1.2645
Sample standard deviation, s	1.3472
Sample size, n	31
Critical concentration, Cc (mg/kg)	1.72

Use Normal distribution to test



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	#NAME?

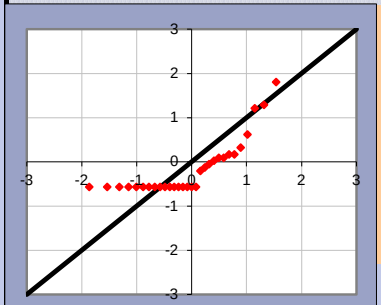


Normality test

Significance le: 5%

Non-normal distribution

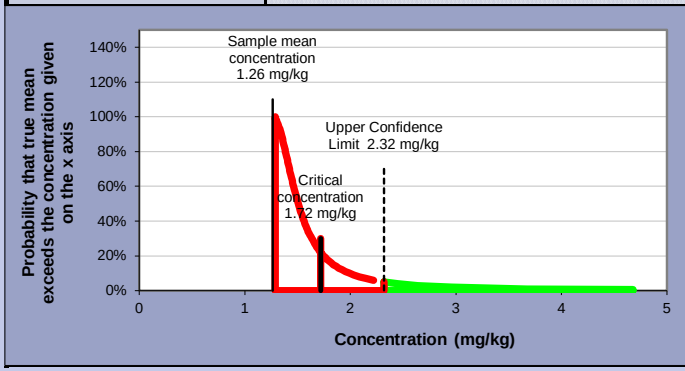
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

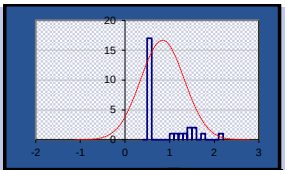


Evidence against Null hypothesis:	**78%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	No

Not enough evidence

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Beryllium		Outliers
TP215	Y	0.5		
TP215	Y	0.5		
TP220	N			3
TP220	Y	1.2		
TP223	Y	1		
TP224	Y	0.5		
TP224	Y	1.1		
TP225	Y	0.5		
TP239	Y	0.5		
TP239	Y	1.3		
TP312	Y	0.5		
TP312	Y	0.5		
TP312	N			2.9
TP313	Y	0.5		
TP313	Y	0.5		
TP313	Y	1.5		
TP314	Y	0.5		
TP314	Y	0.5		
TP314	N			3.7
TP315	Y	0.5		
TP315	Y	0.5		
TP315	Y	2.1		
TP316	Y	0.5		
TP316	Y	0.5		
TP316	Y	1.7		
TP317	Y	1.4		
TP317	N			6.9
TP317	Y	1.4		
TP318	Y	0.5		
TP318	Y	0.5		
TP318	Y	1.5		
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{x}$
0.841

Standard deviation, s
0.489

Sample size, n
27

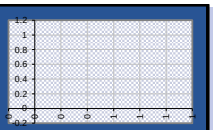
Maxiumum
2.100

Outlier Test Applicability
Not Applicable

Level of Significance, α
5%

Tn = 2.574
Tcrit = 2.698

Outliers?
No
(4 selected)



Dataset: Beryllium (mg/kg) O/T:27/31

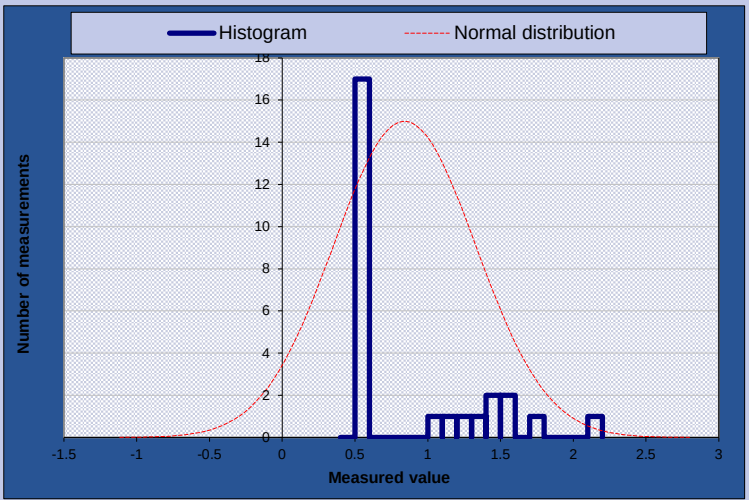
Use Normal distribution to test for outliers

Exclude identified outliers

Show individual summary

Back to summary

Back to data



Test Results

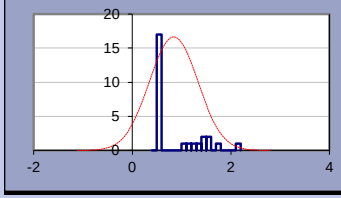
Beryllium (mg/kg) O/T:27/31

Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Farmyard | Date: 11-Jun-2018

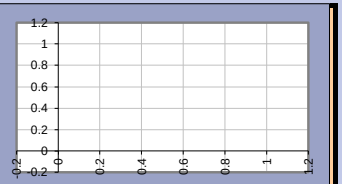
Project ref: GE16943 | Data description: | User details: FG

Dataset: Beryllium (mg/kg) O/T:27/31	
Sample mean (mg/kg), $\overline{x}$	0.8407
Sample standard deviation, s	0.4893
Sample size, n	27
Critical concentration, Cc (mg/kg)	1.72

Use Normal distribution to test



Outliers & non-detects	
Outliers present?	No
Significance level	5%
Outliers excluded	4
Non-detects	#NAME?

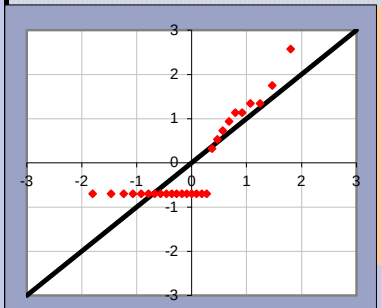


Normality test

Significance le: 5%

Non-normal distribution

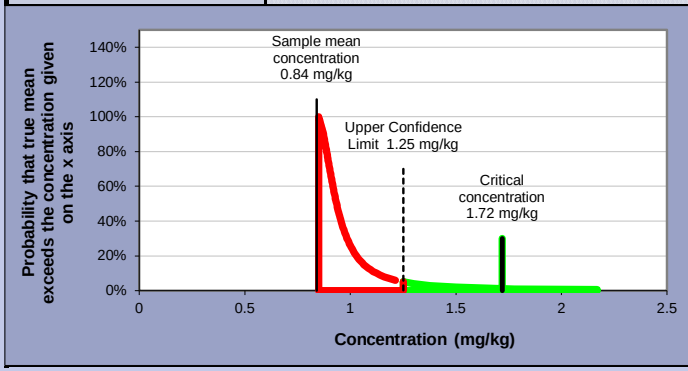
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**99%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

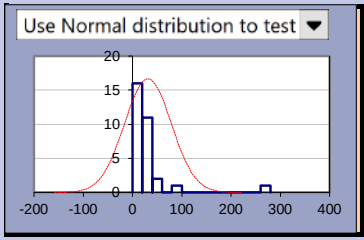
Test Results

Nickel (mg/kg)

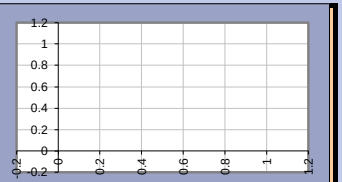
Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Farmyard | Date: 11-Jun-2018

Project ref: GE16943 | Data description: | User details: FG

Dataset: Nickel (mg/kg)	
Sample mean (mg/kg), $\overline{x}$	31.306
Sample standard deviation, s	47.398
Sample size, n	31
Critical concentration, Cc (mg/kg)	180



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	0

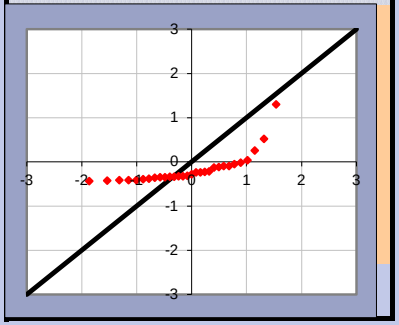


Normality test

Significance le: 5%

Non-normal distribution

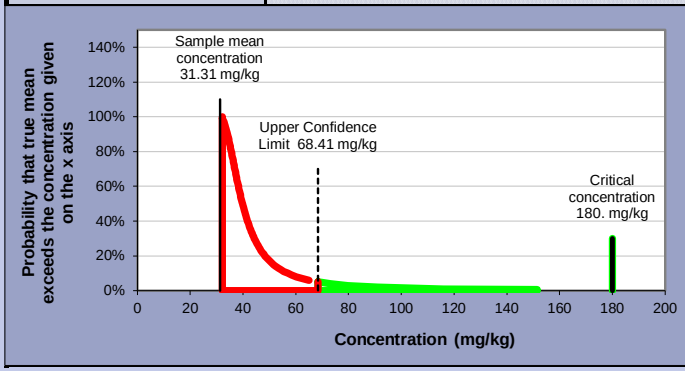
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**100%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

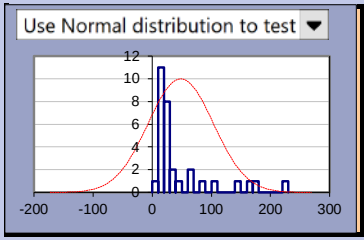
Test Results

Lead (mg/kg)

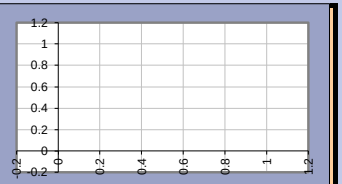
Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Farmyard | Date: 11-Jun-2018

Project ref: GE16943 | Data description: | User details: FG

Dataset: Lead (mg/kg)	
Sample mean (mg/kg), $\overline{x}$	48.274
Sample standard deviation, s	55.19
Sample size, n	31
Critical concentration, Cc (mg/kg)	200



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	#NAME?

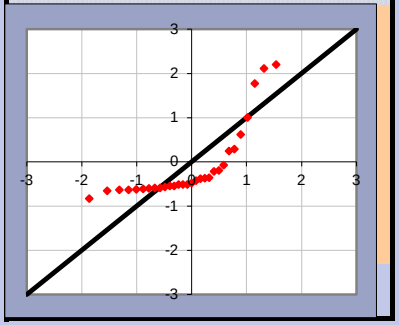


Normality test

Significance le: 5%

Non-normal distribution

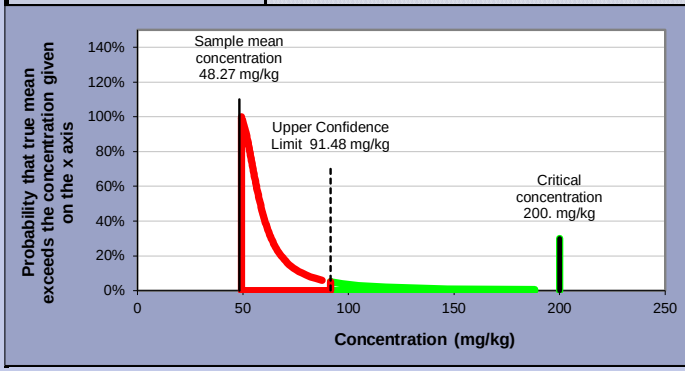
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**100%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Client/client ref: Grainger PLC
Project ref: GE16943
Site ref: Woodcroft Farm, Lovedean, PO8 9QA - Farmyard
Data description:
Contaminant(s): PAH
Test scenario: Planning
Date: 18 June 2018
User details: EC

	Naphthalene (mg/kg)	Acenaphthylene (mg/kg)	Acenaphthene (mg/kg)	Fluorene (mg/kg)	Phenanthrene (mg/kg)	Anthracene (mg/kg)	Fluoranthene (mg/kg)	Pyrene (mg/kg)	Benzo(a)anthracene (mg/kg)	Chrysene (mg/kg)	Benzo (b) fluoranthene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Benzo (a) pyrene (mg/kg)	Indeno (1,2,3-cd) pyrene (mg/kg)
Critical concentration, C_c	**2.3**	**170**	**210**	**170**	**95**	**2400**	**280**	**620**	**7.2**	**15**	**2.6**	**77**	**3.93**	**27**
Notes														
Full dataset size	31	31	31	31	31	31	31	31	31	31	31	31	31	31
Outliers present?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of outliers temporarily excluded														
Number removed by filter	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sample size, n	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**
Sample mean, $\bar{x}$	0.05	0.05967742	0.07096774	0.06774194	0.28870968	0.13225806	0.60645161	0.55322581	0.38064516	0.40645161	0.47096774	0.48225806	0.44354839	0.36774194
Standard deviation, s	2.1161E-17	0.03745966	0.06680094	0.05707946	0.59870829	0.21037601	1.23468903	1.08719329	0.66076691	0.68880838	0.78716519	0.76251212	0.77068605	0.6109485
Number of non-detects	**31**	**29**	**28**	**28**	**23**	**24**	**18**	**19**	**20**	**18**	**14**	**17**	**15**	**20**
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal
Statistical approach	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev

Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?				**Evidence level required:**		**95%**	Use Normal distribution to test for outliers						
t statistic, t_0 (or k_0)	-5.92014E+17	-25258.84592	-17497.28946	-16575.88921	-880.7797695	-63514.36293	-1259.910318	-3172.327965	-57.46135368	-117.9623253	-15.05903732	-558.7226042	-25.18761176	-242.7080816
Upper confidence limit (on true mean concentration, μ)	0.05	0.08900389	0.12326495	0.11242838	0.75742724	0.29695752	1.57306664	1.40436917	0.89794726	0.94570686	1.0872247	1.07921459	1.04690413	0.84604213
Evidence level	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Base decision on:	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level
Result	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**
Select dataset	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Back to data | **Go to outlier test** | **Go to normality test** | **Show individual summary**

Client/client ref: Grainger PLC
Project ref: GE16943
Site ref: Woodcroft Farm, Lovedean, PO8 9QA - Farmyard
Data description:
Contaminant(s): PAH
Test scenario: Planning
Date: 18 June 2018
User details: FC

	Dibenzo(a,h)anthracene (mg/kg)	Benzo[g,h,i]perylene (mg/kg)				
Critical concentration, C_c	**0.39**	**320**				
Notes						
Full dataset size	31	31	0	0	0	0
Outliers present?	Yes	Yes				
Number of outliers temporarily excluded	0					
Number removed by filter	0	0	0	0	0	0
Sample size, n	**31**	**31**	**0**	**0**	**0**	**0**
Sample mean, $\bar{x}$	0.12741935	0.3983871	No Data	No Data	No Data	No Data
Standard deviation, s	0.14366553	0.72508435				
Number of non-detects	**21**	**17**	0	0	0	0
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Non-normal	Non-normal				
Statistical approach	Auto: Chebychev	Auto: Chebychev	Auto	Auto	Auto	Auto

Test scenario:						
t statistic, t_0 (or k_0)	-10.17632513	-2454.15099				
Upper confidence limit (on true mean concentration, μ)	0.23989242	0.96604212				
Evidence level	**99%**	**100%**				
Base decision on:	evidence level	evidence level				
Result	**μ < Cc**	**μ < Cc**				
Select dataset	●	○	○	○	○	○

Back to data

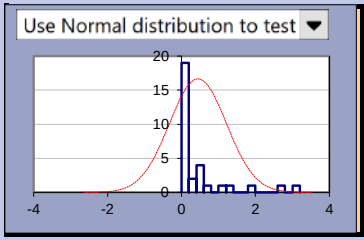
Test Results

Benzo (a) pyrene (mg/kg)

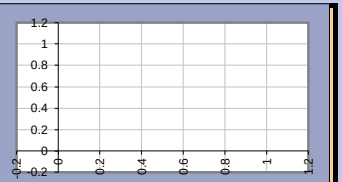
Client/client ref: Grainger PLC Site ref: Woodcroft Farm, Lovedean, PO8 9QA - F Date: 18-Jun-2018

Project ref: GE16943 Data description: User details: FG

Dataset: Benzo (a) pyrene (mg/kg)	
Sample mean (mg/kg), $\bar{x}$	0.4435
Sample standard deviation, s	0.7707
Sample size, n	31
Critical concentration, Cc (mg/kg)	3.93



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	#NAME?

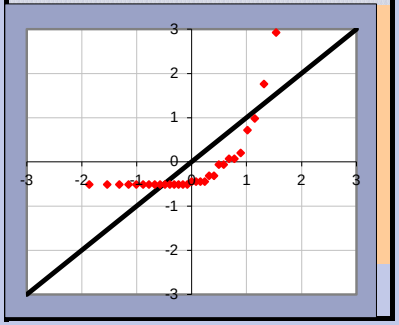


Normality test

Significance le: 5%

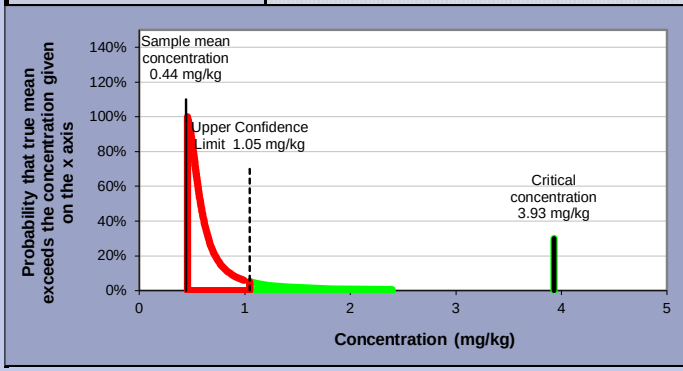
Non-normal distribution

Use: Auto: Chebychev



Test scenario: Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

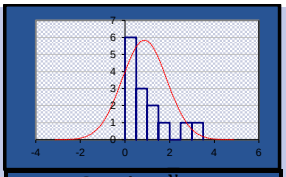


Evidence against Null hypothesis:	**100%**
Base decision on:	evidence level
Evidence level required:	95%
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Benzo (a) pyrene		Outliers
TP215	Y	3.1		
TP215	N			0.2
TP220	Y	0.5		
TP220	N			0.05
TP223	Y	0.05		
TP224	Y	0.6		
TP224	Y	0.05		
TP225	Y	1		
TP239	Y	0.5		
TP239	Y	0.05		
TP312	Y	1.8		
TP312	N			0.1
TP312	N			0.05
TP313	Y	1.2		
TP313	N			0.4
TP313	N			0.05
TP314	N			0.05
TP314	N			0.1
TP314	N			0.1
TP315	Y	2.7		
TP315	N			0.05
TP315	N			0.1
TP316	Y	0.4		
TP316	N			0.05
TP316	N			0.05
TP317	Y	0.05		
TP317	N			0.05
TP317	N			0.05
TP318	Y	0.2		
TP318	N			0.05
TP318	N			0.05
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{x}$
0.871

Standard deviation, s
1.001

Sample size, n
14

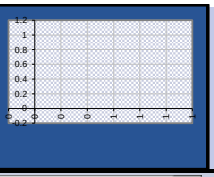
Maxiumum
3.100

Outlier Test Applicability
Not Applicable

Level of Significance
5%

Tn = 2.227
Tcrit = 2.372

Outliers?
No
(17 selected)



Dataset: Benzo (a) pyrene (mg/kg) O/T:14/31

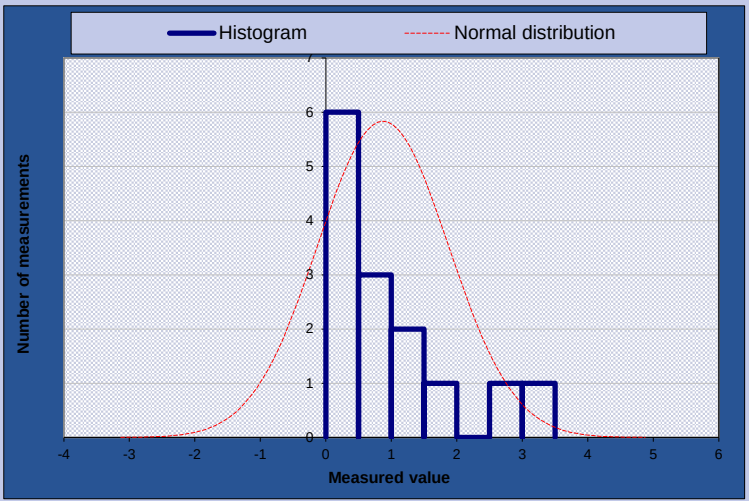
Use Normal distribution to test for outliers

Exclude identified outliers

Show individual summary

Back to summary

Back to data



Test Results

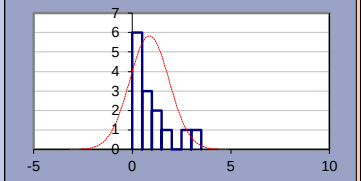
Client/client ref: Grainger PLC Site ref: Woodcroft Farm, Lovedean, PO8 9QA - F Date: 18-Jun-2018

Benzo (a) pyrene (mg/kg) O/T:14/31

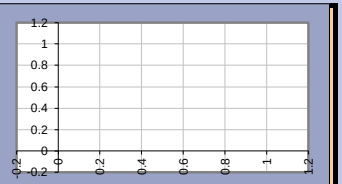
Project ref: GE16943 Data description: User details: FG

Dataset: Benzo (a) pyrene (mg/kg) O/T:14/31	
Sample mean (mg/kg), $\bar{x}$	0.8714
Sample standard deviation, s	1.0007
Sample size, n	14
Critical concentration, Cc (mg/kg)	3.93

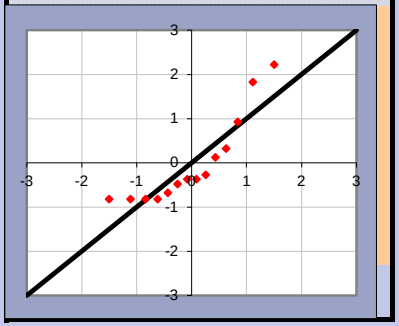
Use Normal distribution to test



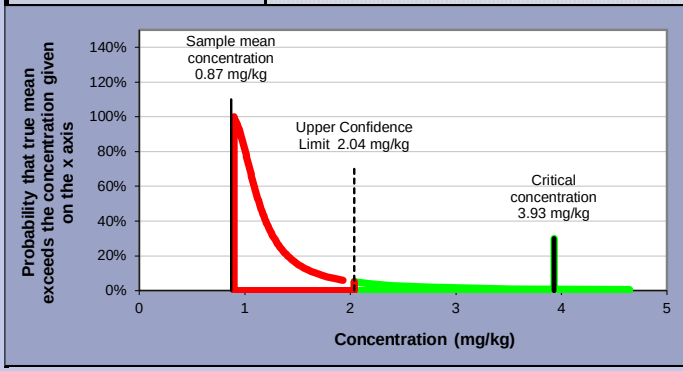
Outliers & non-detects	
Outliers present?	No
Significance level	5%
Outliers excluded	17
Non-detects	#NAME?



Normality test	
Significance le	5%
Non-normal distribution	
Use:	Auto: Chebychev



Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?
Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**99%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Test Results

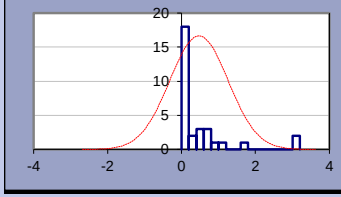
Benzo (b) fluoranthene (mg/kg)

Client/client ref: Grainger PLC | Site ref: Woodcroft Farm, Lovedean, PO8 9QA - F | Date: 18-Jun-2018

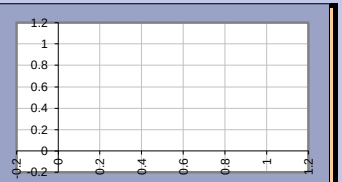
Project ref: GE16943 | Data description: | User details: FG

Dataset: Benzo (b) fluoranthene (mg/kg)	
Sample mean (mg/kg), $\overline{x}$	0.471
Sample standard deviation, s	0.7872
Sample size, n	31
Critical concentration, Cc (mg/kg)	2.6

Use Normal distribution to test



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	#NAME?

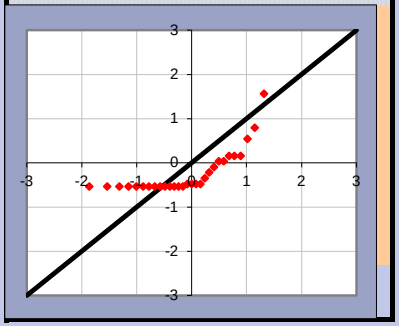


Normality test

Significance le: 5%

Non-normal distribution

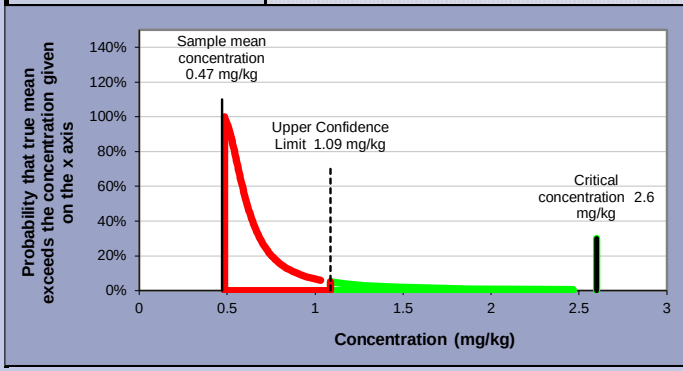
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

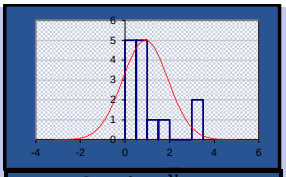


Evidence against Null hypothesis:	**100%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Benzo (b) fluoranthene		Outliers
TP215	Y	3		
TP215	N			0.05
TP220	Y	0.6		
TP220	N			0.05
TP223	Y	0.05		
TP224	Y	0.6		
TP224	Y	0.05		
TP225	Y	0.9		
TP239	Y	0.5		
TP239	Y	0.05		
TP312	Y	1.7		
TP312	N			0.2
TP312	N			0.05
TP313	Y	1.1		
TP313	N			0.5
TP313	N			0.05
TP314	N			0.05
TP314	N			0.05
TP314	N			0.05
TP315	Y	3.1		
TP315	N			0.3
TP315	N			0.1
TP316	Y	0.6		
TP316	N			0.1
TP316	N			0.1
TP317	Y	0.1		
TP317	N			0.05
TP317	N			0.05
TP318	Y	0.4		
TP318	N			0.05
TP318	N			0.05
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{x}$
0.911

Standard deviation, s
1.016

Sample size, n
14

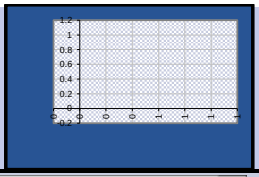
Maxiumum
3.100

Outlier Test Applicability
Not Applicable

Level of Significance, α
5%

Tn = 2.155
Tcrit = 2.372

Outliers?
No
(17 selected)



Dataset: Benzo (b) fluoranthene (mg/kg) O/T:14/31

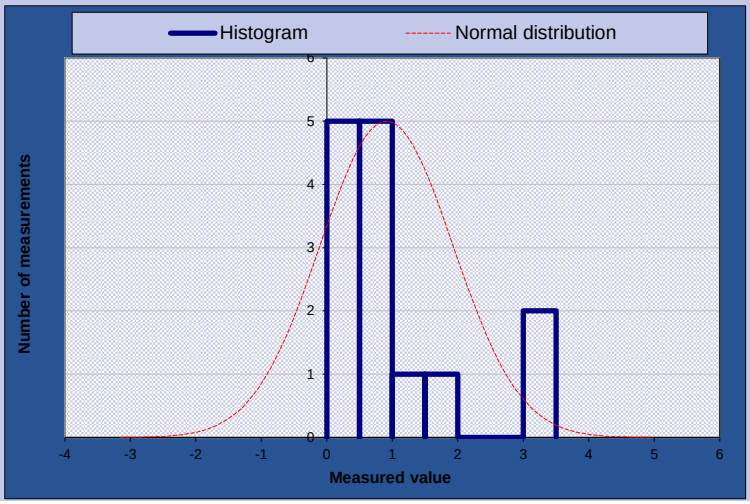
Use Normal distribution to test for outliers

Exclude identified outliers

Show individual summary

Back to summary

Back to data



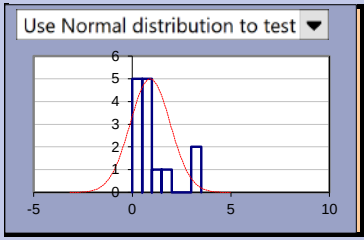
Test Results

Client/client ref: Grainger PLC | Site ref: Woodcroft Farm, Lovedean, PO8 9QA - F | Date: 18-Jun-2018

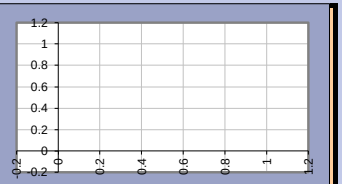
Benzo (b) fluoranthene (mg/kg) O/T:14/31

Project ref: GE16943 | Data description: | User details: FG

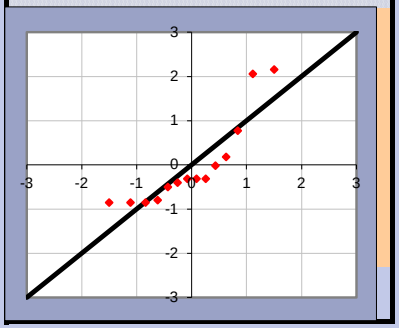
Dataset: Benzo (b) fluoranthene (mg/kg) O/T	
Sample mean (mg/kg), $\bar{x}$	0.9107
Sample standard deviation, s	1.0159
Sample size, n	14
Critical concentration, Cc (mg/kg)	2.6



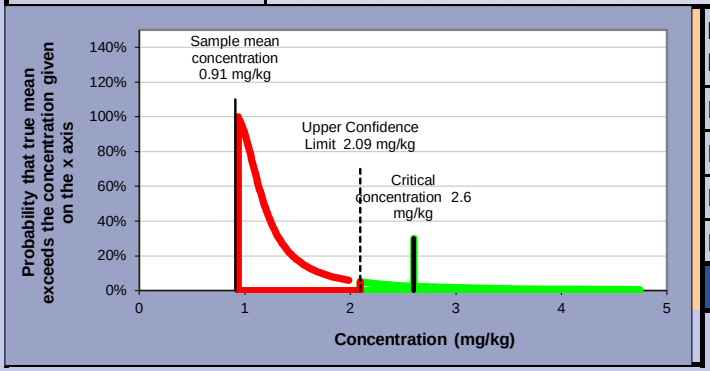
Outliers & non-detects	
Outliers present?	No
Significance level	5%
Outliers excluded	17
Non-detects	#NAME?



Normality test	
Significance le	5%
Non-normal distribution	
Use:	Auto: Chebychev



Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?
Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**97%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Test Results

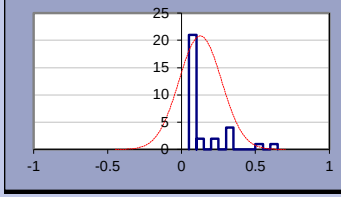
Dibenzo(a,h)anthracene (mg/kg)

Client/client ref: Grainger PLC | Site ref: Woodcroft Farm, Lovedean, PO8 9QA - F | Date: 18-Jun-2018

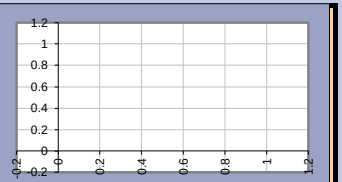
Project ref: GE16943 | Data description: | User details: FG

Dataset: Dibenzo(a,h)anthracene (mg/kg)	
Sample mean (mg/kg), $\bar{x}$	0.1274
Sample standard deviation, s	0.1437
Sample size, n	31
Critical concentration, Cc (mg/kg)	0.39

Use Normal distribution to test



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	#NAME?

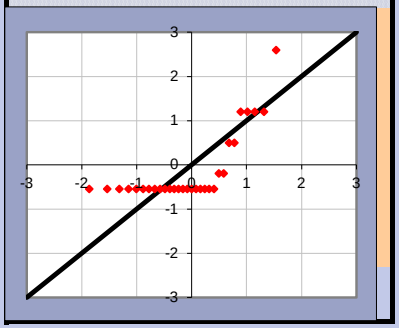


Normality test

Significance le: 5%

Non-normal distribution

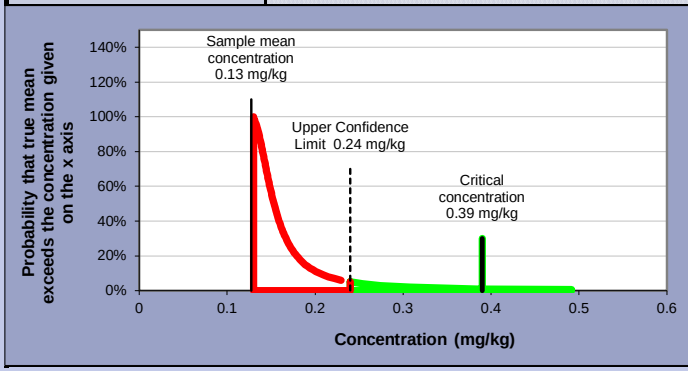
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

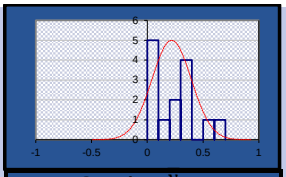


Evidence against Null hypothesis:	**99%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Dibenzo(a,h)anthracene		Outliers
TP215	Y	0.6		
TP215	N			0.05
TP220	Y	0.2		
TP220	N			0.05
TP223	Y	0.05		
TP224	Y	0.2		
TP224	Y	0.05		
TP225	Y	0.3		
TP239	Y	0.3		
TP239	Y	0.05		
TP312	Y	0.3		
TP312	N			0.05
TP312	N			0.05
TP313	Y	0.3		
TP313	N			0.1
TP313	N			0.05
TP314	N			0.05
TP314	N			0.05
TP314	N			0.05
TP315	Y	0.5		
TP315	N			0.05
TP315	N			0.05
TP316	Y	0.1		
TP316	N			0.05
TP316	N			0.05
TP317	Y	0.05		
TP317	N			0.05
TP317	N			0.05
TP318	Y	0.05		
TP318	N			0.05
TP318	N			0.05
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{x}$
0.218

Standard deviation, s
0.177

Sample size, n
14

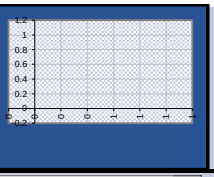
Maxiumum
0.600

Outlier Test Applicability
Not Applicable

Level of Significance
5%

Tn = 2.157
Tcrit = 2.372

Outliers?
No
(17 selected)



Dataset: Dibenzo(a,h)anthracene (mg/kg) O/T:14/31

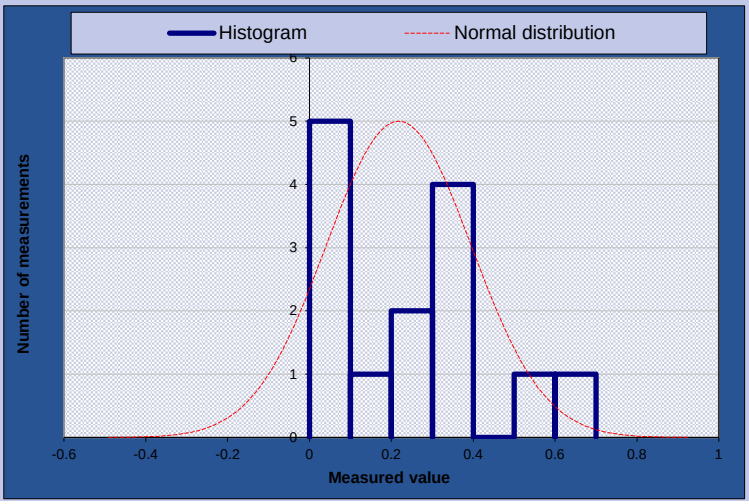
Use Normal distribution to test for outliers

Exclude identified outliers

Show individual summary

Back to summary

Back to data

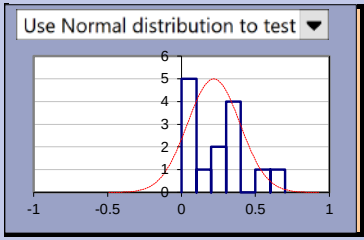


Test Results

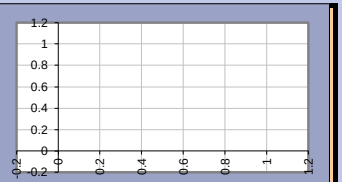
Client/client ref: Grainger PLC | Site ref: Woodcroft Farm, Lovedean, PO8 9QA - F | Date: 18-Jun-2018

Dibenzo(a,h)anthracene (mg/kg) O/T:14/31 | Project ref: GE16943 | Data description: | User details: FG

Dataset: Dibenzo(a,h)anthracene (mg/kg) O/	
Sample mean (mg/kg), $\bar{x}$	0.2179
Sample standard deviation, s	0.1772
Sample size, n	14
Critical concentration, Cc (mg/kg)	0.39



Outliers & non-detects	
Outliers present?	No
Significance level	5%
Outliers excluded	17
Non-detects	21

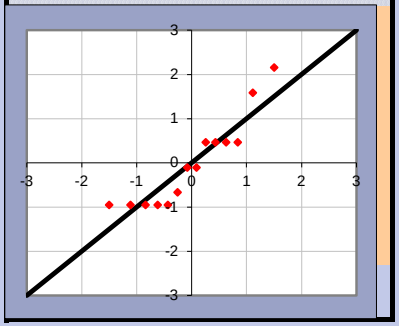


Normality test

Significance le: 5%

Non-normal distribution

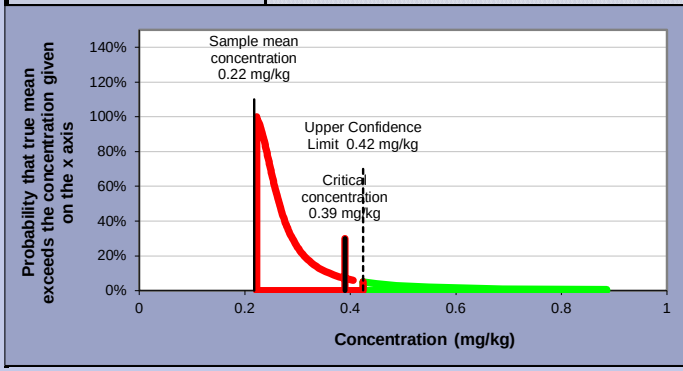
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**93%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	No

Not enough evidence

Back to data | Back to summary | Go to outlier test | Go to normality test

Geo-Environmental

APPENDIX C

Site Photographs



Photos – 22/11/2017



Plate 1 View north east across the former farmyard and stable area



Plate 2 View of demolished former stables, with stockpiled wastes and possible ACM materials



Plate 3 View of partially covered stockpiled demolition waste including possible ACM's



Plate 4 View of former garage building associated with the farmhouse with possible asbestos sheeting stacked adjacent to building

Photos – 15/05/2018



Plate 5 View north of former farmyard area



Plate 6 View north east of former farmyard area



Plate 7 View of stockpiled crushed concrete material, stored in north western side of the farmyard area



Plate 8 View north west of crushed concrete stockpile



Plate 9 View south east towards farmhouse of former farmyard area



Plate 10 View north east across former farmyard area



Plate 11 View west towards horse arena area



Plate 12 View north across north edge of the former farmyard area

Geo-Environmental

APPENDIX D

Imported Soils Criteria



Geo-Environmental

IMPORTED SOIL SPECIFICATION

for the site at

WOODCROFT FARM, WOODCROFT LANE,

LOVEDEAN, HAMPSHIRE, PO8 9QA

on behalf of

GRAINGER PLC



Report:	**IMPORTED SOIL SPECIFICATION**
Site:	**WOODCROFT FARM, WOODCROFT LANE, LOVEDEAN, HAMPSHIRE, PO8 9QA**
Client:	**GRAINGER PLC**
Date:	**28-06-2018**
Reference:	**GE16943-ISS-180628**
Revision:	**1.0**
Prepared by:	
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Reviewed by:	
	GAVIN ROBERTS CGeol, BEng (Hons), MSc, FGS **TECHNICAL DIRECTOR**

Geo-Environmental Services Limited
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+44(0)1273 832972 www.gesl.net

AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Author's initials
1.0	28/06/2018	First issue	FG

CONTENTS

1.0	Introduction	1
2.0	Chemical Composition	1
3.0	Nutritional Composition	5
4.0	Physical Composition	5
5.0	Source Requirements	6
6.0	Testing Rates and Compliance	6

1.0 Introduction

This document sets out the requirements for imported subsoil and Topsoil materials for any project undergoing redevelopment or other works where capping work is required.

Within the specification reference has been made to topsoil and subsoil. Topsoil relates to the top layer of natural soil that can support healthy vegetation growth. Subsoil relates to the layer of soil immediately below the topsoil to the depth of the underlying broken rock or geological parent material.

The specification considers the chemical, nutritional and physical properties of soils that are to be imported onto site in order to ensure materials used are suitable for their intended use and do not introduce any new hazard or pollutant linkage on to the site.

Where there is any discrepancy between this specification and BS3882:2015 or BS8601:2013, the latter documents shall take precedence unless otherwise formally confirmed by the relevant regulator.

2.0 Chemical Composition

The chemical criteria listed below are based on the published Category 4 Screening Levels (C4SLs) by DEFRA and/or the relevant Suitable for Use Levels (S4ULs) published by LQM, for a residential end use with plant uptake. From time to time these values may change in line with regulatory or UK policy changes. Such changes will require revision and re-issue of this document.

Where C4SLs or S4ULs are published for a range of Soil Organic Matter (SOM) values, these ranges and their respective SOM values have been presented and would be considered when assessing compliance with this Specification.

2.1 Method of Analysis

Samples should be analysed using UKAS or MCERTS accredited laboratories. For TPH analysis sample preparation must not include air drying.

2.1.1 Poly Aromatic Hydrocarbon (PAH)

The PAH analysis must include the EPA priority 16.

2.1.2 Total Petroleum Hydrocarbons (TPH)

The analysis for TPH should be undertaken on the ‘as received’ sample and not be subject to any pre-treatment and shall include aliphatic and aromatic carbon banding split.

2.2 Topsoil (0-300mm depth)

Tables 1, 1a, 1b and 1c provide a list of the maximum acceptable concentrations for a range of determinants for imported topsoil.

Determinant	Maximum concentration (mg/kg)
Inorganic	**SOM 6%**
Arsenic (total)	37
Boron (water soluble)	290
Cadmium (total)	11
Chromium (total)	130
Copper (total)	2400
Cyanide (total)	250
Lead (total)	200
Mercury (total inorganic)	40
Nickel (total)	180
pH	5.5 – 7.8
Selenium (total)	250
Sulphate (total)	2000
Zinc (total)	3700
Asbestos	Absent
Organic	
Phenols (total)	110
Poly Aromatic Hydrocarbon (speciated)	See Table 1a
Total Petroleum Hydrocarbon (speciated)	See Table 1b

Table 1 Chemical Specification for Topsoil

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Acenaphthene	210	510	1100
Acenaphthylene	170	420	920
Anthracene	2400	5400	11000
Benz(a)anthracene	7.2	11	13
Benzo(a)pyrene	2.2	2.7	3.0
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(ghi)perylene	320	340	350
Benzo(k)fluoranthene	77	93	100
Chrysene	15	22	27
Dibenz(ah)anthracene	0.24	0.28	0.30
Fluoranthene	280	560	890
Fluorene	170	400	860
Indeno(1,2,3CD)pyrene	27	36	41
Naphthalene	2.3	5.6	13.0
Phenanthrene	95	220	440
Pyrene	620	1200	2000

Table 1a Topsoil Specification for Speciated PAH

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Aliphatic			
EC 5-6	42	78	160
EC >6-8	100	230	530
EC >8-10	27	65	150
EC >10-12	130	330	760

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
EC >12-16	1100	2400	4300
EC >16-35	65000	92000	110000
EC >35-44	65000	92000	110000
Aromatic			
EC 5-7 (benzene)	70	140	300
EC >7-8 (toluene)	130	290	660
EC >8-10	34	83	190
EC >10-12	74	180	380
EC >12-16	140	330	660
EC >16-21	260	540	930
EC >21-35	1100	1500	1700
EC >35-44	1100	1500	1700
Aliphatic and Aromatic			
EC >44-70	1600	1800	1900

Table 1b Topsoil Specification for Speciated TPH

Determinant	Phytotoxicity GAC (mg/kg)		
	pH <6.0	pH 6.0-7.0	pH >7.0
Zinc	200	200	300
Copper	100	135	200
Nickel	60	75	110

Table 1c Topsoil Specification for phytotoxicity

2.3 Subsoil (300-1000mm depth)

Tables 2, 2a, 2b and 2c provide a list of the maximum acceptable concentrations for a range of determinants for imported subsoil.

Determinant	Maximum concentration (mg/kg)
Inorganic	SOM 6%
Arsenic (total)	37
Boron (water soluble)	290
Cadmium (total)	11
Chromium (total)	130
Copper (total)	2400
Cyanide (total)	250
Lead (total)	200
Mercury (total inorganic)	40
Nickel (total)	180
pH	5.5 – 7.8
Selenium (total)	250
Sulphate (total)	2000
Zinc (total)	3700
Asbestos	Absent
Organic	
Phenols (total)	110
Poly Aromatic Hydrocarbon (speciated)	See Table 2a

Determinant	Maximum concentration (mg/kg)
Inorganic	**SOM 6%**
Total Petroleum Hydrocarbon (speciated)	See Table 2b

Table 2 Chemical Specification for Subsoil

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Acenaphthene	210	510	1100
Acenaphthylene	170	420	920
Anthracene	2400	5400	11000
Benz(a)anthracene	7.2	11	13
Benzo(a)pyrene	2.2	2.7	3.0
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(ghi)perylene	320	340	350
Benzo(k)fluoranthene	77	93	100
Chrysene	15	22	27
Dibenz(ah)anthracene	0.24	0.28	0.30
Fluoranthene	280	560	890
Fluorene	170	400	860
Indeno(1,2,3CD)pyrene	27	36	41
Naphthalene	2.3	5.6	13.0
Phenanthrene	95	220	440
Pyrene	620	1200	2000

Table 2a Subsoil Specification for Speciated PAH

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Aliphatic			
EC 5-6	42	78	160
EC >6-8	100	230	530
EC >8-10	27	65	150
EC >10-12	130	330	760
EC >12-16	1100	2400	4300
EC >16-35	65000	92000	110000
EC >35-44	65000	92000	110000
Aromatic			
EC 5-7 (benzene)	70	140	300
EC >7-8 (toluene)	130	290	660
EC >8-10	34	83	190
EC >10-12	74	180	380
EC >12-16	140	330	660
EC >16-21	260	540	930
EC >21-35	1100	1500	1700
EC >35-44	1100	1500	1700
Aliphatic and Aromatic			
EC >44-70	1600	1800	1900

Table 2b Subsoil Specification for Speciated TPH

Determinant	Phytotoxicity GAC (mg/kg)		
	pH <6.0	pH 6.0-7.0	pH >7.0
Zinc	200	200	300
Copper	100	135	200
Nickel	60	75	110

Table 2c Subsoil Specification for phytotoxicity

3.0 Nutritional Composition

The nutritional criteria listed below are based on BS3882:2015 for topsoil and BS8601:2013 for subsoil. In the absence of published criteria, current guidance and best practice has been applied to derive appropriate criteria.

3.1 Topsoil & Subsoil

Table 3 details the minimum acceptable concentrations for imported topsoil and subsoil. The nutrient concentrations set out in Table 3 for Topsoil are based on those set out in BS3882:2015 which states *"Multipurpose topsoil is the grade suited to most situations where topsoil is required; however, there can be situations where specific purpose topsoil is required"*. In the event that an alternative specific Topsoil grade is required, i.e. acidic; calcareous; low fertility; low fertility acidic; or low fertility calcareous, the compliance criteria set out in BS3882:2015 shall be applicable in place of those set out in Table 3 below.

Topsoil/Subsoil	Parameter	Concentration
Topsoil (multipurpose grade only)	Phosphorous	16 – 140 mg/l
	Potassium	121 – 1500 mg/l
	Magnesium	51 – 600 mg/l
	Nitrogen	0.15 % m/m
	Carbon:nitrogen ratio	<20:1
Subsoil	Phosphorous	16 mg/l
	Potassium	121 mg/l
	Magnesium	51 mg/l
	Nitrogen	0.15 %
	Carbon:nitrogen ratio	<20:1

Table 3 Nutritional Specification for Topsoil and Subsoil

4.0 Physical Composition

The physical criteria listed below are based on BS3882:2015 Specification for Topsoil. In the absence of published criteria, current guidance and best practice has been applied to derive appropriate criteria.

4.1 Topsoil

Table 4 details the physical suitability requirements for imported topsoil and subsoil. Table 4 sets out acceptability criteria from BS3882:2015 for multipurpose Topsoil. In the event that an alternative specific Topsoil grade is required, i.e. acidic; calcareous; low fertility; low fertility acidic; or low fertility calcareous, the compliance criteria set out in BS3882:2015 shall be applicable in place of those set out in Table 4 below.

Topsoil/Subsoil	Parameter	Specification requirements
Topsoil (multipurpose Topsoil only)	Textural Classification	Sandy clay loam, sandy loam, loamy sand, sandy silt loam (as defined in BS3882:2015, Figure 1)
	Loss on Ignition	3 - 20% (for 5-20% clay soil) 5 - 20% (for 20-35% clay soil)
	Maximum Stone content:	>2mm = 30% >20mm = 10% >50mm = 0%
Subsoil	Textural Classification	Refer to BS8601:2013 Figure 1
	Loss on Ignition	2%
	Maximum Stone content:	>2mm = 40% >20mm = 20% >75mm = 0%

NB: Topsoil and Subsoil must be free from glass, brick fragments, plastic, metal, asbestos and other deleterious materials.

Table 4 Physical Specification for Topsoil & Subsoil

5.0 Source Requirements

5.1 Topsoil and Subsoil

The following will be provided with all soils imported to site:

- A site plan detailing the location and address of the source site, including grid reference.
- Location description of source material, including historic and current site uses.
- Sample analysis results of material at source, including details of laboratory, date of sampling, date samples received by laboratory etc.

5.2 Manufactured soils

Where natural soils are unavailable manufactured soils may be utilised, and the following should be provided:

- Details of the soil manufacturing process, including criteria for received soils, quality control procedure and validation protocol.
- Soils should be tested at a minimum ratio of one sample per 50m^3.

6.0 Testing Rates and Compliance

Sampling shall be undertaken in accordance with BS3882:2015 and BS8601:2013.

6.1 Topsoil

Where natural sourcing is proposed, the provenance of the material shall be determined by analysis of the soils at a minimum rate of 3No. samples per source site (up to 250m^3) and 1 sample per 250m^3 thereafter. Imported soils should be sampled once it has been laid on the site to support the analysis provided by the source supplier.

Where Topsoil is derived from a manufactured source, testing would be undertaken at a rate of 1 sample per 50m^3, with a minimum of 3No. tests for any given potential source material (or production batch).

6.2 Subsoil

Where the source of the material is known validation sampling should be undertaken at a minimum rate of 3 samples per source (up to 250m³) and 1 sample per 250m³ thereafter. Imported soils should be sampled once it has been laid on the site to support the analysis provided by the source supplier.

Where subsoil is derived from a manufactured source, testing would be undertaken at a rate of 1 sample per 50m³, with a minimum of 3No. tests for any given potential source material (or production batch)

Where the source of the material is not known the validation sampling should be undertaken in-line with the testing rates as set out for cover systems to ensure the materials are suitable for their intended use. Further guidance on minimum testing under this scenario is presented in Section 6.3 below.

6.3 Cover Systems

Where a cover system/ capping layer is proposed as part of the required remedial measures, sampling frequency will follow the guidance set out by the NHBC in their guidance for clean cover systems (2010) and supplemented within NHBC Technical Extra Guidance Issue 8, November 2012, outlined below:

- Sites with more than 30 plots testing should be conducted at a rate of one plot in four, with a minimum of 10 tests across the site;
- Sites with between 20 – 30 plots testing should be conducted at a rate of one plot in three, with a minimum of 7 tests across the site;
- Sites with between 5 -20 plots testing should be conducted at a rate of one plot in two with a minimum of 5 tests across the site;
- Sites with fewer than 5 plots testing should be conducted in every plot with a minimum of 3 tests across the site.

6.4 Sample failure

In the event that a sample fails to meet the specified criteria for any parameter the Environmental Consultant should be contacted for advice on the suitability of the materials.

Further testing may be required to provide reassurance that the exceedances are not representative of the soil and to provide clarification whether the soil is suitable for importation and/or proposed use.

6.5 Timing

Sampling and analysis undertaken by a manufactured topsoil supplier shall be no earlier than two weeks from the date of import, any results which are older than two weeks will be deemed not to be representative of the soils to be imported and rejected. Results showing consistency of batching may be requested to demonstrate consistency of the physical, chemical and nutritional composition of the material.

Imported soil suppliers and groundwork contractors are required to take reasonably practicable measures to ensure that compliance with this Specification does not hinder formal completion of individual plots or developments.

6.6 General Compliance

All analytical suites shall correspond with the chemical, nutritional and physical compliance criteria (as set out in Tables 1 to 4). The soil supplier shall ensure that the analytical limits of detection are equal or lower than the compliance values presented within this Specification. Where either testing suites or limits of detection do not comply with this Specification, the entire set of results shall be rejected.

Geo-Environmental

REMEDIATION STRATEGY & VERIFICATION PLAN

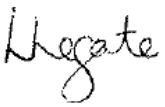
for the land at

HORSE ARENA (HA), WOODCROFT FARM,

WOODCROFT LANE, LOVEDEAN, PO8 9QA

on behalf of

VISTRY HOMES SOUTHERN

Report:	**REMEDIATION STRATEGY & VERIFICATION PLAN**
Site:	**HORSE ARENA (HA), WOODCROFT FARM, WOODCROFT LANE, LOVEDEAN, PO8 9QA**
Client:	**VISTRY HOMES SOUTHERN**
Date:	**11/02/21**
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AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Author	Reviewed By	Authorised by
1.0	28/06/2018	First issue	FG	GR	GR
2.0	26/10/2018	Accounts for findings of Detailed Quantitative Gas Risk Assessment	FG/GR	GR	GR
3.0	27/03/2020	Revision to reflect proposed development levels	GR	GR	GR
4.0	24/08/2020	Revision to reflect proposed development levels	FG	LL	GE
5.0	22/12/2020	Revision to reflect changes to proposed development levels, revision to figures only	FG	LL	GR
6.0	11/02/2021	Revision to reflect changes to proposed soil cover system to include physical and visual barriers	FG	GR	GR

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1.0 INTRODUCTION

1.1 General

Following a Phase I and Phase II assessment of the site undertaken by third parties, detailed within reports listed below, Geo-Environmental was appointed by Grainger PLC and subsequently Vistry Southern, to undertake supplementary investigation and formulate a Remediation Strategy in relation to the proposed development at Woodcroft Farm, Woodcroft Lane, Lovedean, PO8 9QA herein referred to as 'the site' (Figures 1 and 2). Three distinct areas of the development site were identified as being impacted by contamination. Separate Remediation Strategies will be written for each of these distinct areas, therefore this Remediation Strategy is specific to the area of the development site known as the former Horse Arena area, located immediately to the north of the infilled chalk pit and to the north-west of the former farmyard area.

This Remediation Strategy & Verification Plan for the Horse Arena (RSVP-HA v6.0), should be read in conjunction with the Remediation Strategy & Verification Plans for the former chalk pit (RSVP-CPv6.0) and farmyard (RSVP-FY v6.0) dated December 2020.

The site as a whole, has been the subject to Phase I Ground Condition Report, ref 21834, dated 2010 prepared by Peter Brett Associates (PBA), which included a desk study and preliminary risk assessment for the overall Woodcroft Farm site; a Factual Report, ref RML 4750, dated October 2011 prepared by Risk Management Limited, which included ground investigation and laboratory test results; and a Geoenvironmental and Geotechnical Ground Investigation Report, ref 21834-030-R02, dated July 2013 prepared by PBA, which presented an interpretative assessment of the overall Woodcroft Farm site.

In addition to the above reports, Geo-Environmental was commissioned in 2017 to undertake a review of these reports, and supplementary testing and assessment. This was reported with a Soil Contamination Assessment ref. GE16662-FG02-170929, dated 29th September 2017.

The remedial strategy presented herein has been developed to reflect the findings from all phases of the assessments undertaken on this site, in respect to the horse arena area. Based on the findings of the investigations it is considered that remediation works would be required with respect to soil contamination identified within the natural soils within the horse arena area.

The revised remedial strategy (v6.0) accounts for clarification of development levels, as discussed with the Client and the Developer, and presented on Ardent's development levels plans ref 192931-073, 192931-074 and 192931-075, prepared November 2020.

1.2 Objectives

The Remediation Strategy & Verification Plan (RSVP) sets out the proposed remedial works to be undertaken on the subject site to support its development for a proposed residential end use with private gardens.

1.3 Planning Permission

It is understood that a planning application has been approved for the site by Havant Borough Council under Planning Reference APP/13/00804. The following pre-commencement planning conditions have been attached to the application which relate to the remediation and validation of land contamination on the site.

11. Prior to the commencement of construction within any specified phase or defined area the development approved by this Planning Permission (as may be agreed in writing by the Local Planning Authority), a scheme to deal with the risks associated with contamination of the site shall be submitted to and approved in writing by the Local Planning Authority. That scheme shall include all of the following elements unless specifically excluded in writing by the Local Planning Authority.

1. *A scheme of further investigation, based on the previously submitted GeoEnvironmental & Geotechnical report. The scope of the investigation shall be sufficient to:*
    - *confirm the preliminary assessment of the nature and extent of contamination at the site,*
    - *inform an appropriate assessment of the risks to all receptors that may be affected, including controlled waters, and;*
    - *enable the appropriate design of remediation and/or risk mitigation measures (if required).*
2. *The results of the further investigation and risk assessment (1) and if appropriate, a method statement based on these results giving full details of the remediation and/or risk mitigation measures required, and how they are to be undertaken.*
3. *A verification report or statement (as appropriate) upon completion of the works set out in (2) [if any], confirming that measures undertaken have been implemented in accordance with the method statement, and have achieved the required performance standards. The verification report / statement shall provide details of any measures necessary for maintenance, further monitoring and reporting.*

All elements shall be adhered to unless agreed in writing by the Local Planning Authority.

Reason: To prevent future occupants of proposed residential properties being exposed to unacceptable risks from identified contamination & soil gas associated with automotive repair and landfill activity previously undertaken at the site, and to ensure that the site does not pose an unacceptable risk to the groundwater Source Protection Zone 1; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

12. Prior to the commencement of construction of any part of the development approved by this Planning Permission, a protocol for the identification & assessment of any unforeseen ground conditions shall be submitted to and approved in writing by the Local Planning Authority. The provisions of the approved protocol shall be observed throughout the undertaking of all relevant construction activities.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

13. If, during development, contamination not previously identified at the site is found to be present, then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted, and obtained written approval from the Local Planning Authority for an addendum to the Method Statement required under Condition 1, (2). This addendum shall detail how this unexpected contamination shall be dealt with, and the development shall not be carried out other than in accordance with the approved details.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

2.0 BACKGROUND

This Remediation Strategy & Verification Plan (RSVP) has been developed from the findings of the various phases of assessment.

A brief overview of salient findings of the reports is presented below. For further information, the individual reports should be referred to directly.

2.1 Overview

The wider site's previous uses included use as a farm with associated barns and buildings, scrapyard and the former chalk pit being infilled as an inert landfill. The portion of the site considered specifically herein comprised a horse arena located to the north of the former chalk pit and north-west of the former farmyard, as shown in Figure 2.

The ground conditions encountered within the horse arena comprised a mantle of Topsoil and/or Made Ground overlying, sandy clay, and clay, with bands of flint cobbles overlying the Chalk. Made Ground was only encountered within one location, TP309.

The Topsoil and/or Made Ground was underlain by soft to firm clay and sandy clay (Head Deposits) in the majority of locations with a band of firm to stiff clay with flint cobbles tentatively identified as Lambeth Group overlying the Chalk. The Chalk was encountered within the majority of locations within the horse arena area from a depth of between 1.10m bgl and 2.10m bgl.

Previous investigation and testing by third parties identified exceedances of metals within the natural soils in the horse arena area of the site. Therefore, further investigation and testing was undertaken to inform this RSVP and is presented herein.

The supplementary investigation and testing of soils on site identified contaminant concentrations of concern within the natural soils in relation to Arsenic and Beryllium. It is considered that remedial action would be warranted to protect end users of a residential development on this site in relation to the isolated concentrations of Arsenic and Beryllium.

Groundwater was not encountered within any of the investigation locations and is anticipated to be present at depths in excess of 25.0m bgl.

Following a Detailed Ground Gas Risk Assessment in relation to the adjacent infilled chalk pit and in the absence of any plausible ground gas source on the Horse Arena area, no requirement for ground gas protection has been identified.

2.2 Supplementary Intrusive Investigation Works – Horse Arena

As part of the formulation of a remedial strategy further intrusive investigation works were undertaken between 14th May 2018 and 18th May 2018 in order to delineate areas of previously identified contamination. In relation to the Horse Arena area these works comprised the excavation of 6No. trial pits to depths of up to 3.00m bgl with associated environmental sampling and testing at various depths. The location of the trial pits is presented in Figure 3 with the results of the exploratory hole logs for the recent and previous phase of investigation presented in Appendix A, and the geochemical analysis and statistical assessments presented in Appendix B. Figure 6 shows the approximate extent of the area of impacted soils.

Further discussion relating to the implications of these supplementary investigation works is presented in Section 3 of this report.

2.3 Proposed Site Use

The proposed development for the wider site is understood to comprise the construction of 288 residential units, associated car parking, open space and landscaping. The horse arena area covers c. 10No. houses and associated gardens. The area of impacted soil extending slightly to the north and east of the Horse Arena fence as shown on Figure 6 such that the impacted area extends into an additional rear garden and area of communal garden to the east and some amenity soft landscaping in parking areas to the north.

The Levels Strategy indicates that finished development levels in gardens will be c. 0.70-1.0m higher than the predevelopment ground level, as shown in Figures 7 and 9.

2.4 Conceptual Site Model

Assessment of the investigation findings have identified particular hazards, or potential hazards which were considered to require intervention (remediation) to mitigate the risk of harm. Remediation works are proposed to break the identified plausible pollutant linkages associated with respect to contaminants of concern above respective assessment criteria within private garden areas proposed within the Horse Arena area, thereby mitigating the associated risk of harm to human health.

This would be undertaken as several phases of works on site:

1) Surface strip of sand dressing surface within the Horse Arena.
2) Surface strip of Topsoil within the vicinity of TP212, TP229, TP306 and TP307 (outside of the area where the sand dressing is present). The Topsoil from this area will be segregated and separately stockpiled awaiting further testing to demonstrate suitability for re-use.
3) Installation of a soil cover system in private garden areas and areas of soft landscaping to break the source, pathway receptor pollutant linkage for the contaminants identified within the Horse Arena area, and to also provide suitable growing media. The cover system shall incorporate a 150mm thick break layer formed of stone or crushed concrete with a geotextile membrane laid above and beneath, and overlain by a deter to dig geofabric to act as a visible deterrent overlain by a minimum of 450mm in thickness to include a minimum of 300mm of Topsoil. The cover system is likely to be completed with Topsoil placement towards the end of plot specific development.

Given the increase in ground levels indicated by the Levels Strategy drawing, there is no requirement to undertake a reduced dig to accommodate the soil cover system in gardens. Figure 8 shows the plots where a soil cover system is considered to be required.

The aim of the remediation is not to remove all contamination identified on site but to reduce the identified risk to an acceptable level with respect to human health, the built environment and controlled waters.

3.0 SOILS

The ground conditions within the Horse Arena have been established through several phases of intrusive investigation. Encountered soils comprised Topsoil, overlying Head Deposits, Lambeth Group and Chalk.

Made Ground was only encountered in one location, TP309 to a depth of 0.30m bgl, and was found to comprise brown sandy clay with flint gravel, flint cobbles and occasional black staining. No visual or olfactory evidence of contamination was identified on the site.

The sand dressed area of the Horse Arena was located within the vicinity of TP308 to TP311. This area was found to have sand dressing overlying a very limited thickness of Topsoil.

A review of chemical analysis of the soil samples from the Horse Arena area was undertaken, including the most recent samples taken for delineation purposes, and the results compared individually against the relevant GAC, SSAC or C4SL for a proposed residential end use (with plant uptake). Individual exceedances above the respective assessment criteria were identified for Arsenic, Beryllium and Nickel, as summarised in Table 1.

Determinand	Tier 1 Criteria mg/kg	Depth m bgl	Concentration mg/kg	Geology
Arsenic	S4UL – 37 SSAC – 38.03	TP229 at 0.6 TP307 at 1.2 TP308 at 0.3 TP308 at 0.7 TP309 at 0.5	38.2 76.9 95.8 68.0 65.6	Natural
Beryllium	S4UL – 1.7 SSAC – 1.72	TP306 at 0.8 TP307 at 0.8 TP307 at 1.2 TP308 at 0.7 TP309 at 0.5 TP311 at 0.4 TP311 at 0.8	2.0 6.4 2.9 1.8 5.1 2.3 2.6	Natural
Nickel	S4UL – 180 SSAC - 149	TP311 at 0.8	200	Natural

Table 1 Summary of exceedances against Tier 1 assessment criteria

The tier 1 exceedances where screened against the Site Specific Assessment Criteria (SSAC) calculated for the site. All of the exceedances identified were also found to exceed the calculated SSAC for residential end use with plant uptake. The noted exceedances of the calculated SSAC have all been identified as being within the natural soils beneath the Topsoil within the Horse Arena area.

The results were assessed further through statistical assessment as described below.

Statistical analysis of the samples within the dataset was undertaken in accordance with guidance contained in the CIEH/CL:AIRE report 'Comparing Soil Contamination Data with a Critical Concentration' (May 2008). If the contamination status of the soils is considered in a planning context, the null hypothesis tested by the analysis is whether the true mean concentration is equal to or greater than the critical concentration for a given determinand, with the critical concentration being the relevant SSAC or GAC (the soil screening value) for that determinand in the context of the intended end use of the site. If the analysis shows that the true mean concentration is less than the critical concentration the null hypothesis can be rejected. The guidance recommends that for the null hypothesis to be rejected the analysis should show that there is a 95% (or higher) likelihood that the true mean concentration is below the critical concentration. Where this is the case the site is considered to be

acceptable for the planned end use without any necessary remedial measures.

Statistical assessment was undertaken on all results of geochemical testing undertaken by Geo-Environmental, for heavy metals from within the natural soils from across the site excluding the farmyard area and chalk pit/landfill area. Due to the type and extent of Made Ground encountered within the farmyard and chalk pit/ landfill areas it was deemed that results from these areas were not representative of the natural soils across the site and were therefore not suitable for inclusion within the statistical assessments.

The statistical analysis showed that the null hypothesis could not be rejected for Arsenic or for Beryllium, but that the null hypothesis could be rejected for Nickel. Whilst statistical outliers were recorded within the datasets for both Arsenic and Beryllium, removal of the outliers, all of which were located within the horse arena area, from the dataset did allow the null hypothesis to be rejected for both contaminants. As such the statistical assessment has demonstrated that the elevated concentrations of Arsenic and Beryllium identified are representative of localised elevated concentrations of Arsenic and Beryllium within the Horse Arena area only and are not considered to be representative of elevated background concentrations within the natural soils across the wider site. Whilst statistical outliers were identified for a number for other substances, all reported concentrations (and statistical upper confidence limit concentrations) were below the relevant SSAC. The results of the statistical assessments are presented within Appendix B.

It is considered that the most likely cause of the impacted natural soil within the horse arena would be from the imported sand dressing utilised as a cover in this area. Through the use of the area as a horse arena and the disturbance of the cover this may have resulted in a mixing, albeit minimal, of the imported materials with underlying natural soils.

In addition, all of the samples from the Horse Area were screened for the presence of asbestos. Asbestos was not identified within the samples analysed.

Based on the above assessment it is considered that remedial action would be warranted to protect end users of a residential development on this site in relation to the concentrations of Arsenic and Beryllium identified within the natural soils within the Horse Arena area, as shown on Figure 4. Remedial action to protect end users from impacted soil is discussed in Section 3.2 below.

3.1 Site Workers

It is the responsibility of the Principal Contractor and their appointed sub-contractors to implement and manage safe systems of work, prepare their own risk assessments in accordance with Health and Safety legislation in order to protect persons in their employ, as well as mitigate the risk of harm to others due to works in their control. Special consideration should be given to the provisions of the Construction (Design & Management) Regulations 2015, Health and Safety at Work Act and the Control of Substances Hazardous to Human Health regulations to protect the safety of persons in their employment. Additional guidance can be sought from the CIRIA publications entitled "A Guide for Safe Working on Contaminated Sites" and “Environmental Good Practice on site guide (fourth edition)”.

In addition to the safe systems of works to be implemented alongside appropriate risk assessments and method statements, all site personnel shall benefit from on-site hygiene facilities including wash area, toilets and drying room.

Separate canteen area and welfare facilities should be provided. All eating and drinking should be restricted to the canteen area and only once site personnel have removed outer PPE and washed exposed skin.

In the event of dry spells, or where the exposed surface becomes dry, regular damping down of the surface of the site will be required to prevent the release of soil dust which could impact on site operatives or migrate off-site, thereby mitigating both off-site exposure and nuisance for neighbours.

3.2 End Users

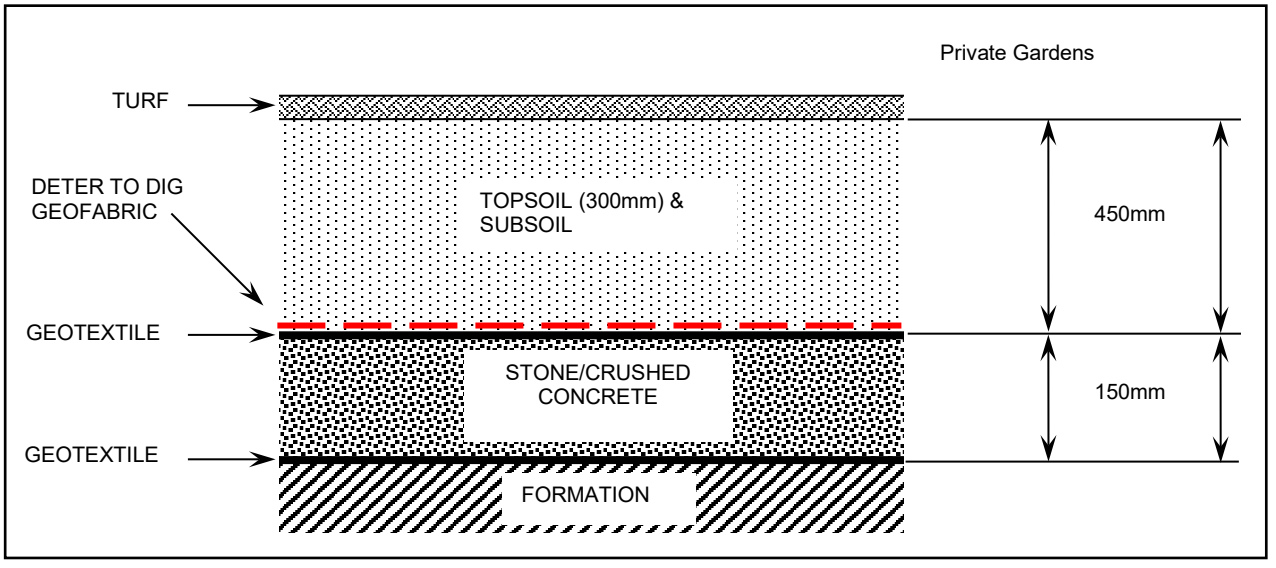
The tier 1 contamination assessment has identified several locations where reported concentrations were either elevated, or exceeded the Tier 1 screening criteria within the natural soils of the Horse Arena area.

Development levels have been determined from Ardent's development levels plans ref 192931-073, 192931-074 and 192931-075, prepared November 2020 for the developer and these show that ground levels are to be increased by 0.70-1.0m above the pre development level as summarised in Figure 7.

A soil cover system has been derived based on Soil Cover Systems for Land Regeneration by BRE, which indicated that a soil cover system of 450mm would be required within areas of private gardens and proposed soft landscaping areas. Due to the possible presence of impacted material beneath the proposed soil cover system the cover system should also incorporate a capillary break layer comprising 150mm depth of stone or crushed concrete, between two layers of geotextile. A high visibility deter to dig geofabric shall be laid over the upper geotextile to provide a visible deterrent to excavation. The cover system should include a minimum thickness of 150mm of Topsoil, although it is anticipated that the Local Planning Authority will require this to be increased to 300mm of Topsoil, i.e. thereby reducing the subsoil layer thickness to 150mm. The BRE cover system calculations are presented within Appendix C.

Given that the proposed development levels are to be increased by more than the minimum soil cover system thickness, it is anticipated that uncontaminated subsoil won from elsewhere on the site would be placed beneath the cover system to achieve the required levels. Contaminated soils from the adjacent chalk pit or farmyard area are not suitable for placement under the cover system on the Horse Arena.

An example of the recommended cover system for use in gardens and soft landscaping in the Horse Arena area is provided below, this recommendation is based on the formation being uncontaminated. This is required for the plots as shown in Figure 8.



With regards to private gardens and areas of communal soft landscaping, it is recommended that Topsoil is placed to provide a suitable growing medium for proposed planting areas as part of the cover system described above. During the intrusive investigation works it was established that there is a limited thickness of Topsoil beneath the sand dressed area of the Horse Arena. It would not be practical to isolate this limited thickness of Topsoil and as such it is not proposed to reuse this material from beneath the sand dressed area. The Topsoil within the Horse Arena area in the vicinity of trial pits TP212, TP229, TP306 and TP307, i.e. those areas located outside of the sand dressed arena area, may be suitable for reuse although this will need to be confirmed by additional testing. Therefore, it is proposed to strip and segregate this Topsoil to awaiting further testing to demonstrate suitability for reuse.

It is considered unlikely that it will be necessary to import Topsoil to the site, however if it is necessary to import topsoil on to the development then, prior to importation, the chemical, physical and nutritional suitability should be verified. Importation of Topsoil or subsoil from unverified or unsuitable sources would require their removal from site and replacement with suitable materials. As a matter of good practice, it is recommended that the location, approximate extent and thickness of any imported topsoil are recorded and presented in the Validation/Verification Report to be prepared by the Environmental Consultant. Soil importation criteria is detailed in Appendix D.

Any soils imported onto the site should be verified free from contamination with chemical testing undertaken to confirm their suitability for use within areas of soft landscaping.

Should any regrading works be required on site which propose re-use materials (to include Made Ground) on the site of origin a Materials Management Plan will be developed for the site under the Code of Practice where:

1.) They are suitable for use at the location in question both geotechnically and geochemically (without prior treatment);
2.) The reuse will not cause unacceptable or increased risks to human health, controlled waters or the environment;
3.) They are used in the required quantities (and no more);
4.) There is certainty of use not just a possibility.

As such excavated soils on site will be removed from site for disposal, treatment at an appropriately licensed facility or re-used under the CL:AIRE Definition of Waste, Code of Practice where it can be demonstrated that there is a need for the use of the materials and where the risk is demonstrated to be acceptable under a Materials Management Plan. Where a RSVP is in place for the site, agreement of re-use must also be agreed with the regulators.

Where contaminated soils are located in an area of permanent hard cover, e.g. building footprint, road, driveway or the like, then the hard cover would break the pollutant linkage and remediation would not be required in terms of the risk to human health, however limited works may be required in these areas to provide a suitable working platform for development to proceed.

3.3 Inspection/Validation

Whilst the increase in ground levels exceeds the minimum thickness for the soil cover system, this remedial strategy still includes placement of a soil cover system in order to verify that suitable soils have been used to mitigate the risk of harm to human health and to complete the soft landscaping to the plots within the affected area.

Verification of remediation measures shall be required through regular inspection at key stages of the works to include:

- Completion of the site strip and excavation of the Topsoil to expose the formation onto which clean soils are to be placed to raise ground levels;
- Placement of naturally occurring, uncontaminated site won soils as general bulk fill to raise levels to the underside of the soil cover system;
- Placement of a cover system, including verification of any additional subsoil and/or Topsoil in order to allow for the installation of the capping system required in private gardens and areas managed soft landscaping areas.

It is likely that verification will be undertaken in stages, such as site preparation, Topsoil strip, geotextiles, crushed stone/crushed concrete layer and deter to dig membrane, subsoil placement and topsoil placement. As such, final verification of the completed cover system is likely to be at the end of construction for any given plot. Inspections would be planned wherever possible to cover the main stages of site preparation, ground level raising and finishing with Topsoil.

The re-use of naturally occurring, uncontaminated soils does not strictly require a Materials Management Plan (MMP) or associated formal declaration by a Qualified Person under the Definition of Waste Code of Practice.

However, given that these are required for the remedial strategy in other areas of the site, the proposed placement/re-use of site won uncontaminated soils in the Horse Area would be included in a broader scope MMP as a matter of good practice.

Details of these works would be presented within a verification report for the site.

Staged verification reporting is proposed, i.e. the first verification report addressing the preparatory works and placement of site won soils as general fill to raise levels; and a second report stage on completion of the soil cover system on the individual plots (anticipated verification as batches of plots as development progresses).

3.4 Built Environment

Buried plastics laid in contact with contaminated soils may be susceptible to attack by aggressive chemicals; therefore, potable water supplies may potentially become contaminated or tainted. With reference to UKWIR guidance, report reference 10/WM/03/21 (re-issued 2010), the results of the relevant chemical analyses for the natural soils within the Horse Arena area do not exceed the limiting concentrations of contaminants for standard polythene supply pipe.

The utility company should be consulted in order to confirm their specific requirements in this respect. At this time, subject to further confirmation, it is considered that specific protection measures are not required for potable water supply. As a matter of good practice and to maximise the protection to maintenance workers, it is recommended that clean, granular backfill is used in service runs and that marker tapes are used for all buried services.

4.0 WASTE

4.1 Waste Classification and Segregation

Waste may be defined as any substance or object in Annex 1 of the Waste Framework Directive which the holder discards, intends to discard, or is required to discard. The holder of waste is anyone in possession of waste or generates it and therefore both the contractor and ultimately the developer are responsible for safe disposal of waste.

The following information is provided for preliminary guidance purposes, as different facilities or operators may have differing acceptance criteria and further Waste Acceptance Criteria (WAC) analysis may be required to confirm the exact classification.

Waste Acceptance Criteria (WAC) testing was undertaken as part of the wider site investigations on representative samples not specific to the Horse Arena Area. As such, it is recommended that once/if materials for disposal have been identified, then further WAC testing should be undertaken to further clarify the materials for the purpose of disposal. However, it is considered likely that materials will be looked to be re-used elsewhere on the development site.

In the event of dry spells, or where the exposed surface becomes dry, it is recommended that the surface of the site is regularly damped down to prevent the release of soil dust which could migrate off-site and thereby mitigate both off-site exposure and nuisance for neighbours.

It is proposed to re-use materials on site under a Materials Management Plan which will be developed for the construction works on this site. This will include contingency plans in any unexpected contamination is encountered during the development. Elevated levels of metals have been identified with the natural soils in the horse arena area, no Made Ground has been identified. As such, it is not deemed suitable to re-used Made Ground materials from elsewhere on the site within the Horse Arena area. Only the reuse of natural soils is deemed appropriate within this area of the site.

In accordance with CL:AIRE Code of Practice (2011) materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded by the holder'. Current guidance recommends the retention and re-use of site won soils where there is a need for the materials and where the risk is acceptable

The Code of Practice therefore allows soils to be reused on site where the following criteria are met:

- Pollution of the environment and harm to human health is prevented and not increased in reusing the excavated materials;
- The material are suitable for use (without any further processing);
- There is certainty of use; and
- The quantity that is absolutely necessary (and no more) is used.

In order to comply with the Code of Practice, a Material Management Plan (MMP) that confirms the above criteria are met has to be prepared. The material management plan must be reviewed by a 'Qualified Person' who then issues a declaration to the Environment Agency. Geo-Environmental can provide this service should it be required.

Where materials do not meet the required criteria, it may be possible to treat them under an environmental permit so that they may be re-used on site.

Should material be required and reused under the Definition of Waste Code of Practice, the reuse of material will need to be fully documented and included within the Verification Report produced on completion of the works.

5.0 DISCOVERY STRATEGY

Whilst the site has been the subject of several phases of investigation and assessment, it remains possible that previously unexpected soil conditions may be encountered during the process of site preparation and construction.

Examples may include oily pockets within the soil, pockets of cement boarding or fibrous materials within the soil, black ashy materials, soils exhibiting strong odours, brightly coloured materials, and former structures or brickwork.

Should previously undiscovered contamination be encountered during the demolition/construction of the new buildings the following course of action should be adhered to:

- Works in the area of the suspected contamination should seize immediately. The ground workers should report any suspected contamination immediately to the Client's site supervisor. The supervisor should contact the Environmental Consultant, who should visit the site to assess the extent of the 'contamination'.

- The Environmental Consultant shall make records of their inspection, and pass details of these to the Local Authority.

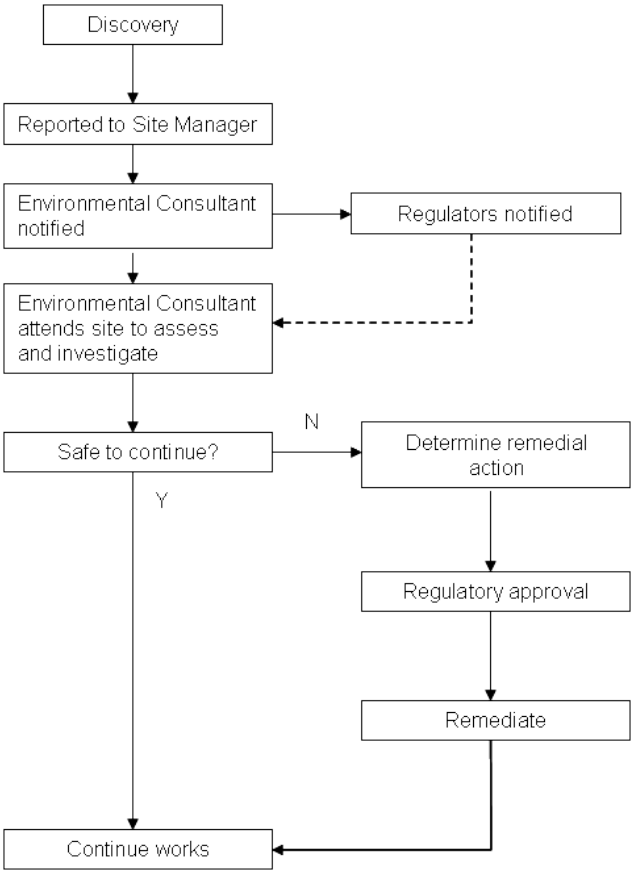
- Where the conditions revealed differ from those previously anticipated, the Environmental Consultant shall take samples as deemed appropriate to be dispatched for appropriate chemical testing.

- Depending on the results of the testing either: 1) no further work will be required; 2) a further detailed risk assessment will be required; and/or 3) localised specific remedial measures will be necessary. Appraisal criteria will vary depending on the nature of the assessment.

- The results of any such testing will be sent to the Regulatory Authority for consultation. If further remediation is required, the Regulatory Authority will be informed of the date and time of the proposed works.

- Any further remediation will be undertaken in accordance with a method statement submitted to the Local Authority for approval. The works shall be supervised by the Environmental Consultant who shall provide a Verification Report for the Local Authorities purposes.

The process is summarised overleaf:



A copy of this strategy should be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious or contaminated materials they may encounter.

6.0 VERIFICATION

Verification is required to be undertaken throughout the course of the remediation works. The Verification Report will be submitted to the Client, NHBC, CL:AIRE and Local Authority for formal approval and Environment Agency if requested as part of any works completed under the Definition of Waste Code of Practice.

The Verification Report will refer to the works as set out within this RSVP and as required by any relevant planning conditions. The report will detail findings of any further investigation works (if undertaken on the site) in relation to Arsenic and Beryllium within the shallow natural soils of the Horse Arena area within proposed private gardens and areas of managed soft landscaping, as well as include relevant site based information such as records from site inspections, locations where the impacted soils were excavated and re-used on site or disposed of and validation sampling where required. Along with details of soil cover system installation and validation of thicknesses. Photographs of specific remedial or waste handling measures and an audit trail for any imported subsoil and Topsoil, including source, provenance, analytical results, placement location and thickness (should subsoil and/or Topsoil be imported).

A summary of verification proposals is presented in Table 2 below.

The remedial works will be inspected and validated by the Environmental Consultant (Geo-Environmental). In addition, the MMP and any QP review and declaration will be prepared by Geo-Environmental.

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
1.0 Verification general principles	Geo-Environmental are supervising remedial works within the Horse Arena Area at Woodcroft Farm, Lovedean. These works require site clearance, stripping and setting aside of Topsoil (from the area not covered by sand dressing) for further testing to demonstrate suitability for reuse, placement of site won uncontaminated soils to raise ground levels and installation of a soil cover system within gardens and areas of soft landscaping. The aforementioned work is in line with the approach adopted for site investigation and risk assessment and previously undertaken by Geo-Environmental in respect of the development.	Construction	**Yes –** See below	Details of construction programme to be provided by client/contractor.
2.0 Excavation of Impacted Soils	The development levels are to be increased by greater than the minimum soil cover system thickness and thus the remedial strategy does not require the excavation of impacted soils.	Construction	**Yes – 5 days' notice required**	Levels Strategy Plans 192931-073, 192931-074 and 192931-075 and RSVP Figure 7 demonstrate that this has been designed out.
3.0 Cover System	Cover system to be constructed by the ground workers and inspected by the Environmental Consultant	Construction	**Yes - 5 days' notice required**	Provenance of site won soils used to raise levels to be verified by the groundworks contractor. Placement of soils to be observed/inspected by Geo-Environmental. Thickness and construction of cover system to be verified by Geo-Environmental.

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
4.0 Waste Management	Waste soils are not anticipated to be generated from the remedial strategy for the Horse Arena as there is a net requirement for suitable soils to be used as fill to raise ground levels. However, if any waste soils are generated, these will be disposed of appropriately with WAC testing undertaken once soils for disposal have been identified. The results should be presented to the landfill site prior to removal for confirmation of the classification.	Design and Construction	**No (unless further testing required where 5 days' notice required)**	Chemical test results (WAC) only required if waste soils are generated.
	Waste tickets for the removal of arisings should be compiled for submission as part of the verification report for each phase of the development. The waste tickets will be required to demonstrate that the approximate amount of material being removed is equal to the summed volume on the waste tickets.			Waste tickets
	Where is it demonstrated that there is a need for materials to be re-used on site and that the risk is acceptable, soils may be re-used on site under the Definition of Waste Code of Practice under a Materials Management Plan for the site.			Records of material movements on site to be provided for inclusion in the validation report. It is assumed that tracking of soil movements around the site will be recorded by the groundworks contractor, with periodic independent inspections by Geo-Environmental.
5.0 Imported Soils	In-situ testing of any soils imported onto site for landscaping purposes will be carried out after placement at a frequency of one sample per 50m^3 or one sample per landscaped area (whichever is	Construction	**Yes**	Pre import certification verifying the chemical quality of the topsoil and subsoil to be provided to the Environmental Consultant for review prior to Importation.

Reference	Principal requirements	Design or construction related	Site visit required by Qualified Geo-Environmental Engineer	Supporting documentation
	the smallest) with comparison of results to assessment criteria for residential end use.			

Table 2 Details of verification visits required on site

FIGURES



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Site Location Plan
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	11/05/2018		
Figure:	1	**Scale:**	Not To Scale		



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Location of Horse Arena Area
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	25/06/2018		
Figure:	2	**Scale:**	Not To Scale		



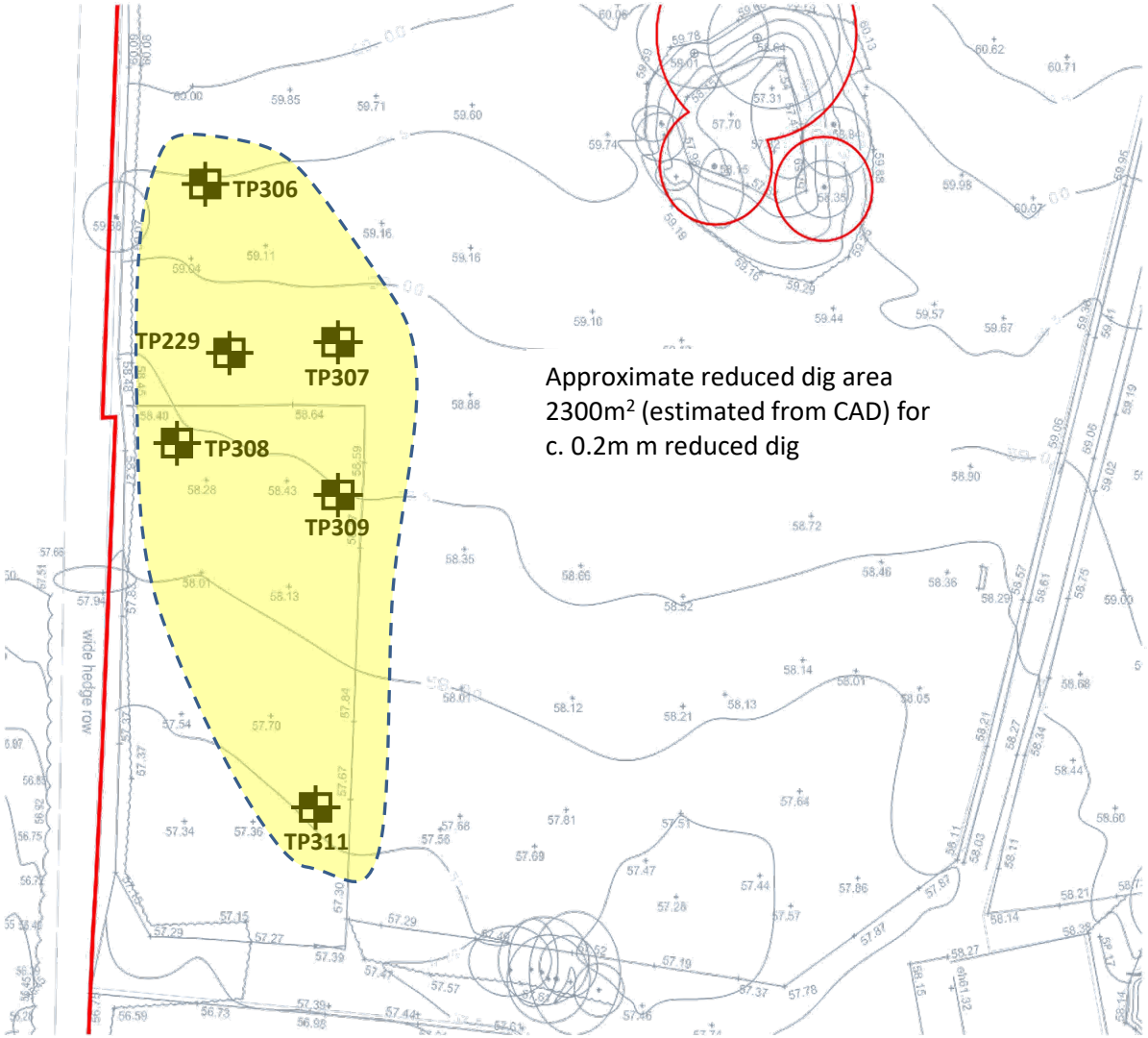
Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Exploratory Hole Locations - Horse Arena
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	26/06/2018		
Figure:	3	**Scale:**	Not To Scale		



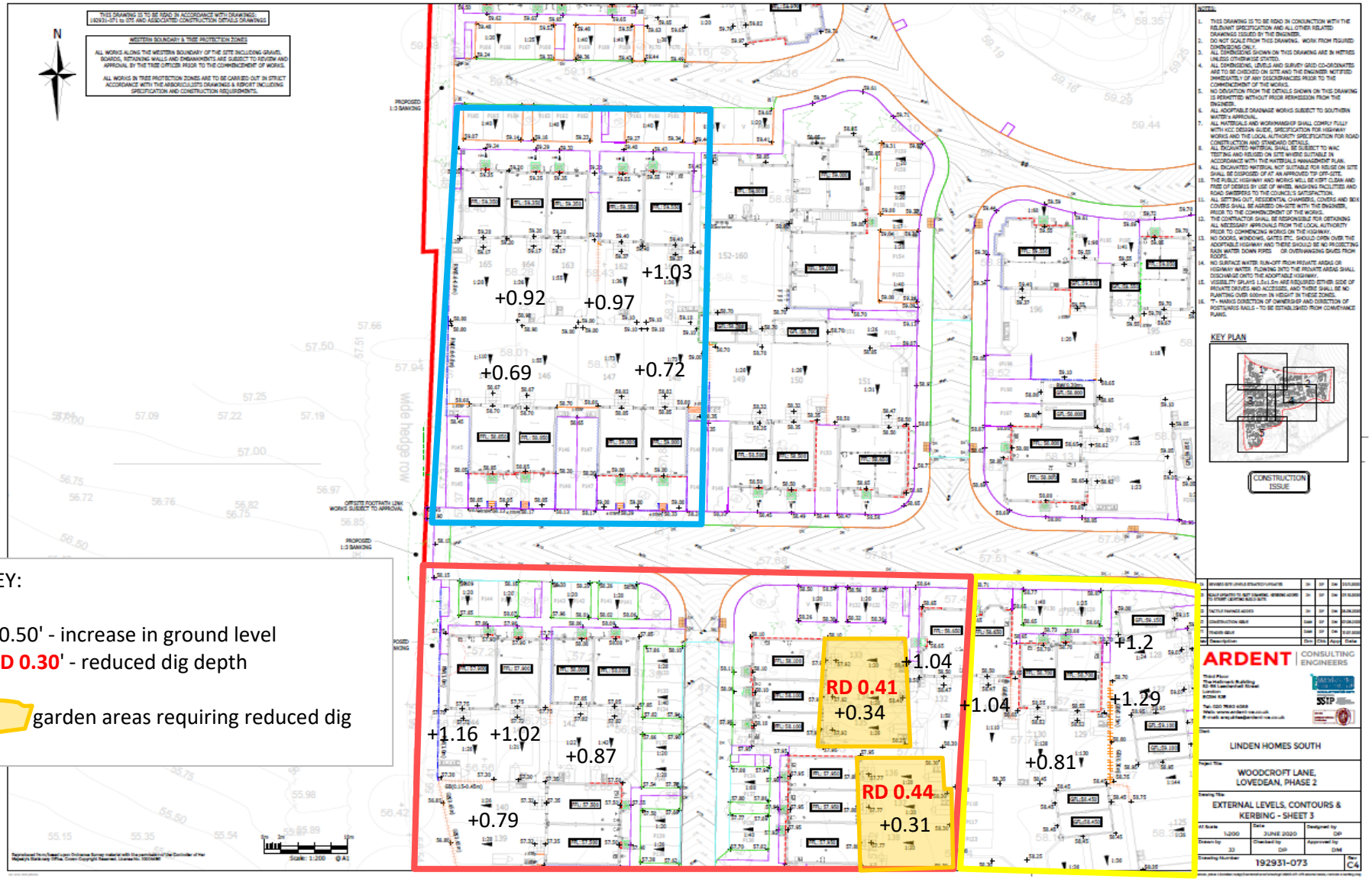
Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Exploratory Hole Location Plan (main site)
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	
Ref No:	GE16943	**Rev:**	0		
Drawn:	FG	**Date:**	26/06/2018		
Figure:	4	**Scale:**	Not To Scale		



Project:	Woodcroft Farm, Lovedean, PO8 9QA			**Title**	Soil Contaminant Exceedances - Horse Arena
Client:	Vistry Homes Southern			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	FG	**Date:**	07/06/2018		
Figure:	5	**Scale:**	Not To Scale		



Project:	Woodcroft Farm, Lovedean PO8 9QA			**Title**	Remedial Strategy Reduced dig areas - Horse Arena
Client:	Grainger PLC			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16943	**Revision:**	0		
Drawn:	GR	**Date:**	12/02/2020		
Figure:	6	**Scale:**	Not To Scale		



Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Development Levels Plan - Phase 3 Horse Arena, Chalk Pit and Farmyard (RSVP-HA-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2.1
Drawn:	FG	**Date:**	11/02/2021
Figure:	RSVP-HA 7	**Scale:**	Not To Scale

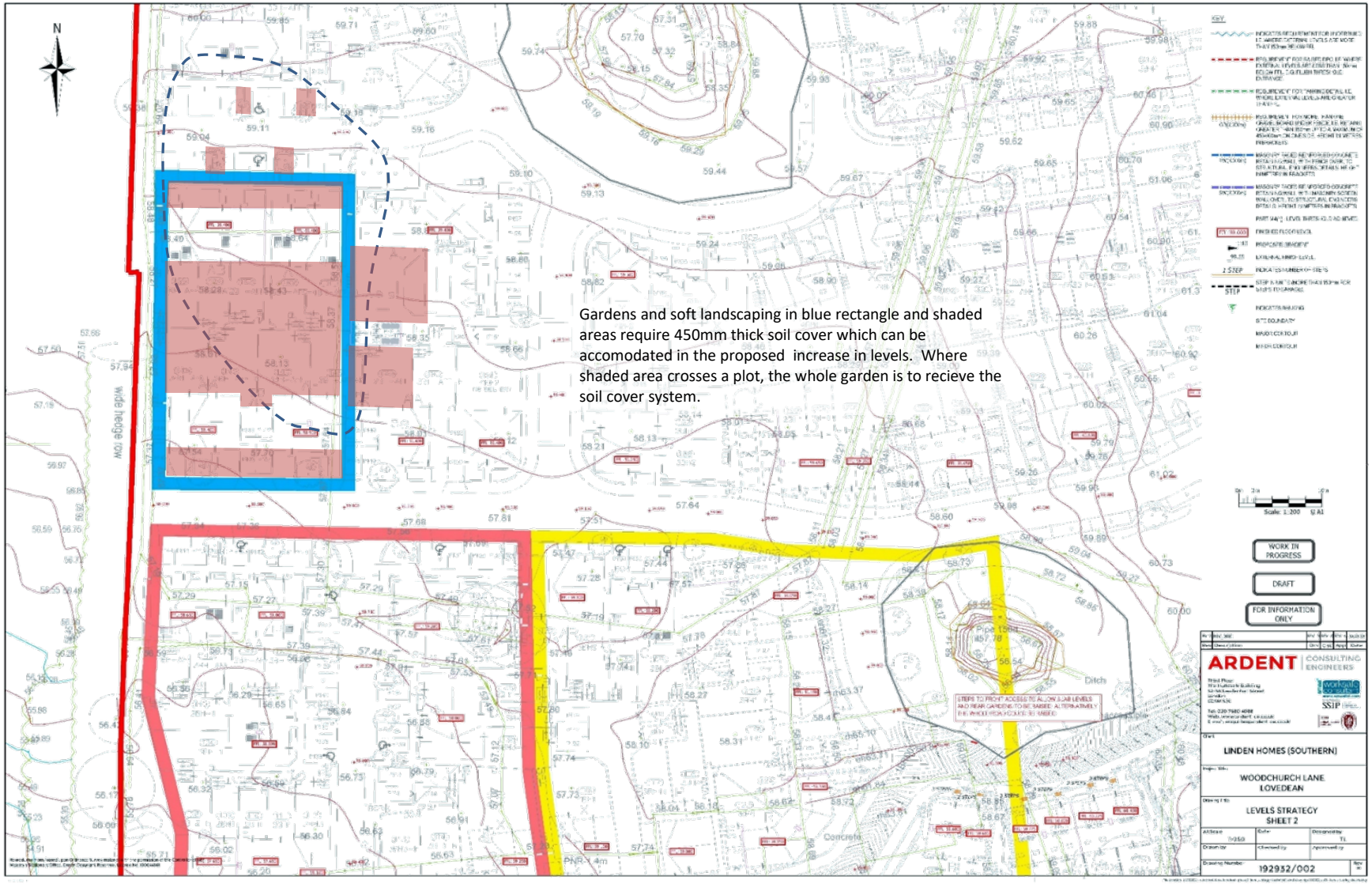
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Project:	Woodcroft Farm, Lovedean PO8 9QA	**Title**	Soil cover system plots plan
Client:	Grainger PLC		
Ref No:	GE16943	**Revision:**	1
Drawn:	GR	**Date:**	27/03/2020
Figure:	8	**Scale:**	Not To Scale

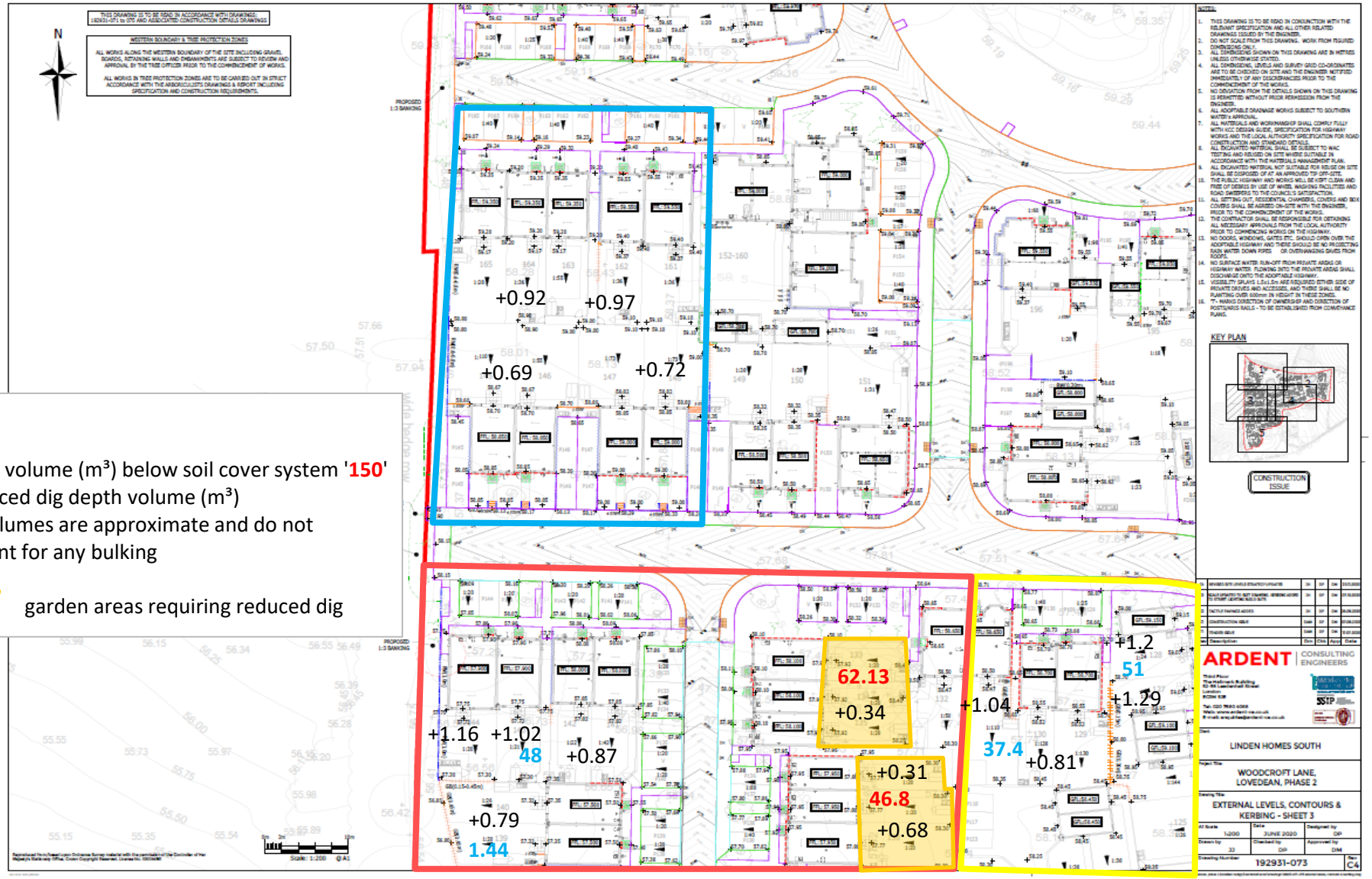
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Project:	Woodcroft Farm Lovedean PO8 9QA	**Title**	Remediation Strategy Plan - Phase 3 Horse Arena, Chalk Pit & Farmyard Volumes (RSVP-HA-v6.0)
Client:	Vistry Homes Southern		
Ref No:	GE16943	**Revision:**	2.1
Drawn:	FG	**Date:**	11/02/2021
Figure:	RSVP-HA 9	**Scale:**	Not To Scale

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APPENDIX A

Exploratory Hole Logs

and In-situ Test Results



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Trial Pit Log

TrialPit No
TP205
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468335.00 - 112129.00 Level: 69.34	Date 23/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.70 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.25	69.09		Grass over, Light brown sandy, gravelly CLAY, with frequent roots (2-4mm) and rootlets TOPSOIL
	0.50 0.50 0.50	B D ES					Firm orange and grey mottled slightly sandy CLAY with frequent roots (2-4mm) and rootlets. Sand is medium (large roots (7-10mm) at 0.4m)
	1.00	D		1.20	68.14		
				1.40	67.94		Firm orange and grey mottled slightly sandy CLAY with frequent rootlets. Sand is medium
	1.70	D		1.70	67.64		Firm orange and grey mottled slightly sandy CLAY with red bandings of sandy clay and frequent rootlets. Sand is medium
							End of Pit at 1.70m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP206
Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords: 468329.00 - 112033.00 Level: 66.23	Date 23/08/2017
Location:	Woodcroft Farm, Lovedean,	Dimensions (m): Depth 1.80	1.20 × 0.60	Scale 1:25
Client:	Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.25	65.98		Grass over, Light brown sandy, gravelly CLAY, with frequent flint gravels and rootlets TOPSOIL
				0.30	65.93		Stiff orange and grey mottled sandy, gravelly CLAY with abundant roots (4-7mm). Sand is medium (Large roots (50mm) at 0.3m)
	0.50	B					
	0.50	D					Firm orange and grey mottled very sandy CLAY with frequent roots (2-6mm). Sand is medium
	0.50	ES		0.60	65.63		Stiff orange and grey mottled slightly sandy CLAY with roots (2-4mm). Sand is medium
	1.00	D					
				1.20	65.03		Stiff orange and grey mottled slightly sandy CLAY with red bandings of sandy clay and roots (2-4mm). Sand is medium
	1.80	D		1.80	64.43		End of Pit at 1.80m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP207
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468244.00 - 112050.00 Level: 64.18	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 2.00 x 0.60 Depth 2.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	63.98		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets and occasional flint gravel TOPSOIL
	0.30	ES					Firm orange and grey mottled CLAY with occasional sandy red banding and rootlets (charcoal fragments at 1m and decaying roots)
	0.50	B					
	0.80	D					
				1.20	62.98		Firm red and grey mottled slightly sandy CLAY (charcoal fragments at 1.4m)
				1.60	62.58		Firm red and grey mottled sandy CLAY
	2.00	D		2.00	62.18		End of Pit at 2.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP208
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468227.00 - 112031.00 Level: 63.03	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 2.00 x 0.60 Depth 2.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.15	62.88		Grass over, Dark brown clayey sand with abundant tree roots (2-5mm) and rootlets (large tree root (50mm) at 0.15m) TOPSOIL
	0.50	D					Firm orange brown sandy CLAY. Sand is fine to medium (large tree root (20mm) at 0.9m)
	1.00	D		1.10	61.93		Stiff orange slightly sandy CLAY with abundant roots (between 2mm and 8mm). Sand is medium
	1.50	D		1.50	61.53		Stiff grey and orange mottled slightly sandy CLAY with occasional roots between 2mm and 6mm (no roots from 1.7m)
	2.00	D		2.00	61.03		End of Pit at 2.00m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP209
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468200.00 - 112025.00 Level: 61.57	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 2.00 — 2.00 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets and occasional flint gravel TOPSOIL
				0.30	61.27		Firm orange brown slightly gravelly CLAY with occasional cobbles of flint. Gravel is medium sub-angular of flint (roots (10mm) at 0.5m)
	0.50	D					
				0.80	60.77		Firm orange brown slightly sandy CLAY with frequent cobbles of flint. Sand is medium
				1.50	60.07		Firm orange and grey mottled slightly sandy CLAY. Sand is fine to medium
	2.00	D		2.00	59.57		End of Pit at 2.00m

1 2 3 4 5

Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP210
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468151.00 - 112030.00 Level: 58.51	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.40 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.15	58.36		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50	B					Firm grey and orange mottled slightly sandy CLAY with rootlets. Sand is medium
	1.00	D		0.90	57.61		Firm grey and orange mottled slightly sandy CLAY. Sand is medium (charcoal fragments at 1.35m)
				1.40	57.11		End of Pit at 1.40m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP211
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468148.00 - 112098.00 Level: 58.65	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.30 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.10	58.55		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.30	58.35		Brown sandy clay with flint cobbles, chalk fragments and occasional brick fragments MADE GROUND
	0.50	D					Firm brown slightly sandy CLAY with occasional rootlets. Sand is medium
				0.80	57.85		Firm red brown sandy CLAY. Sand is medium
	1.00	D					
				1.30	57.35		End of Pit at 1.30m

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4
5

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP212
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468050.00 - 112055.00 Level: 57.68	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.40	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.15	57.53		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.35	57.33		Soft orange brown very sandy CLAY with occasional sub-angular flint gravel. Sand is medium
	0.50 0.50	B D					Firm orange brown CLAY with frequent flint cobbles and chalk fragments
	0.80	D					
	1.10	D		1.10	56.58		Structureless CHALK composed of: medium to coarse sub-angular white GRAVEL. Fragments are weak CIRIA Grade DM
				1.40	56.28		End of Pit at 1.40m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468023.00 - 112009.00 Level: 56.66	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	56.56		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.20	56.46		Brown sandy clay with brick fragments and chalk gravel MADE GROUND
	0.50	B					Stiff light brown gravelly CLAY MADE GROUND
	0.50	D					
				0.80	55.86		Brown sandy clay with brick, concrete fragments, possible asbestos tiles, and decaying roots MADE GROUND
	1.00	ES					
				1.70	54.96		Soft light grey CLAY (decaying root (3mm) at 2m)
	2.00	D					
				2.20	54.46		End of Pit at 2.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP214
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468056.00 - 112002.00 Level: 57.16	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	57.06		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.20	56.96		Brown clay with bricks and chalk cobbles MADE GROUND
	0.50	B					Firm light brown and grey mottled CLAY, with frequent flint gravel (decaying root (4mm) at 0.5m) MADE GROUND
	0.50	D					
	0.90	ES		0.90	56.26		Dark brown clay with ashy deposits, plastic, brick fragments, chalk gravel, and wood MADE GROUND
				1.90	55.26		Firm light brown and grey mottled CLAY
	2.00	D		2.00	55.16		End of Pit at 2.00m

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Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP215
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468082.00 - 111995.00 Level: 57.87	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.90	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES					Ashy deposits overlying brown gravelly clay with bricks, concrete, flint cobbles, tarmac and chalk fragments MADE GROUND
				1.00	56.87		Soft orange brown sandy re-worked CLAY MADE GROUND
				1.70	56.17		Structureless CHALK composed of: medium to coarse sub-angular white sandy GRAVEL, sand is medium and fragments are weak CIRIA Grade DM
				2.30	55.57		Structureless CHALK composed of: medium to coarse sub-angular white sandy GRAVEL, fragments are weak CIRIA Grade DM
	2.90 2.90	D D		2.90	54.97		End of Pit at 2.90m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP216
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468060.00 - 111982.00 Level: 56.78	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	56.68		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.20	56.58		Brown sandy clay with charcoal and brick fragments MADE GROUND
	0.50 0.50 0.60	B D ES					Firm light brown and grey mottled gravelly CLAY. Gravel is medium, sub angular of flint
	1.00	D		1.00	55.78		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP217
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468063.00 - 111949.00 Level: 58.26	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.00 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	58.21		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.20	ES					Firm light brown and grey mottled CLAY, with frequent rootlets
	0.50	D					
	1.00	D		1.00	57.26		End of Pit at 1.00m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP218
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468068.00 - 111932.00 Level: 58.52	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 0.90 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.15	58.37		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50 0.50	B D					Firm light brown and grey mottled CLAY
	1.00	D		0.90	57.62		End of Pit at 0.90m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP219
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468127.00 - 111929.00 Level: 59.42	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	59.22		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets and chalk fragments TOPSOIL
							Firm light brown and grey mottled CLAY
	0.50	D					
	1.00 1.00	D ES		1.00	58.42		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP220
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468116.00 - 111958.00 Level: 59.41	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 2.00 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Grass over, dark brown gravelly clay with chalk and brick fragments MADE GROUND
				0.60	58.81		Soft brown and grey mottled CLAY
				0.80	58.61		Firm brown and grey mottled CLAY, with red sandy banding at 1.5m
	1.00 1.00	D ES					
				2.00	57.41		End of Pit at 2.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP221
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468161.00 - 111926.00 Level: 60.74	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.20 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.30	60.44		Soft orange brown slightly sandy CLAY with occasional chalk fragments and roots (1-3mm)
	0.50	D					
	0.50	ES					
				0.70	60.04		Firm orange and grey mottled slightly sandy CLAY with roots (1-3mm) and rootlets
	1.00	D					
				1.20	59.54		End of Pit at 1.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP222
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468221.00 - 111986.00 Level: 61.18	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.50 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25	60.93		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	ES		0.50	60.68		Firm orange brown slightly sandy CLAY with occasional flint gravels and roots (1-2mm). Sandy is medium
	1.00	D		1.00	60.18		Firm orange brown slightly sandy CLAY with occasional flint gravels. Sandy is medium
				1.50	59.68		Stiff orange brown slightly sandy, slightly gravelly CLAY. Sand is medium, gravel is medium, sub-angular of flint End of Pit at 1.50m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468126.00 - 111996.00 Level: 58.54	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.10	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05	58.49		Concrete MADE GROUND
				0.25	58.29		Brown gravelly clay with concrete and brick fragments MADE GROUND
	0.40	ES					Soft grey and orange mottled slightly sandy CLAY
	0.50	D					
	0.50	ES					
	1.00	D					
				1.10	57.44		End of Pit at 1.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468077.00 - 112011.00 Level: 57.74	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 2.20 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Ashy deposits overlying brown gravelly clay with bricks, flint cobbles, chalk fragments and tarmac MADE GROUND
				0.70	57.04		Soft blue grey re-worked CLAY with bricks MADE GROUND
				1.60	56.14		Firm grey brown CLAY (Large flint cobble at 1.8m)
	2.20 2.20	D D		2.20	55.54		End of Pit at 2.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP225
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468112.00 - 111991.00 Level: 58.45	Date 23/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 0.60 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	58.30		Chippings over tarmac MADE GROUND
	0.25 0.30	ES ES					Brown gravelly clay with tarmac, brick fragments, chalk fragments, flint gravel, ash and charcoal (concrete encountered at 0.6m) MADE GROUND
				0.60	57.85		End of Pit at 0.60m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks Concrete encounted at 0.6m, pit terminated

Stability

AGS

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Trial Pit Log

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TP226
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468103.00 - 112028.00 Level: 57.24	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.10 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.20	57.04		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	D					Firm orange brown slightly sandy CLAY. Sand is medium
				0.80	56.44		Firm orange brown slightly sandy CLAY with frequent cobbles of flint and occasional charcoal fragments. Sand is medium
				1.10	56.14		End of Pit at 1.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP227
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468105.00 - 112061.00 Level: 57.53	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.00 — 0.60 × 1.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.25	57.28		
	0.40	D					Firm orange brown slightly sandy, slightly gravelly CLAY. Sand is medium and gravel is fine to medium, sub-angular of flint
				0.70	56.83		Firm orange brown CLAY
				0.90	56.63		
				1.00	56.53		Structureless CHALK composed of: medium to coarse sub-angular white GRAVEL. Fragments are weak CIRIA Grade DM
							End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP228
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468169.00 - 112048.00 Level: 60.35	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.70 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.25	60.10		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50	D					Soft brown orange sandy CLAY with occasional flint gravel and rootlets. Sand is medium
	1.20	D		1.10	59.25		Yellow fine medium SAND
				1.70	58.65		End of Pit at 1.70m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP229
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468030.00 - 112090.00 Level: 58.55	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.80 — 0.60 × 1.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Grass over, Orange brown sandy CLAY with frequent rootlets TOPSOIL
	0.60 0.60	D ES		0.60	57.95		Firm orange brown very sandy CLAY with occasional flint cobbles. Sand is medium
				0.80	57.75		Firm orange brown CLAY with occasional flint cobbles
	1.00	D					
				1.40	57.15		Firm grey slightly sandy CLAY with frequent cobbles of flint. Sand is medium
	1.50	D					
				1.80	56.75		End of Pit at 1.80m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP230
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468086.00 - 112103.00 Level: 59.34	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.20 (1.20 × 0.60)	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	59.19		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.30	ES					Soft orange brown very sandy CLAY. Sand is medium
	0.50	D					
				0.70	58.64		Firm grey and orange mottled CLAY with frequent flint cobbles
	1.10	D					
				1.20	58.14		End of Pit at 1.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP231
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468130.00 - 112119.00 Level: 59.64	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.20 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	59.44		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	ES					Soft orange brown very gravelly sandy CLAY. Gravel is medium, sub-angular of flint and sand is medium
				0.60	59.04		
	0.80	D					Firm orange brown slightly sandy CLAY with occasional rootlets. Sand is medium
				1.20	58.44		End of Pit at 1.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP232
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468210.00 - 112065.00 Level: 62.16	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.30 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
				0.30	61.86		Firm orange and grey mottled slightly sandy CLAY. Sand is fine to medium
				0.70	61.46		
	0.80	D					Firm orange and grey mottled sandy CLAY. Sand is fine to medium
				1.30	60.86		End of Pit at 1.30m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP233
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468228.00 - 112111.00 Level: 64.08	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.10 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	63.78		Grass over, Brown sandy, gravelly CLAY with frequent roots and rootlets TOPSOIL
	0.40 0.40	ES ES					Firm orange brown gravelly CLAY. Gravel is medium to coarse sub-angular of flint
				0.65	63.43		Stiff grey and orange mottled CLAY with occasional red bands of sandy CLAY
	0.80	D					
				1.10	62.98		End of Pit at 1.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP234
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468242.00 - 112136.00 Level: 65.41	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.00 — 1.20 × 0.60	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	65.21		Grass over, Brown sandy, gravelly CLAY with frequent roots and rootlets TOPSOIL
	0.30	ES					Firm brown very gravelly CLAY. Gravel is medium to coarse sub-angular of flint
				0.45	64.96		Stiff orange and grey mottled CLAY (Large tree root (70mm) at 0.7m and tree root (4mm) at 1m)
	1.00	D		1.00	64.41		End of Pit at 1.00m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

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TP235
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468165.00 - 112133.00 Level: 60.77	Date 22/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25	60.52		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.50 0.50	D ES					Orange brown clayey medium SAND with occasional flint gravel
	1.00	D					
				1.80	58.97		Grey and orange fine to medium SAND
				2.20	58.57		End of Pit at 2.20m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP236
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468115.00 - 112146.00 Level: 60.93	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.70	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	ES		0.40	60.53		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	1.00	D		1.00	59.93		Soft orange brown slightly gravelly sandy CLAY. Sand is medium and gravel is medium, sub-angular of flint
				1.70	59.23		Orange slightly clayey medium SAND End of Pit at 1.70m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP237
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468036.00 - 112164.00 Level: 62.19	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	62.04		Grass over, Light brown sandy, gravelly CLAY, with frequent rootlets TOPSOIL
	0.40	ES					Soft orange brown very sandy CLAY. Sand is medium
	0.50	D					
				0.85	61.34		Firm orange brown CLAY
	1.00	D		1.00	61.19		End of Pit at 1.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP238
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16662	Co-ords: 468045.00 - 112137.00 Level: 60.22	Date 21/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): 1.20 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.25	59.97		Grass over, Orange brown sandy CLAY with frequent rootlets TOPSOIL
	0.50	D					Stiff orange brown CLAY with occasional cobbles of sub angular flint
	0.80	ES					
	1.00	D		1.00	59.22		End of Pit at 1.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP239
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Project Name: Woodcroft	Project No. GE16662	Co-ords: 468112.00 - 112015.00 Level: 58.28	Date 23/08/2017
Location: Woodcroft Farm, Lovedean,		Dimensions (m): Depth 1.80, 0.60 x 1.20	Scale 1:25
Client: Grainger PLC and Linden Homes South			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Grass over brown sandy gravelly clay with brick, chalk fragments, concrete, and flint gravel MADE GROUND
	0.50	ES		0.50	57.78		
				0.60	57.68		Brown sandy clay with tiles of possible asbestos, chalk fragments, concrete and brick MADE GROUND
							Soft brown very sandy CLAY. Sand is medium
				1.40	56.88		Soft brown very sandy CLAY. Sand is medium
	1.50	ES					
	1.80	D		1.80	56.48		End of Pit at 1.80m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS201** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468236E - 111994N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	62.76	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.25	D		0.20	62.56		Grass over, brown sandy clay with flint gravel and frequent rootlets TOPSOIL
		0.25	PP	1.3kg/cm2				Firm orange and grey mottled slightly sandy CLAY. Sand is medium
		0.50	D					
		0.50	PP	0.7kg/cm2				
		0.75	D		0.80	61.96		
		0.75	PP	0.7kg/cm2				Firm orange and grey mottled slightly sandy CLAY with occasional bands of red sandy clay. Sand is medium
		1.00	D		1.10	61.66		
		1.00	PP	0.9kg/cm2				Stiff orange and grey mottled sandy CLAY. Sand is medium
		1.25	D					
		1.25	PP	1.3kg/cm2				
		1.50	D					
		1.50	PP	1.3kg/cm2				
		1.75	D					
		1.75	PP	1.7kg/cm2				
		2.00	D		2.00	60.76		
		2.00	PP	1.2kg/cm2				Firm orange very sandy CLAY. Sand is fine
		2.25	D		2.30	60.46		
		2.25	PP	0.5kg/cm2				Yellow greyish clayey fine SAND
		2.50	D					
		2.75	D					
		3.00	D		3.00	59.76		End of Borehole at 3.00m

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Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS202** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468174E - 111973N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	60.57	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	60.27		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50 0.50	D PP	1.6kg/cm2				Stiff orange, red and grey mottled slightly sandy CLAY with occasional rootlets. Sand is medium
		0.75 0.75	D PP	1.7kg/cm2				
		1.00 1.00	D PP	1.8kg/cm2				*.....Occasional roots (1-3mm)*
		1.25 1.25	D PP	2.0kg/cm2	1.10	59.47		Stiff orange and grey mottled sandy CLAY with occasional roots (2mm) and occasional red banding of sandy clay. *.....Occasional roots (2mm)*
		1.50 1.50	D PP	1.8kg/cm2				
		1.75 1.75	D PP	1.7kg/cm2				*.....Large root (5mm)*
		2.00 2.00	D PP	1.6kg/cm2				
		2.25 2.25	D PP	1.5kg/cm2				
		2.50 2.50	D PP	0.7kg/cm2	2.40	58.17		Firm orange and grey mottled very sandy CLAY with occasional roots (2-4mm) and rootlets. Sand is medium *.....Occasional roots (2-4mm)*
		2.75 2.75	D PP	0.5kg/cm2	2.80	57.77		Yellow/ Orange fine SAND
		3.00	D		3.00	57.57		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS203** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords: 468173E - 111996N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level: 60.57	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates: 05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15	60.42		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.25 0.25	D PP	1.6kg/cm2				Firm orange brown gravelly CLAY with occasional flint cobbles. Gravel is medium sub angular to sub rounded of flint
		0.50 0.50	D PP	0.9kg/cm2				
		0.75 0.75	D PP	1.1kg/cm2	0.70	59.87		Firm orange, red and grey mottled slightly sandy CLAY. Sand is fine
		1.00 1.00	D PP	0.5kg/cm2				
		1.25 1.25	D PP	1.0kg/cm2	1.10	59.47		Firm orange and grey mottled sandy CLAY. Sand is fine
		1.50 1.50	D PP	0.8kg/cm2				
		1.75 1.75	D PP	1.3kg/cm2				
		2.00 2.00	D PP	1.5kg/cm2	1.90	58.67		Firm orange and grey mottled very sandy CLAY. Sand is fine
		2.25 2.25	D PP	0.9kg/cm2				
		2.50	D		2.30	58.27		Yellow/ Orange fine SAND
		2.75	D					
		3.00	D		3.00	57.57		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS204** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468179E - 112013N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	60.47	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	60.17		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50 0.50	D PP	0.9kg/cm2				Stiff orange/ brown slightly sandy CLAY with frequent rootlets. Sand is fine
		0.75 0.75	D PP	1.0kg/cm2				
		1.00 1.00	D PP	1.2kg/cm2	1.10	59.37		
		1.25 1.25	D PP	1.4kg/cm2				Stiff orange/ brown slightly sandy CLAY with rare rootlets. Sand is fine
		1.50 1.50	D PP	1.5kg/cm2				
		1.75 1.75	D PP	1.3kg/cm2				
		2.00 2.00	D PP	1.0kg/cm2				
		2.25 2.25	D PP	1.1kg/cm2	2.30	58.17		Firm orange and grey mottled sandy CLAY. Sand is fine
		2.50 2.50	D PP	0.9kg/cm2				
		2.75 2.75	D PP	0.7kg/cm2				
		3.00 3.00	D PP	0.8kg/cm2	3.00	57.47		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS205** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468150E - 112033N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	58.83	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.25	58.58		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50	D					Brown clayey fine SAND
		0.75	D					
					0.90	57.93		
		1.00	D					Orange fine SAND
		1.25	D					
		1.50	D					
					1.70	57.13		
		1.75	D					Orange clayey fine SAND
		2.00	D		2.00	56.83		
		2.00	PP	1.1kg/cm2				Stiff grey slightly sandy CLAY. Sand is fine
		2.25	D					
		2.25	PP	1.2kg/cm2				
		2.50	D					
		2.50	PP	1.0kg/cm2				
					2.60	56.23		Soft brown slightly sandy CLAY. Sand is fine
		2.75	D					
		2.75	PP	0.4kg/cm2	2.80	56.03		Structureless CHALK composed of: medium to coarse sub-angular white sandy GRAVEL, sand is medium and fragments are weak CIRIA Grade DM
		3.00	D		3.00	55.83		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS206** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords: 468081E - 111960N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level: 57.22	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates: 05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.35	56.87		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.50 0.50	D PP	1.2kg/cm2				Firm brown orange slightly sandy gravelly CLAY with frequent rootlets. Sand is fine, gravel is medium sub angular to sub rounded of flint.
		0.75 0.75	D PP	1.6kg/cm2				
		1.00 1.00	D PP	1.5kg/cm2				
		1.25 1.25	D PP	1.1kg/cm2				
		1.50 1.50	D PP	0.8kg/cm2				
		1.75 1.75	D PP	1.3kg/cm2				
					1.90	55.32		Firm brown very gravelly CLAY. Gravel is medium sub angular to sub rounded of flint.
		2.00 2.00	D PP	1.8kg/cm2				
		2.25 2.25	D PP	1.7kg/cm2				
		2.50 2.50	D PP	1.5kg/cm2				
		2.75 2.75	D PP	1.6kg/cm2				
		3.00 3.00	D PP	1.5kg/cm2	3.00	54.22		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS207** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16662	Co-ords:	468075E - 111938N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean,		Level:	58.31	Scale 1:25
Client:	Grainger PLC and Linden Homes South		Dates:	05/09/2017	Logged By FG

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15	58.16		Grass over brown sandy clay with frequent rootlets and occasional flint gravel TOPSOIL
		0.25 0.25	D PP	 1.0kg/cm2				Firm orange and grey mottled CLAY with frequent rootlets and occasional flint gravel
		0.50 0.50	D PP	 1.0kg/cm2				
		0.75 0.75	D PP	 0.7kg/cm2				
		1.00 1.00	D PP	 0.6kg/cm2				
								.....Decaying root (6mm)
		1.25 1.25	D PP	 0.9kg/cm2	1.20	57.11		Stiff orange and grey mottled slightly sandy CLAY with occasional rootlets. Sand is fine
					1.40	56.91		*.....Occasional roots (2mm)*
		1.50 1.50	D PP	 1.5kg/cm2				Stiff orange and grey mottled slightly sandy CLAY with occasional rootlets and red banding of sandy clay. Sand is fine
		1.75 1.75	D PP	 1.5kg/cm2				*.....Occasional roots (2mm)*
		2.00 2.00	D PP	 1.5kg/cm2				
		2.25 2.25	D PP	 1.7kg/cm2	2.20	56.11		Stiff orange and grey mottled slightly sandy CLAY with frequent rootlets. Sand is fine
		2.50 2.50	D PP	 1.5kg/cm2				
		2.75 2.75	D PP	 1.7kg/cm2	2.80	55.51		Stiff grey CLAY with chalk fragments
		3.00 3.00	D PP	 1.8kg/cm2	3.00	55.31		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

Groundwater not encountered

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Trial Pit Log

TrialPit No: TP301
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468021.00 - 112011.00 Level: 56.66	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.40 × 0.60 Depth 2.70	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	56.46		Grass over dark brown sandy gravelly CLAY with abundant roots and rootlets TOPSOIL
	0.25	ES					
	0.40	ES		0.45	56.21		Made Ground comprising dark brown soft sandy, gravelly CLAY with brick, brick fragments, tile, slate, wood, and glass. Sand is medium and gravel is fine to medium sub angular to sub rounded of flint. Made Ground comprising Fines 60%, Coarse 30%, Brick 5%, Wood 4%, Glass 0.5%, Slate 0.5% MADE GROUND
				0.90	55.76		Made Ground comprising light brown firm slightly sandy CLAY with flint gravel, brick and wood/decaying roots. Sand is medium. Made Ground comprising Fines 50%, Coarse 30%, Gravel 10%, Brick 5% and Wood 5% MADE GROUND
				1.30	55.36		Made Ground comprising light brown firm CLAY with brick, wood, rope and flint gravel. Made Ground comprising Fines 60%, Coarse 20%, Brick 5% and Wood 5%. (At 0.95m bgl large concrete slab - 1.1m x 0.2m and 0.2m thick) MADE GROUND
	1.40	ES					
							Made Ground comprising light grey and black soft CLAY with wood, chalk gravel, brick and plastic. Made Ground comprising Fines 40%, Coarse 20%, Wood 15%, Brick 15% and Plastic 10%. (At 1.4m bgl large decaying tree root - 1.2m x 0.2m) MADE GROUND
				2.70	53.96		End of Pit at 2.70m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP302
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468063.00 - 112007.00 Level: 57.59	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.40 × 0.60 Depth 2.80	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.25	57.34		Grass over Made Ground comprising clayey sandy fine to coarse sub angular to sub rounded GRAVEL with tarmac, calk fragments, brick, tile, charcoal and wood. Made Ground comprising Fines 25%, Coarse 70%, Brick 3%, Wood 2%. (At 0.1m bgl large piece of tarmac) MADE GROUND
	0.50	ES		0.40	57.19		Made Ground comprising light brown and grey with black and dark grey staining firm CLAY with brick and decaying roots. Made Ground comprising Fines 70%, Coarse 20%, Brick 5%, Wood 5% MADE GROUND
							Made Ground comprising dark grey and grey mottled firm CLAY with wood, brick, cement, plastic and chipboard. Made Ground comprising Fines 60%, Coarse 20%, Wood 10%, Brick 5%, Plastic 3% and Cement 2% MADE GROUND
	1.30	ES		1.20	56.39		Made Ground comprising brown with occasional black staining soft gravelly sandy CLAY with wood, brick, charcoal and plastic. Sand is medium and gravel is fine to medium sub angular to sub rounded of flint. Made Ground comprising Fines 60%, Coarse 20%, Wood 10%, Brick 5%, Charcoal 3% and Plastic 2% MADE GROUND
	2.70	ES		2.80	54.79		End of Pit at 2.80m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP303
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468094.00 - 111975.00 Level: 57.47	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.20 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	57.37		Grass over dark brown silty sandy CLAY with frequent roots and rootlets TOPSOIL
	0.30	ES		0.35	57.12		Made Ground comprising light brown soft slightly sandy CLAY with brick, glass, flint gravel, concrete, wood and possible asbestos. Sand is medium. Made Ground comprising Fines 70%, Coarse 20%, Gravel 5%, Brick 3%, Concrete 1%, Glass 0.5% and Wood 0.5% MADE GROUND
	0.70	ES		0.80	56.67		Made Ground comprising light brown firm CLAY with brick and chalk gravel, Fines 80%, Coarse 10%, Gravel 8% and Brick 2%. (Between 0.4m bgl and 0.5m bgl live tree roots) MADE GROUND
				1.20	56.27		Stiff light brown and grey mottled CLAY
				1.40	56.07		Firm light grey and brown sandy gravelly CLAY. Sand is medium and gravel is fine to medium sub angular to sub rounded of flint. (At 1.3m bgl and 1.5m bgl large flint cobbles)
				1.80	55.67		Firm brown very gravelly CLAY. Gravel is medium to coarse sub angular of chalk
	1.90	ES					White/light grey structureless very weak weather CHALK in communicated matrix CIRIA Grade DM
				2.40	55.07		End of Pit at 2.40m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No: TP304
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468071.00 - 111965.00 Level: 56.82	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.10 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	56.72		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Made Ground comprising grey and brown mottled with frequent black staining soft sandy CLAY with chalk gravel, brick, wood, plastic occasional glass and charcoal. Sand is medium. Made Ground comprising Fines 50%, Coarse 25%, Gravel 15%, Brick 5%, Wood 3%, Plastic 1.5% Other 0.5% MADE GROUND
				0.60	56.22		Made Ground comprising light brown and grey mottled with occasional black staining soft CLAY with chalk gravel and brick MADE GROUND
				1.00	55.82		Soft light brown gravelly CLAY. Gravel is fine to medium sub angular to sub rounded of flint. (Large flint cobbles at 1m bgl)
	1.20	ES		1.20	55.62		Stiff light brown and grey mottled slightly sandy CLAY. Sand is medium. (Large flint cobbles at 2.2m bgl)
				2.40	54.42		End of Pit at 2.40m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP305
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468037.00 - 111960.00 Level: 57.32	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): Depth 1.20, 1.80 x 0.60	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	57.12		Grass over dark brown silty sandy CLAY with abundant roots and rootlets, and occasional flint gravel TOPSOIL
	0.80	ES		0.90	56.42		Made Ground comprising firm brown and grey mottled slightly sandy CLAY with occasional flint gravel. (At 0.85m large piece of metal) MADE GROUND
	1.10	ES		1.20	56.12		Made Ground comprising light grey with occasional black staining firm slightly sandy CLAY with wood and decaying tree roots. Made Ground comprising Fines 70%, Coarse 20% and Wood/ Tree roots 10% MADE GROUND
							End of Pit at 1.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks Rapid groundwater ingress at 1.1m bgl. Pit abandoned due to instability caused by rapid water ingress

Stability

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Trial Pit Log

TrialPit No
TP306
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468024.00 - 112109.00 Level: 59.05	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): Depth 2.80, 0.60 x 2.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.30	58.75		Grass over soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.40	ES					Firm orange/brown slightly sandy CLAY with occasional flint gravel. Sand is fine
	0.80	ES					
				1.60	57.45		Firm orange/brown and grey mottled slightly sandy CLAY. Sand is medium
				2.10	56.95		Soft orange/brown very sandy CLAY. Sand is medium
				2.60	56.45		Stiff grey CLAY with frequent sub rounded flint cobbles
				2.80	56.25		End of Pit at 2.80m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP307
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468040.00 - 112091.00 Level: 58.94	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.90 × 0.60 Depth 2.60	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	58.74		Grass over soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Soft orange/brown slightly sandy CLAY with occasional flint gravel. Sand is fine
				0.70	58.24		
	0.80	ES					Firm grey and orange/brown mottled CLAY with frequent flint cobbles
				1.00	57.94		
	1.20	ES					Orange and yellow medium SAND
				2.10	56.84		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.60	56.34		End of Pit at 2.60m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP308
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468023.00 - 112077.00 Level: 58.20	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.00 × 0.60 Depth 2.60	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.25	57.95		Grass over soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Soft brown very sandy CLAY with occasional flint gravel. Sand is fine
	0.70	ES		0.80	57.40		Stiff brown/grey gravelly CLAY. Gravel is medium to coarse sub angular to sub rounded of flint
				1.70	56.50		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.60	55.60		End of Pit at 2.60m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No: TP309
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468042.00 - 112072.00 Level: 58.36	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.90 × 0.60 Depth 2.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	58.26		Soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.25	ES		0.30	58.06		Made Ground comprising brown sandy CLAY with flint gravel, flint cobbles and occasional black staining MADE GROUND
	0.50	ES					Firm brown/orange slightly sandy CLAY with frequent flint cobbles. (At 0.6-0.7m bgl chalk gravel and chalk fragments. At 0.8m bgl large flint cobbles)
	0.65	ES					
				1.15	57.21		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles
				2.10	56.26		End of Pit at 2.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP310
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468022.00 - 112039.00 Level: 57.56	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): Depth 2.10 — 0.60 × 2.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10	57.46		Soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
							Soft brown/orange sandy desiccated CLAY. Sand is medium
	0.50	ES		0.40	57.16		Stiff brown slightly sandy CLAY with frequent flint cobbles. Sand is medium
	1.50	ES		1.20	56.36		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.10	55.46		End of Pit at 2.10m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP311
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468040.00 - 112038.00 Level: 57.21	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.80 × 0.60 Depth 2.00	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10	57.11		Soft brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
				0.30	56.91		Firm brown slightly silty sandy CLAY. Sand is fine
	0.40	ES					Firm brown slightly sandy CLAY with occasional flint gravel. Sand is fine
	0.80	ES		0.90	56.31		Firm orange/brown slightly sandy, slightly gravelly CLAY with occasional cobbles of flint. Sand is fine and gravel is fine to medium sub angular to sub rounded of flint
				1.45	55.76		White/cream structureless weak, highly weather CHALK in comminuted matrix with frequent sub rounded flint cobbles CIRIA Grade DM/CM
				2.00	55.21		End of Pit at 2.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP312
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468087.00 - 112016.00 Level: 57.59	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.10 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.10	57.49		Made Ground comprising light brown clayey fine to coarse flint GRAVEL with brick and concrete. Made Ground comprising Fines 30%, Coarse 60%, Brick 15% and Concrete 5% MADE GROUND
							Made Ground comprising white/brown clayey fine to coarse chalk GRAVEL with brick, concrete, tarmac, and large pieces of tree. Made Ground comprising Fines 25%, Coarse 60%, Tarmac 10%, Brick 5%, Concrete 3% and Tree 2% MADE GROUND
	0.90	ES		0.80	56.79		Made Ground comprising dark brown/grey soft slightly sandy CLAY with plastic, decaying roots and flint gravel. Sand is medium. Made Ground comprising Fines 70%, Coarse 20%, Gravel 7%, Roots 2% and Plastic 1% MADE GROUND
	1.45	ES		1.40	56.19		Firm orange/brown and grey mottled slightly sandy CLAY with occasional flint gravel. Sand is medium. (Large flint cobbles at 1.5m bgl)
				2.30	55.29		White/cream structureless weak weather CHALK in communicated matrix with flint gravel CIRIA Grade DM
				2.40	55.19		End of Pit at 2.40m

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Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468113.00 - 112026.00 Level: 58.03	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.80 × 0.60 Depth 2.50	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	57.93		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.25	ES		0.30	57.73		Made Ground comprising white/brown clayey fine to coarse sub angular to sub rounded chalk GRAVEL with large flint cobbles MADE GROUND
	0.50	ES					
				0.60	57.43		Brown very clayey fine to medium sub angular to sub rounded flint GRAVEL
							Firm orange/brown and grey mottled CLAY with occasional bands of orange medium SAND.
				1.50	56.53		
	1.55	ES					Orange medium SAND
				1.60	56.43		Stiff orange/brown sandy CLAY with occasional flint gravel. Sand is medium
				1.80	56.23		Orange/brown medium SAND with bands of grey firm CLAY
				2.50	55.53		End of Pit at 2.50m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP314
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Project Name: Woodcroft	Project No. GE16943	Co-ords: 468124.00 - 112027.00 Level: 58.20	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.30 × 0.60 Depth 2.50	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	58.10		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
	0.30	ES					Firm orange/brown slightly sandy CLAY with frequent tree roots (3mm-6mm). Sand is medium
	0.70	ES		0.60	57.60		Stiff orange/brown and slightly grey mottled CLAY with occasional bands of orange medium SAND. (Tree roots at 0.9m bgl, band of off white structureless weak weathered CHALK at 1.8m bgl)
	1.60	ES					
				2.50	55.70		End of Pit at 2.50m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP315
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468081.00 - 111991.00 Level: 57.67	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.20 × 0.60 Depth 2.40	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Loose chippings over brown/grey clayey flint and chalk GRAVEL with tarmac, brick and concrete. Made Ground comprising Fines 30%, Coarse 60%, Brick 5%, Concrete 3% and Tarmac 2% MADE GROUND
				0.50	57.17		
	0.60	ES					Made Ground comprising brown and dark grey firm CLAY with brick, concrete, tree roots, flint cobbles and lead pipe. Made Ground comprising Fines 70%, Coarse 20%, Brick 5%, Other 3%, Concrete 2% MADE GROUND
				2.20	55.47		
	2.30	ES					Firm brown and grey mottled CLAY with occasional bands of orange medium SAND
				2.40	55.27		End of Pit at 2.40m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
TP316
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468111.00 - 111958.00 Level: 59.73	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.30 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Grass over light brown sandy CLAY with brick, concrete, plastic and glass. Made Ground comprising Fines 40%, Coarse 20%, Brick 20%, Concrete 15% and other 5% MADE GROUND
	0.90	ES		0.80	58.93		Firm orange/brown and grey mottled slightly sandy desiccated CLAY. Sand is medium
	1.90	ES		1.80	57.93		Stiff orange/brown, grey and red mottled CLAY
				2.20	57.53		End of Pit at 2.20m

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

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TP317
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468146.00 - 111985.00 Level: 58.97	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 1.90 × 0.60 Depth 2.20	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.15	58.82		Loose chippings over dark brown silty sandy CLAY with frequent roots and rootlets and occasional brick rubble and gravel. (Plastic drainage pipe at 0.1m bgl) MADE GROUND
				0.25	58.72		Made Ground comprising soft dark brown silty CLAY MADE GROUND
	0.65	ES					Firm orange/brown sandy CLAY. Sand is medium
	1.40	ES		1.35	57.62		Orange/brown clayey medium SAND
				1.60	57.37		Orange/brown fine to medium SAND with occasional bands of CLAY
				2.20	56.77		End of Pit at 2.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
TP318
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468116.00 - 111949.00 Level: 59.78	Date 17/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.40 × 0.60 Depth 1.90	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.15	ES		0.15	59.63		Grass over dark brown silty sandy CLAY with abundant roots and rootlets TOPSOIL
				0.60	59.18		Made Ground comprising dark brown soft very gravelly CLAY with flint and brick. Gravel is fine to coarse of chalk. Made Ground comprising Fines 50%, Coarse 30%, Gravel 15% and Brick 5% MADE GROUND
	0.70	ES		0.80	58.98		Firm orange/brown and grey mottled CLAY with frequent flint gravel
	1.80	ES		1.90	57.88		Stiff orange/brown and grey mottled CLAY with occasional flint gravel End of Pit at 1.90m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

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Trial Pit Log

TrialPit No
Trench 01
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468158.00 - 111950.00 Level: 60.98	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 3.40 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.10	60.88		Dark brown slightly sandy silty CLAY with abundant roots and rootlets TOPSOIL
							Firm grey and orange mottled slightly sandy CLAY
				1.00	59.98		End of Pit at 1.00m

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Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 02
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468157.00 - 111967.00 Level: 60.20	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 6.40 × 0.60 Depth 0.70	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	60.00		Made Ground comprising dark brown sandy silty CLAY with slate, brick, gravel and wood MADE GROUND
							Firm orange/brown slightly sandy CLAY. Sand is fine
				0.70	59.50		End of Pit at 0.70m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks Private water pipe running through trench

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 03
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468145.00 - 112001.00 Level: 59.01	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.60 × 0.60 Depth 1.00	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising dark brown sandy silty CLAY with wood, gravel, brick, pipe and concrete MADE GROUND
				0.50	58.51		Firm grey sandy CLAY. Sand is fine
				1.00	58.01		End of Pit at 1.00m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 04
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468133.00 - 112020.00 Level: 58.36	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.80 × 0.60 Depth 0.50	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.50	57.86		Firm orange/brown sandy CLAY with occasional flint gravel. Sand is fine End of Pit at 0.50m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 05
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468164.00 - 112017.00 Level: 60.06	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 3.60 x 0.60 Depth 0.75	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	59.91		Dark brown slightly sandy silty CLAY with abundant roots and rootlets TOPSOIL
							Soft brown very sandy CLAY. Sand is fine
				0.75	59.31		End of Pit at 0.75m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 06
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468169.00 - 111997.00 Level: 59.91	Date 15/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.20 × 0.60 Depth 0.70	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	59.76		Dark brown slightly sandy silty CLAY with abundant roots and rootlets TOPSOIL
							Soft light brown sandy CLAY. Sand is fine
				0.70	59.21		End of Pit at 0.70m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 07
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468033.00 - 112020.00 Level: 57.17	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.80 × 0.60 Depth 1.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Grass over Made Ground comprising light brown clayey sandy fine to coarse sub angular to sub rounded chalk and flint GRAVEL with tarmac, flint cobbles, wood, charcoal and glass. Made Ground comprising Fines 30%, Coarse 60%, Tarmac 5%, Wood 3%and Other 2%. Sand is medium MADE GROUND
				0.50	56.67		Firm orange/ brown slightly gravelly desiccated CLAY. Gravel is fine to medium sub angular to sub rounded of flint
				1.10	56.07		End of Pit at 1.10m

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 08
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468046.00 - 112019.00 Level: 57.41	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 3.80 × 0.60 Depth 1.15	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising brown and white clayey sandy fine to coarse sub angular to sub rounded chalk and flint GRAVEL with brick, tile and concrete. Sand is medium. Made Ground comprising Fines 30%, Coarse 63%, Brick 3%, Tile 2% and Concrete 2% MADE GROUND
				0.70	56.71		Soft orange/brown gravelly CLAY. Gravel is fine to medium sub angular to sub rounded of flint (Flint cobbles in base of pit)
				1.15	56.26		End of Pit at 1.15m

1
2
3
4
5

Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 09
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468068.00 - 112013.00 Level: 57.70	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 2.50 × 0.60 Depth 1.10	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising brown and white clayey sandy fine to coarse sub angular to sub rounded chalk and flint GRAVEL with brick, tarmac and flint cobbles. Sand is medium. Made Ground comprising Fines 30%, Coarse 60%, Brick 5% and Tarmac 5% MADE GROUND
				0.70	57.00		Firm orange/ brown slightly sandy desiccated CLAY. Sand is medium
				1.10	56.60		End of Pit at 1.10m

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2
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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

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Trial Pit Log

TrialPit No
Trench 10
Sheet 1 of 1

Project Name: Woodcroft	Project No. GE16943	Co-ords: 468068.00 - 112008.00 Level: 57.60	Date 16/05/2018
Location: Woodcroft Farm, Lovedean, Hampshire		Dimensions (m): 4.20 × 0.60 Depth 1.20	Scale 1:25
Client: Grainger plc			Logged FG

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Made Ground comprising light brown clayey sandy fine to coarse sub angular to sub rounded flint and chalk GRAVEL with brick, concrete, tree roots, clay pipe. Sand is medium. Made Ground comprising Fines 30% Coarse 60%, Brick 4%, Concrete 4% and Other 2% MADE GROUND
				0.50	57.10		Made Ground comprising dark grey and grey mottled soft CLAY with brick, plastic, roots, wood, chalk fragments, flint gravel and tile. Made Ground comprising Fines 60%, Coarse 20%, Brick 3%, Plastic 2%, Wood/Roots 2%, Other 3% MADE GROUND
				1.20	56.40		End of Pit at 1.20m

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Water Strikes

Depth Strike	Rose to (mbgl)

Remarks

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS401** Sheet 1 of 2

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468050E - 112012N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.60	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	56.50		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
		0.60 - 0.80	ES					Brown clay with gravel of flint and red brick MADE GROUND
					0.90	55.70		Grey clay with flint gravel ash wood and red brick fragments MADE GROUND
		1.40 - 1.70	ES					
					2.00	54.60		Grey clay with chalk and flint gravel. Red brick at 3.6-3.7m bgl MADE GROUND
		2.30 - 2.60	ES					
					3.70	52.90		Brown clay with abundant fine chalk gravel and rare red brick fragments MADE GROUND
					4.80	51.80		Off white CHALK recovered as silty chalk matrix and fine gravel size weak chalk clasts CIRIA Grade
					5.00	51.60		Continued on Next Sheet

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Borehole Log

Borehole No.
WS401
Sheet 2 of 2

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468050E - 112012N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.60	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								DM/CM End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks
No water encountered

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS402** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468056E - 111983N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.73	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	56.63		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
		0.50	ES					Firm to stiff brown and grey mottled silty clay MADE GROUND
					0.90	55.83		Brown and grey clay with some gravel of flint red brick and slate MADE GROUND
		1.50	ES		1.40	55.33		Grey clay with pockets of light grey sandy gravel possibly concrete fragments ash charcoal dead roots and wood fragments and abundant concrete fragments at 2.7-2.8m MADE GROUND
		2.50	ES					
					2.80	53.93		Brown and grey clay with concrete fragments MADE GROUND
		3.70 - 4.00	ES		3.70	53.03		Dark grey to black fibrous material possibly decomposed paper and wood fragments with red brick. Wood at4.2-4.5m MADE GROUND
					4.50	52.23		Off white grey and black chalk with ashy or possibly fine organic matter in matrix MADE GROUND
					5.00	51.73		End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS403** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468054E - 111977N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 56.75	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	56.65		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
		0.30 - 0.50	ES					Brown clay with some fine to medium flint gravel and rare red brick fragments MADE GROUND
					1.10	55.65		Grey clay with clinker ah red brick fragments and occasional wood fragments MADE GROUND
		1.50 - 1.60	ES					
					1.70	55.05		Brown and grey clay with occasional gravel of flint and chalk and occasional inclusions of possible ash ferruginous fragments and red brick MADE GROUND
		2.40 - 2.60	ES					
					3.90	52.85		Off white CHALK recovered as structureless mass with some localised orange brown staining CIRIA Grade DM
					5.00	51.75		End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

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Borehole Log

Borehole No.
WS404
Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords: 468054E - 111963N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level: 58.00	Scale 1:25
Client:	Grainger plc		Dates: 15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.40	ES		0.10	57.90		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
								Dark grey silty gravelly clay. Gravel of flint and brick MADE GROUND
					0.60	57.40		Stiff light grey and orange brown mottled silty CLAY. Becoming very gravelly from 1.7m bgl
		1.10 - 1.30	ES					
					1.90	56.10		White CHALK composed of silt chalk matrix with moderately strong chalk clasts. Unable to penetrate beyond 2.5m bgl CIRIA Grade DM/CM
					2.80	55.20		End of Borehole at 2.80m

1 2 3 4 5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks
No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS405** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords:	468038E - 111989N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level:	56.56	Scale 1:25
Client:	Grainger plc		Dates:	15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00 - 0.20	ES					Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
					0.20	56.36		
		0.40 - 0.60	ES					Brown and grey clay with occasional roots flint gravel decomposed plant remains and wood MADE GROUND
					1.00	55.56		
		1.20	ES					Grey clay with gravel of flint red brick and concrete MADE GROUND
					2.50	54.06		
								off white chalk recovered as structureless mass with some localised orange brown staining and flint CIRIA Grade DM
					3.00	53.56		End of Borehole at 3.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS406** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords:	468060E - 111985N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level:	56.79	Scale 1:25
Client:	Grainger plc		Dates:	15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 - 0.50	ES		0.10	56.69		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL
								Brown and grey mottled silty clay with pockets of sandy gravel of concrete occasional red brick and ash and rare wood MADE GROUND
								Bituminous felt (roofing felt) fragments
		1.60 - 1.90	ES					
		3.10 - 3.50	ES		3.10	53.69		Dark grey to black clay with decomposed wood and plant fragments with red brick. MADE GROUND
					3.70	53.09		Off white CHALK recovered as structureless mass with some localised orange brown staining CIRIA Grade DM
					5.00	51.79		End of Borehole at 5.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS407** Sheet 1 of 1

Project Name:	Woodcroft	Project No. GE16943	Co-ords:	468073E - 111977N	Hole Type WLS
Location:	Woodcroft Farm, Lovedean, Hampshire		Level:	57.22	Scale 1:25
Client:	Grainger plc		Dates:	15/05/2018	Logged By GR

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30 - 0.50	ES		0.10	57.12		Grass over brown slightly fine and medium gravelly clay with rootlets TOPSOIL Brown clay with some to much gravel of flint and red brick MADE GROUND	
		1.00 - 2.00	ES		1.00	56.22		Grey silty sand with much ash charcoal and red brick and occasional glass. Poor recovery MADE GROUND	1
		3.00 - 4.00	ES						2
					4.00	53.22		Off white CHALK recovered as structureless silty matrix with weal chalk clasts of fine to medium gravel size CIRIA Grade DM/CM	3
					5.00	52.22		End of Borehole at 5.00m	4
									5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to

Remarks

No water encountered

AGS

Geo-Environmental

APPENDIX B

Geochemical Laboratory Results

and Statistical Assessments



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2683

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	17-13705
Issue:	1
Date of Issue:	31/08/2017
Contact:	Fiona Goode
Customer Details:	GESL Unit 7 Danworth Farm Hurstpierpoint West SussexBN6 9GL
Quotation No:	Q14-00021
Order No:	2253
Customer Reference:	GE16662
Date Received:	24/08/2017
Date Approved:	31/08/2017
Details:	Woodcroft
Approved by:	

John Wilson, Operations Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683

Sample Summary

Report No.: 17-13705

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
109920	TP201 0.10	23/08/2017	24/08/2017		
109921	TP201 0.50	23/08/2017	24/08/2017		
109922	TP202 0.10	23/08/2017	24/08/2017	Silty loam	
109923	TP202 0.50	23/08/2017	24/08/2017		
109924	TP203 0.10	23/08/2017	24/08/2017		
109925	TP203 0.50	23/08/2017	24/08/2017	Silty clayey loam	
109926	TP204 0.10	22/08/2017	24/08/2017		
109927	TP204 0.50	22/08/2017	24/08/2017	Silty clayey loam	
109928	TP205 0.10	23/08/2017	24/08/2017		
109929	TP205 0.50	23/08/2017	24/08/2017	Clayey loam	
109930	TP206 0.10	23/08/2017	24/08/2017	Silty loam	
109931	TP206 0.50	23/08/2017	24/08/2017		
109932	TP207 0.30	21/08/2017	24/08/2017	Silty clayey loam	
109933	TP208 0.10	21/08/2017	24/08/2017		
109934	TP209 0.10	21/08/2017	24/08/2017		
109935	TP210 0.10	21/08/2017	24/08/2017		
109936	TP211 0.10	22/08/2017	24/08/2017		
109937	TP212 0.20	21/08/2017	24/08/2017		
109938	TP213 1.00	21/08/2017	24/08/2017	Silty loam	
109939	TP214 0.90	21/08/2017	24/08/2017	Silty loam	
109940	TP215 0.30	22/08/2017	24/08/2017	Sandy silty loam	
109941	TP215 2.90	23/08/2017	24/08/2017	Chalk	
109942	TP216 0.60	21/08/2017	24/08/2017		
109943	TP217 0.20	21/08/2017	24/08/2017	Silty clayey loam	
109944	TP218 0.15	21/08/2017	24/08/2017		
109945	TP219 1.00	21/08/2017	24/08/2017		
109946	TP220 0.20	22/08/2017	24/08/2017	Sandy silty loam	
109947	TP220 1.00	22/08/2017	24/08/2017	Silty clayey loam	
109948	TP221 0.10	22/08/2017	24/08/2017	Silty loam	
109949	TP221 0.50	22/08/2017	24/08/2017		
109950	TP222 0.40	21/08/2017	24/08/2017	Silty clayey loam	
109951	TP223 0.40	22/08/2017	24/08/2017	Clayey loam	
109952	TP223 0.50	22/08/2017	24/08/2017	Clayey loam	
109953	TP224 0.20	22/08/2017	24/08/2017	Sandy silty loam + Chalk	
109954	TP224 2.20	22/08/2017	24/08/2017	Silty loam	
109955	TP225 0.25	23/08/2017	24/08/2017	Sandy silty loam	
109956	TP225 0.30	23/08/2017	24/08/2017	Sandy loam	
109957	TP226 0.10	21/08/2017	24/08/2017	Silty loam	c
109958	TP227 0.10	21/08/2017	24/08/2017		
109959	TP228 0.15	22/08/2017	24/08/2017	Silty loam	
109960	TP229 0.60	21/08/2017	24/08/2017	Loamy sand	
109961	TP230 0.30	21/08/2017	24/08/2017		
109962	TP231 0.40	21/08/2017	24/08/2017	Sandy silty loam	
109963	TP232 0.10	21/08/2017	24/08/2017	Silty loam	
109964	TP233 0.40	21/08/2017	24/08/2017	Silty clayey loam	
109965	TP234 0.30	21/08/2017	24/08/2017	Silty loam	
109966	TP235 0.50	22/08/2017	24/08/2017	Loamy sand	
109967	TP236 0.30	21/08/2017	24/08/2017	Loamy sand	
109968	TP237 0.40	21/08/2017	24/08/2017	Silty loam	
109969	TP238 0.80	21/08/2017	24/08/2017		
109970	TP239 0.20	23/08/2017	24/08/2017	Sandy loam	
109971	TP239 0.50	23/08/2017	24/08/2017		
109972	TP239 1.50	23/08/2017	24/08/2017	Loamy sand	
109973	TP224 0.30	22/08/2017	24/08/2017		

Results Summary

Report No.: 17-13705

	ELAB Reference	109922	109925	109927	109929	109930	109932
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP202	TP203	TP204	TP205	TP206	TP207
	Sample Depth (m)	0.10	0.50	0.50	0.50	0.10	0.30
	Sampling Date	23/08/2017	23/08/2017	22/08/2017	23/08/2017	23/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	9.5	11.1	9.9	12.1	4.5	11.8
Barium	U / mg/kg / 10	34.6	48.8	45.9	17.2	16.7	30.1
Beryllium	U / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	34.7	60.8	53.7	30.9	12.4	38.0
Copper	M / mg/kg / 5	20.3	29.5	23.9	14.6	8.0	20.3
Lead	M / mg/kg / 5	21.0	24.3	18.8	27.0	11.5	15.3
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	18.3	21.5	22.0	8.9	5.4	9.2
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium	M / mg/kg / 5	33.5	86.7	77.1	69.9	23.4	54.1
Zinc	M / mg/kg / 5	41.1	52.1	58.4	28.8	17.6	27.1
Anions							
Water Soluble Chloride	M / mg/kg / 40	48	54	45	53	< 40	70
Water Soluble Sulphate	M / g/l / 0.02	0.06	0.05	0.04	0.04	0.03	0.05
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.07	0.11	0.04	0.07	0.04	0.05
Water Soluble Boron	N / mg/kg / 0.5	0.8	0.5	< 0.5	0.8	< 0.5	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	n/t	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
pH	M / pH units / 0.1	7.7	7.4	7.5	5.7	5.7	7.6
Total Organic Carbon	N / % / 0.01	0.50	0.54	0.23	0.19	0.36	0.19
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	0.9	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M / mg/kg / 0.1	0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M / mg/kg / 0.4	1.1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

	ELAB Reference	109922	109925	109927	109929	109930	109932
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP202	TP203	TP204	TP205	TP206	TP207
	Sample Depth (m)	0.10	0.50	0.50	0.50	0.10	0.30
	Sampling Date	23/08/2017	23/08/2017	22/08/2017	23/08/2017	23/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
BTEX							
Benzene	M / ug/kg / 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M / ug/kg / 10	35.9	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M / ug/kg / 10	40.3	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M / ug/kg / 10	312	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Total BTEX	M / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
TPH CWG							
>C5-C6 Aliphatic	N / mg/kg / 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N / mg/kg / 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N / mg/kg / 1	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N / mg/kg / 1	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N / mg/kg / 1	2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N / mg/kg / 1	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N / mg/kg / 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N / mg/kg / 0.01	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N / mg/kg / 1	9.0	< 1.0	3.2	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N / mg/kg / 1	14.4	< 1.0	5.3	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N / mg/kg / 1	3.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N / mg/kg / 1	35.5	< 1.0	8.5	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons							
Mineral Oil	U / mg/kg / 5	n/t	n/t	n/t	n/t	n/t	n/t
PCB (ICES 7 congeners)							
PCB (Total of 7 Congeners)	M / mg/kg / 0.03	n/t	n/t	n/t	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

	ELAB Reference	109938	109939	109940	109941	109943	109946
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP213	TP214	TP215	TP215	TP217	TP220
	Sample Depth (m)	1.00	0.90	0.30	2.90	0.20	0.20
	Sampling Date	21/08/2017	21/08/2017	22/08/2017	23/08/2017	21/08/2017	22/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	9.0	13.8	10.4	^ 4.7	32.6	25.7
Barium	U / mg/kg / 10	61.4	72.5	162	11.5	86.2	373
Beryllium	U / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	2.5	3.0
Cadmium	M / mg/kg / 0.5	0.5	< 0.5	0.8	^ 0.6	< 0.5	1.1
Chromium	M / mg/kg / 5	18.4	36.4	26.0	^ 8.6	63.2	36.9
Copper	M / mg/kg / 5	14.7	20.4	22.0	^ 6.9	37.4	93.0
Lead	M / mg/kg / 5	62.6	56.0	44.4	^ < 5.0	24.3	170
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	^ < 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	16.7	19.4	18.0	^ 11.8	19.1	56.2
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	^ < 1.0	< 1.0	< 1.0
Vanadium	M / mg/kg / 5	27.7	59.1	32.2	^ 7.8	117	133
Zinc	M / mg/kg / 5	72.7	101	121	^ 15.9	30.3	335
Anions							
Water Soluble Chloride	M / mg/kg / 40	< 40	50	55	^ < 40	53	< 40
Water Soluble Sulphate	M / g/l / 0.02	0.03	0.30	0.16	^ 0.04	0.05	0.03
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	1050	< 20	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	8	< 2	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	^ < 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.07	0.13	0.11	0.04	0.06	0.08
Water Soluble Boron	N / mg/kg / 0.5	0.6	1.7	0.6	< 0.5	< 0.5	1.0
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	n/t	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
pH	M / pH units / 0.1	8.4	8.0	10.0	^ 8.8	8.2	8.2
Total Organic Carbon	N / % / 0.01	0.49	0.92	0.47	0.02	0.32	4.9
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	0.2
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	0.3	^ < 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	0.3	^ < 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	0.4	0.2	2.4	^ < 0.1	< 0.1	0.3
Anthracene	M / mg/kg / 0.1	0.1	< 0.1	0.9	^ < 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	1.3	0.6	5.9	^ < 0.1	< 0.1	0.7
Pyrene	M / mg/kg / 0.1	1.3	0.6	5.1	^ 0.1	< 0.1	0.8
Benzo(a)anthracene	M / mg/kg / 0.1	0.8	0.3	2.9	^ < 0.1	< 0.1	0.4
Chrysene	M / mg/kg / 0.1	0.8	0.4	3.0	^ < 0.1	< 0.1	0.5
Benzo (b) fluoranthene	M / mg/kg / 0.1	1.1	< 0.1	3.0	^ < 0.1	< 0.1	0.6
Benzo(k)fluoranthene	M / mg/kg / 0.1	1.0	< 0.1	2.9	^ < 0.1	< 0.1	0.6
Benzo (a) pyrene	M / mg/kg / 0.1	1.0	0.4	3.1	^ 0.2	< 0.1	0.5
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	0.9	0.2	2.2	^ < 0.1	< 0.1	0.4
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	0.5	0.2	0.6	^ < 0.1	< 0.1	0.2
Benzo[g,h,i]perylene	M / mg/kg / 0.1	0.9	0.3	2.1	^ < 0.1	< 0.1	0.5
Total PAH(16)	M / mg/kg / 0.4	10.4	3.2	34.6	^ < 0.4	< 0.4	5.8
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109938	109939	109940	109941	109943	109946
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP213	TP214	TP215	TP215	TP217	TP220
			Sample Depth (m)	1.00	0.90	0.30	2.90	0.20	0.20
			Sampling Date	21/08/2017	21/08/2017	22/08/2017	23/08/2017	21/08/2017	22/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	2.9	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	14.4	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	2.1	< 1.0	18.8	9.2	< 1.0	3.3
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	3.5	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	6.9	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	7.1	< 1.0	28.2	10.9	< 1.0	7.2
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	14.6	< 1.0	< 1.0	1.8
Total (>C5-C40) Ali/Aro	N	mg/kg	1	9.3	< 1.0	65.1	44.4	< 1.0	12.3
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

	ELAB Reference	109947	109948	109950	109951	109952	109953
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP220	TP221	TP222	TP223	TP223	TP224
	Sample Depth (m)	1.00	0.10	0.40	0.40	0.50	0.20
	Sampling Date	22/08/2017	22/08/2017	21/08/2017	22/08/2017	22/08/2017	22/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	11.0	8.6	12.1	9.5	n/t	^ 7.8
Barium	U / mg/kg / 10	99.6	42.6	45.7	30.9	n/t	65.4
Beryllium	U / mg/kg / 1	1.2	< 1.0	< 1.0	1.0	n/t	< 1.0
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	n/t	^ 0.5
Chromium	M / mg/kg / 5	39.5	24.2	42.3	33.0	n/t	^ 19.5
Copper	M / mg/kg / 5	21.6	26.3	20.6	19.7	n/t	^ 16.4
Lead	M / mg/kg / 5	20.1	26.5	16.9	18.1	n/t	^ 37.9
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	n/t	^ < 0.5
Nickel	M / mg/kg / 5	20.6	15.2	17.4	20.4	n/t	^ 16.4
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	^ < 1.0
Vanadium	M / mg/kg / 5	74.6	37.3	62.6	41.2	n/t	^ 27.3
Zinc	M / mg/kg / 5	39.7	53.8	43.6	41.0	n/t	^ 51.1
Anions							
Water Soluble Chloride	M / mg/kg / 40	48	41	49	92	n/t	^ 167
Water Soluble Sulphate	M / g/l / 0.02	0.08	0.04	0.04	0.06	n/t	^ 0.09
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	< 20	< 20	n/t	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	n/t	< 0.8
Total Sulphide	N / mg/kg / 2	4	< 2	< 2	< 2	n/t	< 2
Total Cyanide	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	^ < 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.07	0.06	0.05	0.06	n/t	0.07
Water Soluble Boron	N / mg/kg / 0.5	< 0.5	0.5	< 0.5	0.5	n/t	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	n/t	n/t	< 0.1	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	n/t	n/t	2.82	n/t
pH	M / pH units / 0.1	7.3	7.7	7.5	8.3	7.7	^ 8.3
Total Organic Carbon	N / % / 0.01	0.29	0.69	0.19	0.15	0.18	0.10
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	< 6	< 6	n/t	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ < 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.5
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.1
Fluoranthene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 1.0
Pyrene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 0.9
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.6
Chrysene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 0.7
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.6
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	0.1	< 0.1	< 0.1	n/t	^ 0.6
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	0.2	< 0.1	n/t	^ 0.6
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	0.2	< 0.1	n/t	^ 0.6
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	0.3	< 0.1	n/t	^ 0.2
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t	^ 0.5
Total PAH(16)	M / mg/kg / 0.4	< 0.4	< 0.4	0.9	< 0.4	n/t	^ 7.0
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	n/t	n/t	< 2	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109947	109948	109950	109951	109952	109953
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP220	TP221	TP222	TP223	TP223	TP224
			Sample Depth (m)	1.00	0.10	0.40	0.40	0.50	0.20
			Sampling Date	22/08/2017	22/08/2017	21/08/2017	22/08/2017	22/08/2017	22/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	n/t	^ < 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t	n/t	< 0.01	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	11.3
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	5.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	1.5
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	41.2
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	28.5
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	n/t	87.5
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t	n/t	< 5	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t	n/t	< 0.03	n/t

Results Summary

Report No.: 17-13705

	ELAB Reference	109954	109955	109956	109957	109959	109960
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP224	TP225	TP225	TP226	TP228	TP229
	Sample Depth (m)	2.20	0.25	0.30	0.10	0.15	0.60
	Sampling Date	22/08/2017	23/08/2017	23/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	6.6	13.2	n/t	11.5	10.4	38.2
Barium	U / mg/kg / 10	63.4	124	n/t	46.0	40.0	51.2
Beryllium	U / mg/kg / 1	1.1	< 1.0	n/t	< 1.0	< 1.0	1.8
Cadmium	M / mg/kg / 0.5	< 0.5	0.5	n/t	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	28.9	52.8	n/t	21.7	19.5	37.3
Copper	M / mg/kg / 5	18.4	59.3	n/t	16.1	12.2	23.7
Lead	M / mg/kg / 5	18.5	82.9	n/t	25.9	23.7	18.9
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	30.5	43.4	n/t	24.5	19.1	52.0
Selenium	M / mg/kg / 1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	1.1
Vanadium	M / mg/kg / 5	41.5	32.9	n/t	33.8	33.8	61.2
Zinc	M / mg/kg / 5	64.4	230	n/t	64.7	50.3	98.9
Anions							
Water Soluble Chloride	M / mg/kg / 40	56	140	n/t	65	< 40	< 40
Water Soluble Sulphate	M / g/l / 0.02	0.04	0.35	n/t	0.11	0.04	0.03
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	n/t	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	n/t	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	< 2	n/t	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	1.0	1.1	n/t	2.4	1.1	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.05	0.77	n/t	0.12	0.07	0.05
Water Soluble Boron	N / mg/kg / 0.5	< 0.5	0.7	n/t	0.6	0.7	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	0.2	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	2.63	n/t	n/t	n/t
pH	M / pH units / 0.1	7.7	11.1	11.4	9.2	7.4	7.2
Total Organic Carbon	N / % / 0.01	0.33	0.41	0.40	1.1	0.69	0.10
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	n/t	c < 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	c < 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	0.4	n/t	c < 0.1	< 0.1	< 0.1
Anthracene	M / mg/kg / 0.1	< 0.1	0.1	n/t	c < 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	0.2	1.2	n/t	c 0.3	< 0.1	< 0.1
Pyrene	M / mg/kg / 0.1	< 0.1	1.1	n/t	c 0.3	0.1	< 0.1
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	0.8	n/t	c 0.2	< 0.1	< 0.1
Chrysene	M / mg/kg / 0.1	< 0.1	0.9	n/t	c 0.2	< 0.1	< 0.1
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	0.9	n/t	c 0.3	< 0.1	< 0.1
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	1.0	n/t	c 0.5	< 0.1	< 0.1
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	1.0	n/t	c 0.3	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	0.8	n/t	c 0.3	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	0.3	n/t	c 0.3	< 0.1	< 0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	0.8	n/t	c 0.2	< 0.1	< 0.1
Total PAH(16)	M / mg/kg / 0.4	< 0.4	9.4	n/t	c 3.0	< 0.4	< 0.4
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	25	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

			ELAB Reference	109954	109955	109956	109957	109959	109960
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP224	TP225	TP225	TP226	TP228	TP229
			Sample Depth (m)	2.20	0.25	0.30	0.10	0.15	0.60
			Sampling Date	22/08/2017	23/08/2017	23/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	n/t	c < 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	< 0.01	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	6.4	n/t	c < 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	c < 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	c < 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	12.3	n/t	c 3.4	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	4.2	n/t	c 1.4	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	22.9	n/t	c 4.9	< 1.0	< 1.0
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	11	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	< 0.03	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

	ELAB Reference	109962	109963	109964	109965	109966	109967
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP231	TP232	TP233	TP234	TP235	TP236
	Sample Depth (m)	0.40	0.10	0.40	0.30	0.50	0.30
	Sampling Date	21/08/2017	21/08/2017	21/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes** / **Units** / **LOD**						
Metals							
Arsenic	M / mg/kg / 1	33.1	5.6	n/t	6.9	14.7	30.4
Barium	U / mg/kg / 10	31.8	27.5	n/t	30.8	18.9	38.8
Beryllium	U / mg/kg / 1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	1.5
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	31.6	17.6	n/t	21.3	13.2	41.5
Copper	M / mg/kg / 5	17.8	12.8	n/t	12.5	8.9	22.0
Lead	M / mg/kg / 5	14.6	17.3	n/t	26.3	12.9	19.6
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	n/t	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	18.9	14.3	n/t	8.2	7.2	30.2
Selenium	M / mg/kg / 1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
Vanadium	M / mg/kg / 5	63.1	26.9	n/t	33.7	27.5	84.2
Zinc	M / mg/kg / 5	38.5	38.3	n/t	37.5	25.8	71.7
Anions							
Water Soluble Chloride	M / mg/kg / 40	42	< 40	n/t	41	44	< 40
Water Soluble Sulphate	M / g/l / 0.02	0.03	0.03	n/t	0.03	0.03	< 0.02
Inorganics							
Elemental Sulphur	N / mg/kg / 20	< 20	< 20	n/t	< 20	< 20	< 20
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	n/t	< 0.8	< 0.8	< 0.8
Total Sulphide	N / mg/kg / 2	< 2	< 2	n/t	< 2	< 2	< 2
Total Cyanide	M / mg/kg / 1	1.1	1.3	n/t	1.6	1.8	< 1.0
Acid Soluble Sulphate (SO4)	U / % / 0.02	0.06	0.08	n/t	0.07	0.05	0.07
Water Soluble Boron	N / mg/kg / 0.5	< 0.5	0.6	n/t	1.0	< 0.5	< 0.5
Miscellaneous							
Acid Neutralisation Capacity	N / mol/kg / 0.1	n/t	n/t	< 0.1	n/t	n/t	n/t
Loss On Ignition (450°C)	M / % / 0.01	n/t	n/t	1.81	n/t	n/t	n/t
pH	M / pH units / 0.1	6.2	6.6	6.7	6.2	5.9	5.3
Total Organic Carbon	N / % / 0.01	0.30	1.4	0.15	1.4	0.14	0.10
Phenols							
Total Phenols	N / mg/kg / 6	< 6	< 6	n/t	< 6	< 6	< 6
Polyaromatic hydrocarbons							
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Pyrene	M / mg/kg / 0.1	0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Chrysene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Benzo (a) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	< 0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	0.3	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	n/t	0.2	< 0.1	< 0.1
Total PAH(16)	M / mg/kg / 0.4	< 0.4	< 0.4	n/t	0.7	< 0.4	< 0.4
Total PAH (Including Coronene)	N / mg/kg / 2	n/t	n/t	< 2	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109962	109963	109964	109965	109966	109967
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP231	TP232	TP233	TP234	TP235	TP236
			Sample Depth (m)	0.40	0.10	0.40	0.30	0.50	0.30
			Sampling Date	21/08/2017	21/08/2017	21/08/2017	21/08/2017	22/08/2017	21/08/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	n/t	< 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	< 0.01	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	n/t	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	n/t	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	< 5	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	< 0.03	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-13705

			ELAB Reference	109968	109970	109972
			Customer Reference			
			Sample ID			
			Sample Type	SOIL	SOIL	SOIL
			Sample Location	TP237	TP239	TP239
			Sample Depth (m)	0.40	0.20	1.50
			Sampling Date	21/08/2017	23/08/2017	23/08/2017
Determinand	**Codes**	**Units**	**LOD**			
Metals						
Arsenic	M	mg/kg	1	14.1	4.5	17.5
Barium	U	mg/kg	10	81.7	33.9	42.2
Beryllium	U	mg/kg	1	1.4	< 1.0	1.3
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	40.8	17.4	32.7
Copper	M	mg/kg	5	21.1	13.1	15.9
Lead	M	mg/kg	5	16.2	13.4	20.1
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	28.8	11.3	21.3
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5	58.3	18.4	90.2
Zinc	M	mg/kg	5	62.9	31.0	43.6
Anions						
Water Soluble Chloride	M	mg/kg	40	54	126	107
Water Soluble Sulphate	M	g/l	0.02	0.03	0.10	0.04
Inorganics						
Elemental Sulphur	N	mg/kg	20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.04	0.04	0.10
Water Soluble Boron	N	mg/kg	0.5	< 0.5	0.5	< 0.5
Miscellaneous						
Acid Neutralisation Capacity	N	mol/kg	0.1	n/t	n/t	n/t
Loss On Ignition (450°C)	M	%	0.01	n/t	n/t	n/t
pH	M	pH units	0.1	6.6	8.8	7.9
Total Organic Carbon	N	%	0.01	0.16	0.21	0.09
Phenols						
Total Phenols	N	mg/kg	6	< 6	< 6	< 6
Polyaromatic hydrocarbons						
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	0.6	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	0.7	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	0.5	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	0.6	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	0.3	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	0.4	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	5.2	< 0.4
Total PAH (Including Coronene)	N	mg/kg	2	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

			ELAB Reference	109968	109970	109972
			Customer Reference			
			Sample ID			
			Sample Type	SOIL	SOIL	SOIL
			Sample Location	TP237	TP239	TP239
			Sample Depth (m)	0.40	0.20	1.50
			Sampling Date	21/08/2017	23/08/2017	23/08/2017
Determinand	**Codes**	**Units**	**LOD**			
BTEX						
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t
TPH CWG						
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	4.6	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	4.6	< 1.0
Total Petroleum Hydrocarbons						
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t
PCB (ICES 7 congeners)						
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t

Results Summary

Report No.: 17-13705

WAC Analysis								
Elab Ref:	109964					**Landfill Waste Acceptance Criteria Limits**		
Sample Date:	21/08/2017					**Inert Waste Landfill**	**Stable Non-reactive Hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:	TP233							
Depth (m)	0.4							
Site:	Woodcroft							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.15	3	5	6
Loss on Ignition		M	%		1.8	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		< 5	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			6.7	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	< 0.005		< 0.05	0.5	2	25
Barium		N	< 0.005		< 0.05	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	< 0.005		< 0.05	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	< 0.001		< 0.05	0.4	10	40
Lead		N	< 0.001		< 0.05	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	< 0.005		< 0.05	4	50	200
Chloride		N	< 5		< 50	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	5		45.70	1000	20000	50000
Total Dissolved Solids		N	< 10		< 100	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	9.780		98.00	500	800	1000
Leach Test Information								
pH		N	5.7					
Conductivity (uS/cm)		N	28					
Dry mass of test portion (g)			100.000					
Dry Matter (%)			83					
Moisture (%)			21					
Eluent Volume (ml)			952					

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ELAB cannot be held responsible for any discrepencies with current legislation

Results Summary

Report No.: 17-13705

WAC Analysis								
Elab Ref:	109956					**Landfill Waste Acceptance Criteria Limits**		
Sample Date:	23/08/2017					**Inert Waste Landfill**	**Stable Non-reactive Hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:	TP225							
Depth (m)	0.3							
Site:	Woodcroft							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.40	3	5	6
Loss on Ignition		M	%		2.6	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		11	500	--	--
Total (of 17) PAHs		N	mg/kg		25.0	100	--	--
pH		M			11.4	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		0.2	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	0.009		0.09	0.5	2	25
Barium		N	0.010		0.10	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	0.016		0.16	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	0.003		< 0.05	0.4	10	40
Lead		N	0.007		0.07	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	0.016		0.16	4	50	200
Chloride		N	7		67.00	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	12		120.00	1000	20000	50000
Total Dissolved Solids		N	< 10		< 100	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	12.300		123.00	500	800	1000
Leach Test Information								
pH		N	8.3					
Conductivity (uS/cm)		N	154					
Dry mass of test portion (g)			100.000					
Dry Matter (%)			81					
Moisture (%)			24					
Eluent Volume (ml)			953					

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

Report No.: 17-13705

WAC Analysis								
Elab Ref:	109952					**Landfill Waste Acceptance Criteria Limits**		
Sample Date:	22/08/2017					**Inert Waste Landfill**	**Stable Non-reactive Hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample ID:	TP223							
Depth (m)	0.5							
Site:	Woodcroft							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.18	3	5	6
Loss on Ignition		M	%		2.8	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		< 5	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			7.7	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	< 0.005		< 0.05	0.5	2	25
Barium		N	< 0.005		< 0.05	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	0.011		0.11	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	0.003		< 0.05	0.4	10	40
Lead		N	< 0.001		< 0.05	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	< 0.005		< 0.05	4	50	200
Chloride		N	6		65.00	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	6		58.00	1000	20000	50000
Total Dissolved Solids		N	< 10		< 100	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	54.400		544.00	**500**	800	1000
Leach Test Information								
pH		N	7.7					
Conductivity (uS/cm)		N	117					
Dry mass of test portion (g)			100.000					
Dry Matter (%)			79					
Moisture (%)			27					
Eluent Volume (ml)			931					

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

Report No.: 17-13705

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #)
in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
109922	0.10	TP202	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
109925	0.50	TP203	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
109927	0.50	TP204	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
109929	0.50	TP205	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
109930	0.10	TP206	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
109932	0.30	TP207	Clay, stones	No asbestos detected	n/t	n/t	n/t	n/t
109938	1.00	TP213	Brown sandy soil, stones, concrete, brick, clinker	Chrysotile Crocidolite (asbestos cement)	2.66	Asbestos cement (2.663%)	< 0.001	2.66
109939	0.90	TP214	Brown sandy soil, stones, brick, clinker, wood	No asbestos detected	n/t	n/t	n/t	n/t
109940	0.30	TP215	Brown sandy soil, stones, concrete, brick, clinker	No asbestos detected	n/t	n/t	n/t	n/t
109941	2.90	TP215	Chalk, stones	No asbestos detected	n/t	n/t	n/t	n/t
109943	0.20	TP217	Clay, stones	No asbestos detected	n/t	n/t	n/t	n/t
109946	0.20	TP220	Brown sandy soil, stones, chalk, brick, clinker	No asbestos detected	n/t	n/t	n/t	n/t
109947	1.00	TP220	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
109948	0.10	TP221	Brown sandy soil, stones, chalk, organics	No asbestos detected	n/t	n/t	n/t	n/t
109950	0.40	TP222	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109951	0.40	TP223	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109953	0.20	TP224	Brown soil,Stones,Brick	No asbestos detected	n/t	n/t	n/t	n/t
109954	2.20	TP224	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
109955	0.25	TP225	Brown sandy soil,Stones,Brick	Chrysotile (Cement Fragment)	3.54	Cement Fragment (3.543)	< 0.001	3.54
109957	0.10	TP226	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
109959	0.15	TP228	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109960	0.60	TP229	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
109962	0.40	TP231	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109963	0.10	TP232	Brown soil,stones	No asbestos detected	n/t	n/t	n/t	n/t
109965	0.30	TP234	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109966	0.50	TP235	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
109967	0.30	TP236	Brown sandy soil,stones	No asbestos detected	n/t	n/t	n/t	n/t
109968	0.40	TP237	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109970	0.20	TP239	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
109971	0.50	TP239	Cement fragment	Chrysotile	25.0	Cement Fragment (25)	< 0.001	25.0
109972	1.50	TP239	Sand	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 17-13705

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	25/08/2017	109	Colorimetry
Hexavalent chromium	N	As submitted sample	25/08/2017	110	Colorimetry
Acid Soluble Sulphate	U	Air dried sample	29/08/2017	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	25/08/2017	118	ICPMS
Phenols in solids	N	As submitted sample	25/08/2017	121	HPLC
Elemental Sulphur	N	Air dried sample	25/08/2017	122	HPLC
PAH (GC-FID)	M	As submitted sample	29/08/2017	133	GC-FID
Water soluble anions	M	Air dried sample	25/08/2017	172	Ion Chromatography
Water soluble boron	N	Air dried sample	25/08/2017	202	Colorimetry
Total cyanide	M	As submitted sample	25/08/2017	204	Colorimetry
Aliphatic hydrocarbons in soil	N	As submitted sample	29/08/2017	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	29/08/2017	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	29/08/2017	214	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	25/08/2017	214	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	25/08/2017	214	GC-MS
Asbestos identification	U	As submitted sample	25/08/2017	260	Microscopy
Leachate					
Arsenic*	N		30/08/2017	101	ICPMS
Cadmium*	N		30/08/2017	101	ICPMS
Chromium*	N		30/08/2017	101	ICPMS
Lead*	N		30/08/2017	101	ICPMS
Nickel*	N		30/08/2017	101	ICPMS
Copper*	N		30/08/2017	101	ICPMS
Zinc*	N		30/08/2017	101	ICPMS
Mercury*	N		30/08/2017	101	ICPMS
Selenium*	N		30/08/2017	101	ICPMS
Antimony	N		30/08/2017	101	ICPMS
Barium*	N		30/08/2017	101	ICPMS
Molybdenum*	N		30/08/2017	101	ICPMS
pH Value*	N		30/08/2017	113	Electrometric
Electrical Conductivity*	N		30/08/2017	136	Probe
Dissolved Organic Carbon	N		30/08/2017	102	TOC analyser
Chloride*	N		30/08/2017	131	Ion Chromatography
Fluoride*	N		30/08/2017	131	Ion Chromatography
Sulphate*	N		30/08/2017	131	Ion Chromatography
Total Dissolved Solids	N		30/08/2017	144	Gravimetric
Phenol index	N		30/08/2017	121	HPLC
WAC Solids analysis	N				
pH Value**	M	Air dried sample	29/08/2017	113	Electrometric
Total Organic Carbon	N	Air dried sample	29/08/2017	210	IR
Loss on Ignition**	M	Air dried sample	30/08/2017	129	Gravimetric
Acid Neutralization Capacity to pH 7	N	Air dried sample	29/08/2017	NEN 737	Electrometric
Total BTEX**	M	As submitted sample	25/08/2017	181	GCMS
Mineral Oil**	U	As submitted sample	29/08/2017	117	GCFID
Total PCBs (7 congeners)	M	Air dried sample	25/08/2017	120	GCMS
Total PAH (17)**	N	As submitted sample	29/08/2017	133	GCFID

Tests marked N are not UKAS accredited

Report Information

Report No.: 17-13705

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C)
Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

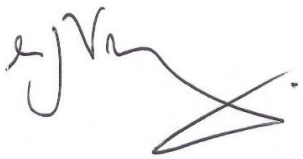
Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage

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2683

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	18-17643
Issue:	1
Date of Issue:	30/05/2018
Contact:	Fiona Goode
Customer Details:	GESL Unit 7 Danworth Farm Hurstpierpoint West Sussex BN6 9GL
Quotation No:	Q14-00021
Order No:	PO-0331
Customer Reference:	GE16943
Date Received:	21/05/2018
Date Approved:	30/05/2018
Details:	Woodcroft, Waterlooville
Approved by:	

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

Sample Summary

Report No.: 18-17643

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
136637	WS401 0.60 - 0.80	15/05/2018	21/05/2018	Clayey loam	
136638	WS401 1.40 - 1.70	15/05/2018	21/05/2018	Silty loam	
136639	WS401 2.30 - 2.60	15/05/2018	21/05/2018	Silty loam	
136640	WS402 0.50	15/05/2018	21/05/2018	Silty clayey loam	
136641	WS402 1.50	15/05/2018	21/05/2018	Silty loam	
136642	WS402 2.50	15/05/2018	21/05/2018	Silty clayey loam	
136643	WS402 3.70 - 4.00	15/05/2018	21/05/2018	Silty loam	
136644	WS403 0.30 - 0.50	15/05/2018	21/05/2018	Silty clayey loam	
136645	WS403 1.50 - 1.60	15/05/2018	21/05/2018	Silty clayey loam	
136646	WS403 2.40 - 2.60	15/05/2018	21/05/2018	Silty loam	
136647	WS404 0.20 - 0.40	15/05/2018	21/05/2018	Silty loam	
136648	WS404 1.10 - 1.30	15/05/2018	21/05/2018	Clayey loam	
136649	WS405 0.00 - 0.20	15/05/2018	21/05/2018	Silty loam	
136650	WS405 0.40 - 0.60	15/05/2018	21/05/2018	Silty clayey loam	
136651	WS405 1.20	15/05/2018	21/05/2018	Silty clayey loam	
136652	WS406 0.20 - 0.50	15/05/2018	21/05/2018	Silty loam	
136653	WS406 1.60 - 1.90	15/05/2018	21/05/2018	Silty loam	
136654	WS406 3.10 - 3.50	15/05/2018	21/05/2018	Silty loam	
136655	WS407 0.30 - 0.50	15/05/2018	21/05/2018	Sandy silty loam	
136656	WS407 1.00 - 2.00	15/05/2018	21/05/2018	Silty loam	
136657	WS407 3.00 - 4.00	15/05/2018	21/05/2018	Silty loam	
136658	TP301 0.25	16/05/2018	21/05/2018	Silty loam	
136659	TP301 0.40	16/05/2018	21/05/2018	Silty loam	
136660	TP301 1.40	16/05/2018	21/05/2018	Silty loam	
136661	TP302 0.20	16/05/2018	21/05/2018	Silty loam	
136662	TP302 0.50	16/05/2018	21/05/2018	Silty clayey loam	
136663	TP302 1.30	16/05/2018	21/05/2018	Silty loam	
136664	TP302 2.70	16/05/2018	21/05/2018	Silty loam	
136665	TP303 0.30	16/05/2018	21/05/2018	Silty loam	
136666	TP303 0.70	16/05/2018	21/05/2018	Silty clayey loam	
136667	TP303 1.90	16/05/2018	21/05/2018	chalk	
136668	TP304 0.30	16/05/2018	21/05/2018	Silty loam	
136669	TP304 1.20	16/05/2018	21/05/2018	Silty clayey loam	
136670	TP305 0.80	16/05/2018	21/05/2018	Clayey loam	
136671	TP305 1.10	16/05/2018	21/05/2018	Clayey loam	
136672	TP306 0.20	15/05/2018	21/05/2018	Silty loam	
136673	TP306 0.40	15/05/2018	21/05/2018	Silty loam	
136674	TP306 0.80	15/05/2018	21/05/2018	Sandy silty loam	
136675	TP307 0.30	15/05/2018	21/05/2018	Silty loam	
136676	TP307 0.80	15/05/2018	21/05/2018	Silty clayey loam	
136677	TP307 1.20	15/05/2018	21/05/2018	Sand	
136678	TP308 0.10	15/05/2018	21/05/2018	Silty loam	
136679	TP308 0.30	15/05/2018	21/05/2018	Sandy silty loam	
136680	TP308 0.70	15/05/2018	21/05/2018	Silty clayey loam	
136681	TP309 0.25	15/05/2018	21/05/2018	Silty loam	
136682	TP309 0.50	15/05/2018	21/05/2018	Silty loam	
136683	TP309 0.65	15/05/2018	21/05/2018	Silty clayey loam	
136684	TP310 0.20	15/05/2018	21/05/2018	Silty loam	
136685	TP310 0.50	15/05/2018	21/05/2018	Silty loam	
136686	TP310 1.50	15/05/2018	21/05/2018	chalk	
136687	TP311 0.20	15/05/2018	21/05/2018	Silty loam	
136688	TP311 0.40	15/05/2018	21/05/2018	Silty loam	
136689	TP311 0.80	15/05/2018	21/05/2018	Silty loam	
136690	TP312 0.20	17/05/2018	21/05/2018	Silty loam	
136691	TP312 0.90	17/05/2018	21/05/2018	Silty loam	
136692	TP312 1.45	17/05/2018	21/05/2018	Silty clayey loam	
136693	TP313 0.25	17/05/2018	21/05/2018	Silty loam + chalk	
136694	TP313 0.50	17/05/2018	21/05/2018	Sandy silty loam	
136695	TP313 1.55	17/05/2018	21/05/2018	Loamy sand	
136696	TP314 0.30	17/05/2018	21/05/2018	Clayey loam	
136697	TP314 0.70	17/05/2018	21/05/2018	Silty loam	
136698	TP314 1.60	17/05/2018	21/05/2018	Silty clayey loam	
136699	TP315 0.20	17/05/2018	21/05/2018	Silty loam	
136700	TP315 0.60	17/05/2018	21/05/2018	Silty loam	

Sample Summary

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Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
136701	TP315 2.30	17/05/2018	21/05/2018	Clayey loam	
136702	TP316 0.20	17/05/2018	21/05/2018	Sandy silty loam	
136703	TP316 0.90	17/05/2018	21/05/2018	Silty clayey loam	
136704	TP316 1.90	17/05/2018	21/05/2018	Clayey loam	
136705	TP317 0.15	17/05/2018	21/05/2018	Silty loam	
136706	TP317 0.65	17/05/2018	21/05/2018	Clayey loam	
136707	TP317 1.40	17/05/2018	21/05/2018	Sandy loam	
136708	TP318 0.15	17/05/2018	21/05/2018	Silty loam	
136709	TP318 0.70	17/05/2018	21/05/2018	Silty clayey loam	
136710	TP319 1.80	17/05/2018	21/05/2018	Clayey loam	

Results Summary

Report No.: 18-17643

			ELAB Reference	136637	136638	136639	136640	136641	136642
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS401	WS401	WS401	WS402	WS402	WS402
			Sample Depth (m)	0.60 - 0.80	1.40 - 1.70	2.30 - 2.60	0.50	1.50	2.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.51	1.9	2.2	0.47	1.4	0.49
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136637	136638	136639	136640	136641	136642
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS401	WS401	WS401	WS402	WS402	WS402
			Sample Depth (m)	0.60 - 0.80	1.40 - 1.70	2.30 - 2.60	0.50	1.50	2.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

	ELAB Reference	136643	136644	136645	136646	136647	136648
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	WS402	WS403	WS403	WS403	WS404	WS404
	Sample Depth (m)	3.70 - 4.00	0.30 - 0.50	1.50 - 1.60	2.40 - 2.60	0.20 - 0.40	1.10 - 1.30
	Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.68	0.61	0.69	0.19	2.5	0.20
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136643	136644	136645	136646	136647	136648
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS402	WS403	WS403	WS403	WS404	WS404
			Sample Depth (m)	3.70 - 4.00	0.30 - 0.50	1.50 - 1.60	2.40 - 2.60	0.20 - 0.40	1.10 - 1.30
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136649	136650	136651	136652	136653	136654
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS405	WS405	WS405	WS406	WS406	WS406
			Sample Depth (m)	0.00 - 0.20	0.40 - 0.60	1.20	0.20 - 0.50	1.60 - 1.90	3.10 - 3.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	1.6	1.0	0.87	0.98	1.4	3.8
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136649	136650	136651	136652	136653	136654
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS405	WS405	WS405	WS406	WS406	WS406
			Sample Depth (m)	0.00 - 0.20	0.40 - 0.60	1.20	0.20 - 0.50	1.60 - 1.90	3.10 - 3.50
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136655	136656	136657	136658	136659	136660
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS407	WS407	WS407	TP301	TP301	TP301
			Sample Depth (m)	0.30 - 0.50	1.00 - 2.00	3.00 - 4.00	0.25	0.40	1.40
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.72	1.2	2.1	1.7	0.80	2.3
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136655	136656	136657	136658	136659	136660
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	WS407	WS407	WS407	TP301	TP301	TP301
			Sample Depth (m)	0.30 - 0.50	1.00 - 2.00	3.00 - 4.00	0.25	0.40	1.40
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136661	136662	136663	136664	136665	136666
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP302	TP302	TP302	TP302	TP303	TP303
			Sample Depth (m)	0.20	0.50	1.30	2.70	0.30	0.70
			Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	n/t
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total Organic Carbon	N	%	0.01	0.48	0.77	0.64	1.3	2.1	0.21
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	n/t
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	n/t
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

	ELAB Reference	136661	136662	136663	136664	136665	136666
	Customer Reference						
	Sample ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	TP302	TP302	TP302	TP302	TP303	TP303
	Sample Depth (m)	0.20	0.50	1.30	2.70	0.30	0.70
	Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018
Determinand	**Codes** / **Units** / **LOD**						
TPH CWG							
>C5-C6 Aliphatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C6-C8 Aliphatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aliphatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C5-C7 Aromatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C7-C8 Aromatic	N / mg/kg / 0.01	n/t	n/t	n/t	n/t	n/t	n/t
>C8-C10 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C10-C12 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C12-C16 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C16-C21 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C21-C35 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
>C35-C40 Aromatic	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t
Total (>C5-C40) Ali/Aro	N / mg/kg / 1	n/t	n/t	n/t	n/t	n/t	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136667	136668	136669	136670	136671	136672
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP303	TP304	TP304	TP305	TP305	TP306
			Sample Depth (m)	1.90	0.30	1.20	0.80	1.10	0.20
			Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	9.2
Barium	U	mg/kg	10	n/t	n/t	n/t	n/t	n/t	51.3
Beryllium	U	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	< 0.5
Chromium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	23.1
Copper	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	7.9
Lead	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	18.6
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	< 0.5
Nickel	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	15.7
Selenium	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Vanadium	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	34.7
Zinc	M	mg/kg	5	n/t	n/t	n/t	n/t	n/t	55.8
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	n/t	n/t	n/t	n/t	< 40
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t	n/t	< 0.02
Inorganics									
Elemental Sulphur	M	mg/kg	20	n/t	n/t	n/t	n/t	n/t	< 20
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	n/t	n/t	< 0.8
Total Sulphide	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	< 2
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	n/t	n/t	n/t	n/t	0.07
Water Soluble Boron	N	mg/kg	0.5	n/t	n/t	n/t	n/t	n/t	0.7
Miscellaneous									
pH	M	pH units	0.1	n/t	n/t	n/t	n/t	n/t	6.1
Total Organic Carbon	N	%	0.01	0.05	2.7	0.20	0.74	1.2	0.48
Phenols									
Total Phenols	N	mg/kg	6	n/t	n/t	n/t	n/t	n/t	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	n/t	n/t	< 0.4
BTEX									
Benzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0
Toluene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0
Ethylbenzene	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0
Xylenes	M	ug/kg	10	n/t	n/t	n/t	n/t	n/t	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136667	136668	136669	136670	136671	136672
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP303	TP304	TP304	TP305	TP305	TP306
			Sample Depth (m)	1.90	0.30	1.20	0.80	1.10	0.20
			Sampling Date	16/05/2018	16/05/2018	16/05/2018	16/05/2018	16/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	n/t	n/t	n/t	n/t	< 1.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136673	136674	136675	136676	136677	136678
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP306	TP306	TP307	TP307	TP307	TP308
			Sample Depth (m)	0.40	0.80	0.30	0.80	1.20	0.10
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	19.0	30.7	14.6	19.6	76.9	15.6
Barium	U	mg/kg	10	82.6	63.1	52.6	71.7	36.8	35.7
Beryllium	U	mg/kg	1	1.2	2.0	1.6	6.4	2.9	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	0.6	0.5	2.4	1.4	< 0.5
Chromium	M	mg/kg	5	43.5	39.1	32.0	47.0	37.8	20.4
Copper	M	mg/kg	5	18.2	18.0	11.9	14.6	21.1	7.8
Lead	M	mg/kg	5	17.7	17.2	17.5	16.2	20.4	15.7
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	29.5	27.7	34.2	174	69.3	15.0
Selenium	M	mg/kg	1	< 1.0	1.4	1.1	4.1	1.8	< 1.0
Vanadium	M	mg/kg	5	59.9	80.9	50.9	59.3	188	42.2
Zinc	M	mg/kg	5	58.6	55.8	73.5	91.5	56.6	40.6
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.03
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.06	0.05	0.06	0.06	0.05	0.05
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Miscellaneous									
pH	M	pH units	0.1	6.8	7.0	6.5	7.6	7.4	6.9
Total Organic Carbon	N	%	0.01	0.14	0.11	0.31	0.21	0.05	0.43
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136673	136674	136675	136676	136677	136678
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP306	TP306	TP307	TP307	TP307	TP308
			Sample Depth (m)	0.40	0.80	0.30	0.80	1.20	0.10
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136679	136680	136681	136682	136683	136684
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP308	TP308	TP309	TP309	TP309	TP310
			Sample Depth (m)	0.30	0.70	0.25	0.50	0.65	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	95.8	68.0	23.1	65.6	20.9	15.6
Barium	U	mg/kg	10	48.9	65.2	56.4	83.1	17.6	46.7
Beryllium	U	mg/kg	1	1.4	1.8	1.4	5.1	1.2	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	0.5	1.0	< 0.5	< 0.5
Chromium	M	mg/kg	5	43.5	59.2	29.6	62.4	11.9	21.1
Copper	M	mg/kg	5	17.2	22.1	13.3	18.3	< 5.0	10.0
Lead	M	mg/kg	5	23.5	26.2	27.1	22.2	6.3	24.2
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	22.0	80.3	45.2	190	35.3	24.4
Selenium	M	mg/kg	1	1.9	2.0	1.2	1.6	< 1.0	< 1.0
Vanadium	M	mg/kg	5	127	168	51.0	103	16.8	43.8
Zinc	M	mg/kg	5	58.6	71.0	80.7	143	27.6	60.5
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	0.02	0.11	0.06	0.03	0.03
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	38	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.05	0.06	0.11	0.07	0.03	0.07
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	1.6	< 0.5	< 0.5	0.6
Miscellaneous									
pH	M	pH units	0.1	6.9	7.3	6.6	7.3	8.0	6.7
Total Organic Carbon	N	%	0.01	0.12	0.12	1.7	0.44	0.05	0.03
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	0.3	< 0.1	< 0.1	0.3	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	0.4	< 0.4	< 0.4	0.4	< 0.4	< 0.4
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

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Results Summary

Report No.: 18-17643

			ELAB Reference	136679	136680	136681	136682	136683	136684
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP308	TP308	TP309	TP309	TP309	TP310
			Sample Depth (m)	0.30	0.70	0.25	0.50	0.65	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136685	136686	136687	136688	136689	136690
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP310	TP310	TP311	TP311	TP311	TP312
			Sample Depth (m)	0.50	1.50	0.20	0.40	0.80	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	22.7	^ 4.7	15.3	22.7	27.4	5.0
Barium	U	mg/kg	10	73.8	17.9	51.7	60.6	61.9	120
Beryllium	U	mg/kg	1	1.3	< 1.0	1.0	2.3	2.6	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	^ 1.0	< 0.5	< 0.5	1.4	0.7
Chromium	M	mg/kg	5	44.2	^ 6.9	23.3	45.9	54.0	11.3
Copper	M	mg/kg	5	19.2	^ < 5.0	11.3	18.1	24.7	9.9
Lead	M	mg/kg	5	21.8	^ < 5.0	27.6	22.1	17.2	16.0
Mercury	M	mg/kg	0.5	< 0.5	^ < 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	32.0	^ 13.9	29.3	66.7	200	14.3
Selenium	M	mg/kg	1	1.0	^ < 1.0	< 1.0	1.1	2.1	< 1.0
Vanadium	M	mg/kg	5	80.9	^ 9.8	46.8	75.9	66.1	16.3
Zinc	M	mg/kg	5	68.7	^ 21.5	64.1	104	97.9	45.8
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	^ < 40	< 40	< 40	< 40	103
Water Soluble Sulphate	M	g/l	0.02	0.02	^ < 0.02	0.04	0.05	0.02	0.10
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	^ < 20	< 20	22	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	^ < 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.08	0.09	0.08	0.07	0.07	0.07
Water Soluble Boron	N	mg/kg	0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5
Miscellaneous									
pH	M	pH units	0.1	6.7	^ 8.6	7.0	7.2	7.3	8.2
Total Organic Carbon	N	%	0.01	0.15	0.03	0.75	0.27	0.22	0.56
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	0.4
Anthracene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	0.2
Fluoranthene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.4
Pyrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.4
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.3
Chrysene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.3
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.7
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	^ < 0.1	0.2	< 0.1	< 0.1	2.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	0.2	< 0.1	1.8
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	1.4
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	0.3
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1	2.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	^ < 0.4	< 0.4	< 0.4	< 0.4	15.5
BTEX									
Benzene	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0	< 10.0

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Results Summary

Report No.: 18-17643

			ELAB Reference	136685	136686	136687	136688	136689	136690
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP310	TP310	TP311	TP311	TP311	TP312
			Sample Depth (m)	0.50	1.50	0.20	0.40	0.80	0.20
			Sampling Date	15/05/2018	15/05/2018	15/05/2018	15/05/2018	15/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.1
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	135
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.3
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.2
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	136
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	17.1
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	304

Results Summary

Report No.: 18-17643

				ELAB Reference	136691	136692	136693	136694	136695	136696
				Customer Reference						
				Sample ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Location	TP312	TP312	TP313	TP313	TP313	TP314
				Sample Depth (m)	0.90	1.45	0.25	0.50	1.55	0.30
				Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**							
Metals										
Arsenic	M	mg/kg	1		11.2	20.3	^ 5.1	17.1	34.2	11.5
Barium	U	mg/kg	10		66.4	54.9	28.0	19.2	38.9	40.8
Beryllium	U	mg/kg	1		< 1.0	2.9	< 1.0	< 1.0	1.5	< 1.0
Cadmium	M	mg/kg	0.5		0.6	0.7	^ 0.6	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5		21.4	39.6	^ 10.2	14.5	20.4	34.0
Copper	M	mg/kg	5		18.5	23.8	^ 8.8	7.9	15.2	13.5
Lead	M	mg/kg	5		61.9	25.3	^ 12.3	14.1	20.5	17.3
Mercury	M	mg/kg	0.5		< 0.5	< 0.5	^ < 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5		29.3	93.1	^ 10.7	15.1	26.9	13.7
Selenium	M	mg/kg	1		1.1	1.8	^ < 1.0	< 1.0	< 1.0	< 1.0
Vanadium	M	mg/kg	5		39.2	64.6	^ 17.0	35.1	43.5	54.1
Zinc	M	mg/kg	5		129	136	^ 32.0	28.5	37.6	31.2
Anions										
Water Soluble Chloride	M	mg/kg	40		124	131	^ < 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02		0.05	0.04	^ < 0.02	< 0.02	< 0.02	< 0.02
Inorganics										
Elemental Sulphur	M	mg/kg	20		< 20	< 20	^ < 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8		< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2		< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1		1.1	< 1.0	^ 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02		0.09	0.09	0.06	0.03	0.06	0.06
Water Soluble Boron	N	mg/kg	0.5		2.8	0.5	< 0.5	< 0.5	< 0.5	0.8
Miscellaneous										
pH	M	pH units	0.1		8.3	7.8	^ 8.3	8.1	8.1	7.7
Total Organic Carbon	N	%	0.01		2.6	0.42	0.28	0.12	0.08	0.24
Phenols										
Total Phenols	N	mg/kg	6		< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons										
Naphthalene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.2	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	0.2	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	0.2	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1		< 0.1	< 0.1	^ < 0.1	1.8	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.1	0.6	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1		0.1	< 0.1	^ 0.6	1.8	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1		0.1	< 0.1	^ 0.6	1.5	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.9	0.8	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.8	0.8	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1		0.2	< 0.1	^ 1.1	0.5	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1		0.3	0.3	^ 1.5	0.8	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1		0.1	< 0.1	^ 1.2	0.7	< 0.1	0.2
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1		< 0.1	< 0.1	^ 1.2	0.4	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1		< 0.1	< 0.1	^ 0.3	0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1		< 0.1	0.1	^ 1.3	0.3	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4		0.9	0.4	^ 9.9	10.5	< 0.4	< 0.4
BTEX										
Benzene	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10		< 10.0	< 10.0	^ < 10.0	< 10.0	< 10.0	< 10.0

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Results Summary

Report No.: 18-17643

			ELAB Reference	136691	136692	136693	136694	136695	136696
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP312	TP312	TP313	TP313	TP313	TP314
			Sample Depth (m)	0.90	1.45	0.25	0.50	1.55	0.30
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	1.7	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	7.1	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	10.3	< 1.0	< 1.0	< 1.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136697	136698	136699	136700	136701	136702
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP314	TP314	TP315	TP315	TP315	TP316
			Sample Depth (m)	0.70	1.60	0.20	0.60	2.30	0.20
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	10.6	243	15.5	11.0	8.7	11.1
Barium	U	mg/kg	10	38.3	90.8	359	85.8	305	257
Beryllium	U	mg/kg	1	< 1.0	3.7	< 1.0	< 1.0	2.1	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	3.5	0.7	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	19.3	37.4	15.5	30.8	59.1	23.7
Copper	M	mg/kg	5	7.8	24.4	30.2	13.3	25.7	23.2
Lead	M	mg/kg	5	14.8	28.5	220	64.6	27.2	146
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	11.9	271	16.1	15.0	25.3	15.5
Selenium	M	mg/kg	1	< 1.0	1.1	< 1.0	< 1.0	1.1	< 1.0
Vanadium	M	mg/kg	5	35.8	69.2	23.7	52.0	101	38.4
Zinc	M	mg/kg	5	36.9	139	91.1	58.2	62.5	107
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	0.05	0.03	0.06	< 0.02	0.05
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	188	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.05	0.07	0.08	0.09	0.07	0.11
Water Soluble Boron	N	mg/kg	0.5	< 0.5	< 0.5	< 0.5	1.1	0.6	0.7
Miscellaneous									
pH	M	pH units	0.1	7.4	7.5	9.1	7.9	6.2	9.3
Total Organic Carbon	N	%	0.01	0.21	0.11	0.88	1.1	0.35	0.70
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	0.3	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	1.9	< 0.1	< 0.1	0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	0.7	< 0.1	< 0.1	0.3
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	3.6	< 0.1	< 0.1	0.7
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	3.3	< 0.1	< 0.1	0.6
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	2.1	< 0.1	< 0.1	0.4
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	2.3	< 0.1	0.1	0.4
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	3.1	0.3	0.1	0.6
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	2.5	< 0.1	< 0.1	0.4
Benzo (a) pyrene	M	mg/kg	0.1	0.1	0.1	2.7	< 0.1	0.3	0.3
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	2.3	< 0.1	< 0.1	0.3
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	0.5	< 0.1	< 0.1	0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	3.0	0.1	< 0.1	0.4
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	28.7	0.6	0.6	4.7
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136697	136698	136699	136700	136701	136702
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP314	TP314	TP315	TP315	TP315	TP316
			Sample Depth (m)	0.70	1.60	0.20	0.60	2.30	0.20
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	2.7	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	39.7	< 1.0	< 1.0	8.1
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	9.3	< 1.0	< 1.0	1.4
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	14.8	< 1.0	< 1.0	1.3
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	131	1.3	< 1.0	15.1
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	41.1	< 1.0	< 1.0	6.5
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	241	1.3	< 1.0	32.4

Results Summary

Report No.: 18-17643

			ELAB Reference	136703	136704	136705	136706	136707	136708
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP316	TP316	TP317	TP317	TP317	TP318
			Sample Depth (m)	0.90	1.90	0.15	0.65	1.40	0.15
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	10.1	4.8	16.3	11.4	5.7	9.7
Barium	U	mg/kg	10	75.6	76.8	180	36.7	28.2	169
Beryllium	U	mg/kg	1	< 1.0	1.7	1.4	6.9	1.4	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	0.6	5.2	< 0.5	0.7
Chromium	M	mg/kg	5	35.8	28.4	28.9	35.0	24.1	20.3
Copper	M	mg/kg	5	14.8	11.3	60.8	21.3	17.7	30.0
Lead	M	mg/kg	5	36.7	13.4	165	22.3	15.7	104
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	12.8	20.2	27.2	33.1	26.1	15.5
Selenium	M	mg/kg	1	< 1.0	< 1.0	1.4	1.1	< 1.0	< 1.0
Vanadium	M	mg/kg	5	64.1	47.5	49.0	49.9	39.1	34.5
Zinc	M	mg/kg	5	47.4	27.1	235	59.5	48.0	159
Anions									
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.05	0.08	< 0.02	< 0.02	< 0.02	0.03
Inorganics									
Elemental Sulphur	M	mg/kg	20	< 20	< 20	< 20	< 20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2	< 2	< 2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.08	0.07	0.08	0.05	0.06	0.07
Water Soluble Boron	N	mg/kg	0.5	0.8	0.7	1.3	0.7	< 0.5	0.7
Miscellaneous									
pH	M	pH units	0.1	8.1	5.5	7.6	7.9	7.4	8.5
Total Organic Carbon	N	%	0.01	0.60	0.06	2.9	0.32	0.08	1.9
Phenols									
Total Phenols	N	mg/kg	6	< 6	< 6	< 6	< 6	< 6	< 6
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1	0.2
Benzo (b) fluoranthene	M	mg/kg	0.1	0.1	0.1	0.1	< 0.1	< 0.1	0.4
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	0.3
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	0.7	< 0.4	< 0.4	2.1
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136703	136704	136705	136706	136707	136708
			Customer Reference						
			Sample ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	TP316	TP316	TP317	TP317	TP317	TP318
			Sample Depth (m)	0.90	1.90	0.15	0.65	1.40	0.15
			Sampling Date	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**						
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.7
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.7
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.6
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.0

Results Summary

Report No.: 18-17643

			ELAB Reference	136709	136710
			Customer Reference		
			Sample ID		
			Sample Type	SOIL	SOIL
			Sample Location	TP318	TP319
			Sample Depth (m)	0.70	1.80
			Sampling Date	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**		
Metals					
Arsenic	M	mg/kg	1	10.5	17.2
Barium	U	mg/kg	10	35.0	49.9
Beryllium	U	mg/kg	1	< 1.0	1.5
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	34.6	58.1
Copper	M	mg/kg	5	16.1	32.6
Lead	M	mg/kg	5	15.1	27.9
Mercury	M	mg/kg	0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	11.9	15.9
Selenium	M	mg/kg	1	< 1.0	1.2
Vanadium	M	mg/kg	5	55.4	106
Zinc	M	mg/kg	5	37.5	37.5
Anions					
Water Soluble Chloride	M	mg/kg	40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.02	0.07
Inorganics					
Elemental Sulphur	M	mg/kg	20	< 20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2	< 2
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.05	0.07
Water Soluble Boron	N	mg/kg	0.5	< 0.5	0.8
Miscellaneous					
pH	M	pH units	0.1	8.1	7.3
Total Organic Carbon	N	%	0.01	0.13	0.22
Phenols					
Total Phenols	N	mg/kg	6	< 6	< 6
Polyaromatic hydrocarbons					
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4
BTEX					
Benzene	M	ug/kg	10	< 10.0	< 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 18-17643

			ELAB Reference	136709	136710
			Customer Reference		
			Sample ID		
			Sample Type	SOIL	SOIL
			Sample Location	TP318	TP319
			Sample Depth (m)	0.70	1.80
			Sampling Date	17/05/2018	17/05/2018
Determinand	**Codes**	**Units**	**LOD**		
TPH CWG					
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	< 1.0

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Results Summary

Report No.: 18-17643

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #)
in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric	Gravimetric Analysis by ACM Type	Free Fibre	Total
136637	0.60 - 0.80	WS401	Brown clay, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136640	0.50	WS402	Brown clay, stones	No asbestos detected	n/t	n/t	n/t	n/t
136645	1.50 - 1.60	WS403	Brown sandy soil, stones, concrete, brick, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136650	0.40 - 0.60	WS405	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
136651	1.20	WS405	Brown sandy soil, stones, concrete, brick, wood	No asbestos detected	n/t	n/t	n/t	n/t
136653	1.60 - 1.90	WS406	Brown sandy soil, stones, concrete, brick, clinker, glass	No asbestos detected	n/t	n/t	n/t	n/t
136655	0.30 - 0.50	WS407	Brown sandy soil, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136657	3.00 - 4.00	WS407	Brown sandy soil, stones, concrete, brick, clinker, chalk, organics	Chrysotile (asbestos cement)	0.729	Asbestos cement (0.729%)	< 0.001	0.729
136658	0.25	TP301	Brown sandy soil, stones, concrete, brick, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136659	0.40	TP301	Brown sandy soil, stones, clinker, wood	No asbestos detected	n/t	n/t	n/t	n/t
136660	1.40	TP301	Brown sandy soil, stones, brick, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136661	0.20	TP302	Brown sandy soil, stones, chalk, clinker, organics	Chrysotile (asbestos cement)	0.147	Asbestos cement (0.147%)	< 0.001	0.147
136662	0.50	TP302	Brown sandy soil, stones, clinker, organics	No asbestos detected	n/t	n/t	n/t	n/t
136664	2.70	TP302	Brown sandy soil, stones, concrete, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136666	0.70	TP303	Brown sandy soil, stones, concrete, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136669	1.20	TP304	Brown sandy clay, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136670	0.80	TP305	Brown sandy clay, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t
136672	0.20	TP306	Brown sandy soil, stones, organics	No asbestos detected	n/t	n/t	n/t	n/t
136673	0.40	TP306	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
136674	0.80	TP306	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
136675	0.30	TP307	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136676	0.80	TP307	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136677	1.20	TP307	Brown sandy soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136678	0.10	TP308	Brown sandy soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136679	0.30	TP308	Brown sandy soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136680	0.70	TP308	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136681	0.25	TP309	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136682	0.50	TP309	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136683	0.65	TP309	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136684	0.20	TP310	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136685	0.50	TP310	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136686	1.50	TP310	Chalk	No asbestos detected	n/t	n/t	n/t	n/t
136687	0.20	TP311	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136688	0.40	TP311	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136689	0.80	TP311	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136690	0.20	TP312	Brown chalky soil with stones and brick	No asbestos detected	n/t	n/t	n/t	n/t
136691	0.90	TP312	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136692	1.45	TP312	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136693	0.25	TP313	Brown chalky soil with stones and clinker	No asbestos detected	n/t	n/t	n/t	n/t
136694	0.50	TP313	Brown soil with stones	No asbestos detected	n/t	n/t	n/t	n/t
136695	1.55	TP313	Sand	No asbestos detected	n/t	n/t	n/t	n/t
136696	0.30	TP314	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136697	0.70	TP314	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
136698	1.60	TP314	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136699	0.20	TP315	Brown sandy soil,Stones,concrete,brick	Chrysotile (fibre bundle)	< 0.001	Fibre bundle (<0.001)	< 0.001	< 0.001
136700	0.60	TP315	Brown sandy soil	No asbestos detected	n/t	n/t	n/t	n/t
136701	2.30	TP315	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
136702	0.20	TP316	Brown sandy soil,Stones,brick,clinker	No asbestos detected	n/t	n/t	n/t	n/t
136703	0.90	TP316	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136704	1.90	TP316	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136705	0.15	TP317	Brown sandy soil,Stones,glass,clinker	No asbestos detected	n/t	n/t	n/t	n/t
136706	0.65	TP317	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
136707	1.40	TP317	Brown sandy soil,stones	No asbestos detected	n/t	n/t	n/t	n/t
136708	0.15	TP318	Brown sandy soil,Stones,brick	No asbestos detected	n/t	n/t	n/t	n/t
136709	0.70	TP318	Brown soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
136710	1.80	TP319	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 18-17643

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	23/05/2018	109	Colorimetry
Hexavalent chromium	N	As submitted sample	23/05/2018	110	Colorimetry
pH	M	Air dried sample	24/05/2018	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	24/05/2018	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	23/05/2018	118	ICPMS
Phenols in solids	N	As submitted sample	23/05/2018	121	HPLC
Elemental Sulphur	M	Air dried sample	23/05/2018	122	HPLC
PAH (GC-FID)	M	As submitted sample	23/05/2018	133	GC-FID
Water soluble anions	M	Air dried sample	23/05/2018	172	Ion Chromatography
Low range Aliphatic hydrocarbons soil	N	As submitted sample	24/05/2018	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	24/05/2018	181	GC-MS
BTEX in solids	M	As submitted sample	24/05/2018	181A	GC-MS
Water soluble boron	N	Air dried sample	23/05/2018	202	Colorimetry
Total cyanide	M	As submitted sample	23/05/2018	204	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	24/05/2018	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	23/05/2018	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	25/05/2018	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	23/05/2018	214	GC-FID
Asbestos identification	U	Air dried sample	23/05/2018	260	Microscopy

Tests marked N are not UKAS accredited

Report Information

Report No.: 18-17643

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C)
Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage

CLEA Software Version 1.071

Report generated 21/06/2018

Report title Woodcroft Farm, Lovedean

Created by FG at GESL

BASIC SETTINGS

Land Use Residential with produce (C4SL)

Building Small terraced house
Receptor Female (res C4SL) Start age class 1 End age class 6 Exposure Duration 6 years
Soil Sandy loam

Exposure Pathways

Direct soil and dust ingestion	✓	Dermal contact with indoor dust	✓	Inhalation of indoor dust	✓
Consumption of homegrown produce	✓	Dermal contact with soil	✓	Inhalation of soil dust	✓
Soil attached to homegrown produce	✓			Inhalation of indoor vapour	✓
				Inhalation of outdoor vapour	✓

Land Use Residential with produce (C4SL) **Receptor** Female (res C4SL)

Age Class	Exposure Frequencies (days yr^{-1})						Occupation Periods (hr day^{-1})		Soil to skin adherence factors (mg cm^{2})		Direct soil ingestion rate (g day^{-1})	Body weight (kg)	Body height (m)	Inhalation rate (m^{3} day^{-1})	Max exposed skin factor		Total skin area (m^{2})
	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with indoor dust	Dermal contact with soil	Inhalation of dust and vapour, indoor	Inhalation of dust and vapour, outdoor	Indoors	Outdoors	Indoor	Outdoor					Indoor (m^{2} m^{-2})	Outdoor (m^{2} m^{-2})	
1	180	180	180	170	365	365	23.0	1.0	0.06	0.10	0.10	5.60	0.7	5.4	0.32	0.26	3.43E-01
2	365	365	365	170	365	365	23.0	1.0	0.06	0.10	0.10	9.80	0.8	8.0	0.33	0.26	4.84E-01
3	365	365	365	170	365	365	23.0	1.0	0.06	0.10	0.10	12.70	0.9	8.9	0.32	0.25	5.82E-01
4	365	365	365	170	365	365	23.0	1.0	0.06	0.10	0.10	15.10	0.9	10.1	0.35	0.28	6.36E-01
5	365	365	365	170	365	365	19.0	1.0	0.06	0.10	0.10	16.90	1.0	10.1	0.35	0.28	7.04E-01
6	365	365	365	170	365	365	19.0	1.0	0.06	0.10	0.10	19.70	1.1	10.1	0.33	0.26	7.94E-01
7	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	22.10	1.2	12.0	0.22	0.15	8.73E-01
8	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	25.30	1.2	12.0	0.22	0.15	9.36E-01
9	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	27.50	1.3	12.0	0.22	0.15	1.01E+00
10	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	31.40	1.3	12.0	0.22	0.15	1.08E+00
11	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	35.70	1.4	12.0	0.22	0.14	1.19E+00
12	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	41.30	1.4	15.2	0.22	0.14	1.29E+00
13	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	47.20	1.5	15.2	0.22	0.14	1.42E+00
14	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	51.20	1.6	15.2	0.22	0.14	1.52E+00
15	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	56.70	1.6	15.2	0.21	0.14	1.60E+00
16	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	59.00	1.6	15.2	0.21	0.14	1.63E+00
17	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	70.00	1.6	15.7	0.33	0.27	1.78E+00
18	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00	70.90	1.6	13.6	0.33	0.27	1.80E+00

Consumption Rates

Environment Agency

Consumption rates (g FW kg^{-1} bodyweight day^{-1}) by Produce Group

Age Class	MEAN RATES						90TH PERCENTILE RATES					
	Green veg	Root veg	Tuber veg	Herb. Fruit	Shrub fruit	Tree fruit	Green veg	Root veg	Tuber veg	Herb. Fruit	Shrub fruit	Tree fruit
1	3.47E+00	5.22E+00	9.22E+00	8.90E-01	1.07E+00	1.87E+00	7.12E+00	1.07E+01	1.60E+01	1.83E+00	2.23E+00	3.82E+00
2	3.34E+00	1.61E+00	3.14E+00	1.93E+00	2.60E-01	5.84E+00	5.87E+00	2.83E+00	6.60E+00	3.39E+00	4.60E-01	1.03E+01
3	3.34E+00	1.61E+00	3.14E+00	1.93E+00	2.60E-01	5.84E+00	5.87E+00	2.83E+00	6.60E+00	3.39E+00	4.60E-01	1.03E+01
4	3.34E+00	1.61E+00	3.14E+00	1.93E+00	2.60E-01	5.84E+00	5.87E+00	2.83E+00	6.60E+00	3.39E+00	4.60E-01	1.03E+01
5	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
6	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
7	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
8	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
9	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
10	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
11	2.54E+00	1.20E+00	2.65E+00	1.25E+00	1.10E-01	2.89E+00	4.53E+00	2.14E+00	4.95E+00	2.24E+00	1.90E-01	5.16E+00
12	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
13	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
14	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
15	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
16	1.03E+00	4.90E-01	1.60E+00	5.10E-01	4.00E-02	1.18E+00	1.87E+00	8.90E-01	3.05E+00	9.30E-01	8.00E-02	2.13E+00
17	1.26E+00	6.00E-01	1.18E+00	6.90E-01	9.00E-02	1.27E+00	2.36E+00	1.12E+00	2.35E+00	1.29E+00	1.80E-01	2.38E+00
18	1.35E+00	6.40E-01	1.25E+00	7.40E-01	1.00E-01	1.36E+00	2.34E+00	1.12E+00	2.36E+00	1.28E+00	1.80E-01	2.37E+00

Top 2 applied? Yes

Where top 2 method is applied, two produce categories use 90th percentile rates, while the remainder use the mean. Produce categories vary on a chemical-by-chemical basis. Where top 2 method is not used, all produce categories for all chemicals assume 90th percentile rates.

Building Small terraced house

Soil Sandy loam

Building footprint (m^2)	2.80E+01
Living space air exchange rate (hr^{-1})	5.00E-01
Living space height (above ground, m)	4.80E+00
Living space height (below ground, m)	0.00E+00
Pressure difference (soil to enclosed space, Pa)	3.10E+00
Foundation thickness (m)	1.50E-01
Floor crack area (cm^2)	4.23E+02
Dust loading factor ($\mu g\ m^{-3}$)	5.00E+01

Porosity, Total ($cm^3\ cm^{-3}$)	5.30E-01
Porosity, Air-Filled ($cm^3\ cm^{-3}$)	2.00E-01
Porosity, Water-Filled ($cm^3\ cm^{-3}$)	3.30E-01
Residual soil water content ($cm^3\ cm^{-3}$)	1.20E-01
Saturated hydraulic conductivity ($cm\ s^{-1}$)	3.56E-03
van Genuchten shape parameter *m* (dimensionless)	3.20E-01
Bulk density ($g\ cm^{-3}$)	1.21E+00
Threshold value of wind speed at 10m ($m\ s^{-1}$)	7.20E+00
Empirical function (F_x) for dust model (dimensionless)	1.22E+00
Ambient soil temperature (K)	2.83E+02
Soil pH	7.40E+00
Soil Organic Matter content (%)	8.60E-01
Fraction of organic carbon ($g\ g^{-1}$)	4.99E-03
Effective total fluid saturation (unitless)	5.12E-01
Intrinsic soil permeability (cm^2)	4.75E-08
Relative soil air permeability (unitless)	6.42E-01
Effective air permeability (cm^2)	3.05E-08

Soil - Vapour Model

Depth to top of source (no building) (cm)	0
Depth to top of source (beneath building) (cm)	65
Default soil gas ingress rate?	Yes
Soil gas ingress rate ($cm^3\ s^{-1}$)	2.50E+01
Building ventilation rate ($cm^3\ s^{-1}$)	1.87E+04
Averaging time surface emissions (yr)	6
Finite vapour source model?	No
Thickness of contaminated layer (cm)	200

Air Dispersion Model

Mean annual windspeed at 10m ($m\ s^{-1}$)		5.00
Air dispersion factor at height of 0.8m *		2400.00
Air dispersion factor at height of 1.6m *		0.00
Fraction of site cover ($m^2\ m^{-2}$)		0.75

* Air dispersion factor in $g\ m^{-2}\ s^{-1}$ per $kg\ m^{-3}$

Soil - Plant Model

	Dry weight conversion factor	Homegrown fraction		Soil loading factor	Preparation correction factor
		Average	High		
	g DW g^{-1} FW	dimensionless		g g^{-1} DW	dimensionless
Green vegetables	0.096	0.05	0.33	1.00E-03	2.00E-01
Root vegetables	0.103	0.06	0.40	1.00E-03	1.00E+00
Tuber vegetables	0.210	0.02	0.13	1.00E-03	1.00E+00
Herbaceous fruit	0.058	0.06	0.40	1.00E-03	6.00E-01
Shrub fruit	0.166	0.09	0.60	1.00E-03	6.00E-01
Tree fruit	0.157	0.04	0.27	1.00E-03	6.00E-01

Gardener type Average

CLEA Software Version 1.071

Report generated	21-Jun-18
Report title	Woodcroft Farm, Lovedean
Created by	FG at GESL

RESULTS

Environment Agency

		Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?		Top Two applied?	Apply Top 2 Approach to Produce Group					
		oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal		Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
1	Arsenic	3.80E+01	1.21E+02	NR	1.00	0.31	NR	NR	No	No	Yes	No	No	No	No	No	No
2	Beryllium	1.29E+02	1.72E+00	NR	0.01	1.00	NR	NR	Yes	Yes	Yes	No	No	No	No	No	No
3	Benzo(a)pyrene	3.93E+00	1.57E+01	NR	1.00	0.25	NR	7.83E-01 (vap)	No	No	Yes	No	No	No	No	No	No
4	Dibenz(ah)anthracene	3.93E-01	1.40E+00	NR	1.00	0.28	NR	3.38E-03 (vap)	No	No	Yes	No	No	No	No	No	No
5	Nickel	1.49E+02	1.81E+02	NR	1.00	0.70	NR	NR	Yes	Yes	Yes	No	No	No	No	No	No
6	Lead (C4SL adult)	9.04E+01	NR	NR	1.00	NR	NR	NR	No	No	Yes	Yes	No	Yes	No	No	No
7	Benzo(b)fluoranthene	4.94E+00	1.89E+01	NR	1.00	0.26	NR	1.05E+00 (sol)	No	No	Yes	No	No	No	No	No	No
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Environment Agency

	Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?		Top Two applied?	Apply Top 2 Approach to Produce Group					
	oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal		Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
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Environment Agency

		Soil Distribution				Media Concentrations													
		Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
		%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
1	Arsenic	99.9	0.1	0.0	100.0	3.80E+01	NR	1.90E+01	1.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-02	1.52E-02	8.75E-03	1.26E-02	7.61E-03	4.18E-02
2	Beryllium	100.0	0.0	0.0	100.0	1.72E+00	NR	8.62E-01	7.34E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-02	2.07E-03	2.07E-03	2.07E-03	2.07E-03	2.07E-03
3	Benzo(a)pyrene	100.0	0.0	0.0	100.0	3.93E+00	1.08E-05	1.96E+00	1.67E-09	0.00E+00	1.42E-08	3.33E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	Dibenz(ah)anthracene	100.0	0.0	0.0	100.0	3.93E-01	2.28E-06	1.96E-01	1.67E-10	0.00E+00	2.83E-09	2.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	Nickel	99.9	0.1	0.0	100.0	1.49E+02	NR	7.45E+01	6.34E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.66E-01	6.41E-01	2.83E-01	3.73E-01	3.73E-01	5.07E-01
6	Lead (C4SL adult)	100.0	0.0	0.0	100.0	9.04E+01	NR	4.52E+01	3.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E-01	3.63E-01	6.61E-01	6.77E-02	1.85E-02	2.07E-02
7	Benzo(b)fluoranthene	99.9	0.1	0.0	100.0	4.94E+00	1.94E-05	2.47E+00	2.10E-09	0.00E+00	2.53E-08	4.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
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Environment Agency

	Soil Distribution				Media Concentrations													
	Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
	%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
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Environment Agency

		Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
		Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
1	Arsenic	2.82E-04	1.42E-05	3.77E-06	6.29E-07	0.00E+00	0.00E+00	0.00E+00	94.03	4.72	1.26	0.00	0.00	0.00	0.00	0.00
2	Beryllium	1.28E-05	2.67E-06	0.00E+00	2.85E-08	0.00E+00	8.44E-04	9.09E-08	0.00	0.00	0.00	50.00	0.00	0.00	0.00	50.00
3	Benzo(a)pyrene	2.91E-05	1.84E-07	1.69E-06	6.49E-08	1.02E-08	6.19E-06	3.64E-07	93.96	0.59	5.45	0.00	0.00	0.00	0.00	0.00
4	Dibenz(ah)anthracene	2.91E-06	1.84E-08	1.69E-07	6.49E-09	1.92E-09	2.25E-06	2.00E-06	93.96	0.59	5.45	0.00	0.00	0.00	0.00	0.00
5	Nickel	1.11E-03	2.90E-04	2.46E-06	2.46E-06	0.00E+00	7.54E-03	1.57E-05	39.46	10.36	0.09	0.09	0.00	0.00	49.90	0.10
6	Lead (C4SL adult)	4.02E-04	2.27E-04	0.00E+00	9.56E-07	0.00E+00	0.00E+00	0.00E+00	63.85	35.99	0.00	0.15	0.00	0.00	0.00	0.00
7	Benzo(b)fluoranthene	3.66E-05	2.31E-07	2.12E-06	8.17E-08	1.78E-08	6.19E-06	7.88E-07	93.96	0.59	5.45	0.00	0.00	0.00	0.00	0.00
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Environment Agency

	Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
	Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
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Environment Agency

		Oral Health Criteria Value (µg kg^{-1} BW day^{-1})		Inhalation Health Criteria Value (µg kg^{-1} BW day^{-1})		Oral Mean Daily Intake (µg day^{-1})	Inhalation Mean Daily Intake (µg day^{-1})	Air-water partition coefficient (K_{aw}) (cm^3 cm^{-3})	Coefficient of Diffusion in Air (m^2 s^{-1})	Coefficient of Diffusion in Water (m^2 s^{-1})	log K_{oc} (cm^3 g^{-1})	log K_{ow} (dimensionless)	Dermal Absorption Fraction (dimensionless)	Soil-to-dust transport factor (g g^{-1} DW)	Sub-surface soil to indoor air correction factor (dimensionless)	Relative bioavailability via soil ingestion (unitless)	Relative bioavailability via dust inhalation (unitless)
1	Arsenic	ID	0.3	ID	0.002	NR	NR	NR	NR	NR	NR	NR	0.03	0.5	1	1	1
2	Beryllium	TDI	2	TDI	0.000057	15	0.0015	NR	NR	NR	NR	NR	0	0.5	1	1	1
3	Benzo(a)pyrene	ID	0.031	ID	0.0003	0.11	0.006	1.76E-06	4.38E-06	3.67E-10	5.11	6.18	0.13	0.5	1	1	1
4	Dibenz(ah)anthracene	ID	0.0031	ID	0.00003	0.04	0.033	5.40E-06	4.08E-06	3.40E-10	5.27	6.38	0.13	0.5	1	1	1
5	Nickel	TDI	2.8	TDI	0.006	134	0.259	NR	NR	NR	NR	NR	0.005	0.5	1	1	1
6	Lead (C4SL adult)	ID	0.63	NR	0	NR	NR	NR	NR	NR	NR	NR	0	0.5	1	0.6	0.64
7	Benzo(b)fluoranthene	ID	0.039	ID	0.00038	0.11	0.013	2.05E-06	4.36E-06	3.62E-10	5.02	6.08	0.13	0.5	1	1	1
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	Oral Health Criteria Value (µg kg^{-1} BW day^{-1})		Inhalation Health Criteria Value (µg kg^{-1} BW day^{-1})		Oral Mean Daily Intake (µg day^{-1})	Inhalation Mean Daily Intake (µg day^{-1})	Air-water partition coefficient (K_{aw}) (cm^3 cm^{-3})	Coefficient of Diffusion in Air (m^2 s^{-1})	Coefficient of Diffusion in Water (m^2 s^{-1})	log K_{oc} (cm^3 g^{-1})	log K_{ow} (dimensionless)	Dermal Absorption Fraction (dimensionless)	Soil-to-dust transport factor (g g^{-1} DW)	Sub-surface soil to indoor air correction factor (dimensionless)	Relative bioavailability via soil ingestion (unitless)	Relative bioavailability via dust inhalation (unitless)
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Environment Agency

		Soil-to-water partition coefficient ($cm^3\ g^{-1}$)	Vapour pressure (Pa)	Water solubility ($mg\ L^{-1}$)	Soil-to-plant concentration factor for green vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for root vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for tuber vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for herbaceous fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for shrub fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for tree fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)
1	Arsenic	5.00E+02	NR	1.25E+06	0.00043 fw	0.0004 fw	0.00023 fw	0.00033 fw	0.0002 fw	0.0011 fw
2	Beryllium	1.70E+03	NR	1.66E+06	0.007 fw	0.0012 fw	0.0012 fw	0.0012 fw	0.0012 fw	0.0012 fw
3	Benzo(a)pyrene	6.43E+02	2.00E-08	3.80E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	Dibenz(ah)anthracene	9.29E+02	1.66E-10	6.00E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	Nickel	5.00E+02	NR	2.50E+06	0.0038 fw	0.0043 fw	0.0019 fw	0.0025 fw	0.0025 fw	0.0034 fw
6	Lead (C4SL adult)	1.00E+03	NR	2.96E+05	0.00419 fw	0.00402 fw	0.00731 fw	0.00074 fw	0.00020 fw	0.00022 fw
7	Benzo(b)fluoranthene	5.22E+02	6.34E-08	2.00E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
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Environment Agency

	Soil-to-water partition coefficient (cm^3 g^{-1})	Vapour pressure (Pa)	Water solubility (mg L^{-1})	Soil-to-plant concentration factor for green vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for root vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tuber vegetables (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for herbaceous fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for shrub fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)	Soil-to-plant concentration factor for tree fruit (mg g^{-1} plant DW or FW basis over mg g^{-1} DW soil)
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Client/client ref: Grainger PLC
Project ref: GE16943
Site ref: Woodcroft Farm - Horse Arena
Data description:
Contaminant(s): Metals
Test scenario: Planning
Date: 11 June 2018
User details: FG

	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Hexavalent Chromium (mg/kg)	Total Cyanide (mg/kg)
Critical concentration, C_c	**38.03**	**1330**	**1.72**	**11**	**910**	**2400**	**200**	**40**	**180**	**250**	**410**	**3700**	~~6~~	~~2~~
Notes														
Full dataset size	33	33	33	33	33	33	33	33	33	33	33	33	0	0
Outliers present?	Yes	No	Yes	Yes	#REF!	Yes	No	No	Yes	Yes	Yes	Yes		
Number of outliers temporarily excluded	0													
Number removed by filter	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Sample size, n	**33**	**33**	**33**	**33**	**31**	**33**	**33**	**33**	**33**	**33**	**33**	**33**	**0**	**0**
Sample mean, $\bar{x}$	24.6666667	47.9636364	1.42121212	0.45606061	#REF!	16.1515152	19.4212121	0.25	41.9060606	0.93636364	63.3878788	58.1757576	No Data	No Data
Standard deviation, s	21.8105288	20.6339498	1.34065226	0.47561762	#REF!	7.14016462	5.96525133	0	50.3206527	0.77007231	39.9900437	27.5875202		
Number of non-detects	0	0	**15**	**25**	0	**2**	**1**	**33**	0	**21**	0	0	0	0
Set non-detect values to:	Detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Distribution	Non-normal	Normal	Non-normal	Non-normal	#REF!	Normal	Normal	Single value	Non-normal	Non-normal	Non-normal	Normal		
Statistical approach	Auto: Chebychev	Auto: One-sample t-	Auto: Chebychev	Auto: Chebychev	#REF!	Auto: One-sample t-	Auto: One-sample t-	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: One-sample t-	Auto	Auto
Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?				**Evidence level required:**		**95%**	Use Normal distribution to test for outliers						
t statistic, t_0 (or k_0)	-3.519699416	-356.9233356	-1.280276577	-127.3508755	#REF!	-1917.906336	-173.898148	N/A	-15.76468594	-1857.957548	-49.79076935	-758.3388207		
Upper confidence limit (on true mean concentration, μ)	41.2162104	54.0479317	2.43848151	0.81695303	#REF!	18.2569225	21.1801749	0.25	80.0887132	1.52068443	93.7318005	66.3104395		
Evidence level	**93%**	**100%**	**62%**	**100%**	**#REF!**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**		
Base decision on:	evidence level	evidence level	evidence level	evidence level	lower bound	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level		
Result	**μ ≈≥ Cc**	**μ < Cc**	**μ ≈≥ Cc**	**μ < Cc**	**#REF!**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**		
Select dataset	●	○	○	○	○	○	○	○	○	○	○	○	○	○

Back to data | **Go to outlier test** | **Go to normality test** | **Show individual summary**

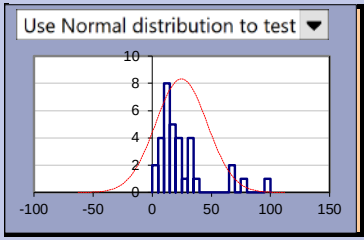
Test Results

Arsenic (mg/kg)

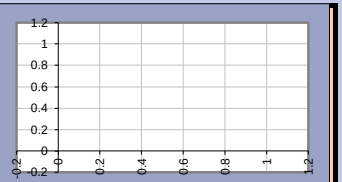
Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Horse Arena | Date: 11-Jun-2018

Project ref: GE16943 | Data description: | User details: FG

Dataset: Arsenic (mg/kg)	
Sample mean (mg/kg), $\overline{x}$	24.667
Sample standard deviation, s	21.811
Sample size, n	33
Critical concentration, Cc (mg/kg)	38.03



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	0

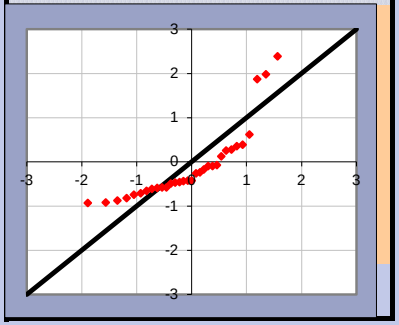


Normality test

Significance le: 5%

Non-normal distribution

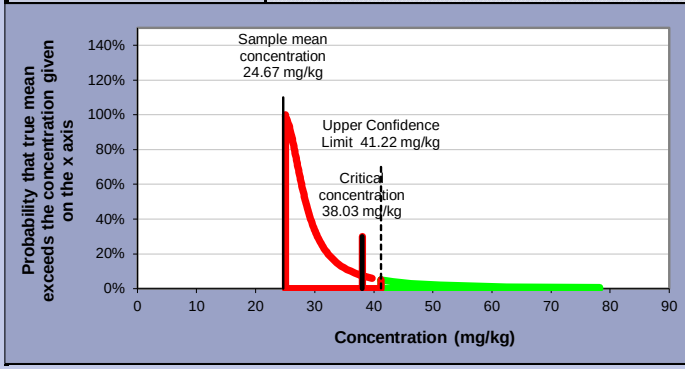
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

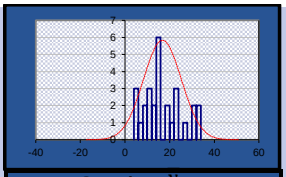


Evidence against Null hypothesis:	**93%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	No

Not enough evidence

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Arsenic		Outliers
TP229	N			38.2
TP306	Y	9.2		
TP306	Y	19		
TP306	Y	30.7		
TP307	Y	14.6		
TP307	Y	19.6		
TP307	N			76.9
TP308	Y	15.6		
TP308	N			95.8
TP308	N			68
TP309	Y	23.1		
TP309	N			65.6
TP309	Y	20.9		
TP310	Y	15.6		
TP310	Y	22.7		
TP310	Y	4.7		
TP311	Y	15.3		
TP311	Y	22.7		
TP311	Y	27.4		
TP205	Y	12.1		
TP206	Y	4.5		
TP207	Y	11.8		
TP217	Y	32.6		
TP221	Y	8.6		
TP222	Y	12.1		
TP226	Y	11.5		
TP228	Y	10.4		
TP231	Y	33.1		
TP232	Y	5.6		
TP234	Y	6.9		
TP235	Y	14.7		
TP236	Y	30.4		
TP237	Y	14.1		
	Y			
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	Y			
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Sample mean, $\bar{x}$
16.768

Standard deviation, s
8.500

Sample size, n
28

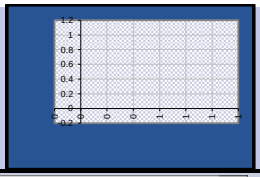
Maxiumum
33.100

Outlier Test Applicability
Applicable

Level of Significance, α
5%

Tn = 1.921
Tcrit = 2.714

Outliers?
No
(5 selected)



Dataset: Arsenic (mg/kg) O/T:28/33

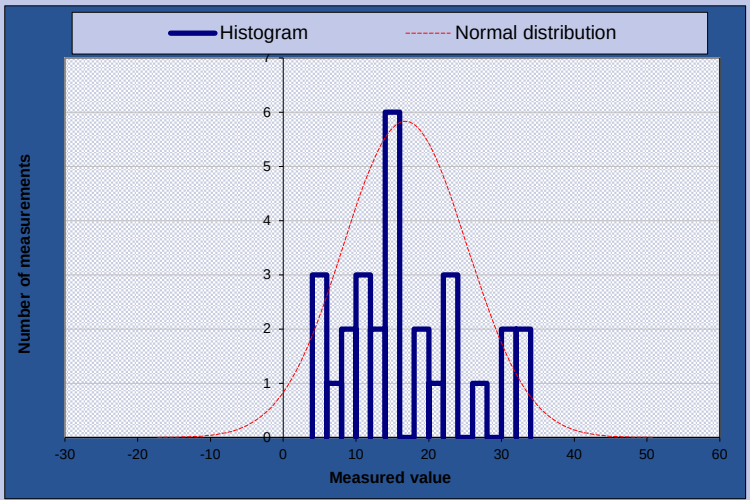
Use Normal distribution to test for outliers

Exclude identified outliers

Show individual summary

Back to summary

Back to data



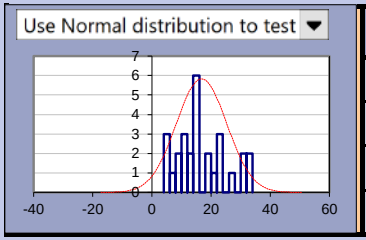
Test Results

Arsenic (mg/kg) O/T:28/33

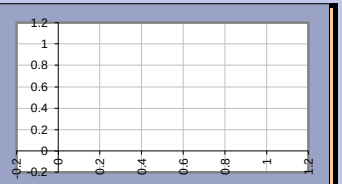
Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Horse Arena | Date: 11-Jun-2018

Project ref: GE16943 | Data description: | User details: FG

Dataset: Arsenic (mg/kg) O/T:28/33	
Sample mean (mg/kg), $\overline{x}$	16.768
Sample standard deviation, s	8.4998
Sample size, n	28
Critical concentration, Cc (mg/kg)	38.03



Outliers & non-detects	
Outliers present?	No
Significance level	5%
Outliers excluded	5
Non-detects	#NAME?

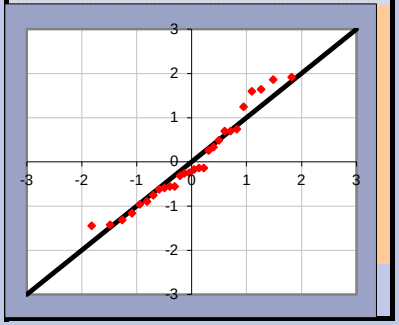


Normality test

Significance le: 5%

Normal distribution

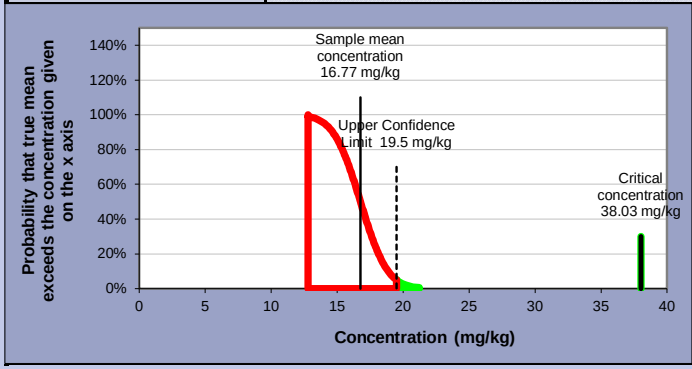
Use: Auto: One-sample



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**100%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Test Results

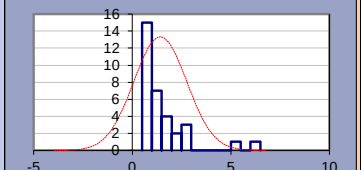
Beryllium (mg/kg)

Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Horse Arena | Date: 11-Jun-2018

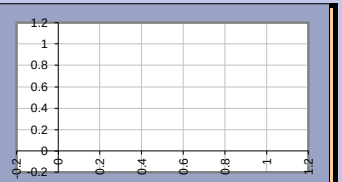
Project ref: GE16943 | Data description: | User details: FG

Dataset: Beryllium (mg/kg)	
Sample mean (mg/kg), $\overline{x}$	1.4212
Sample standard deviation, s	1.3407
Sample size, n	33
Critical concentration, Cc (mg/kg)	1.72

Use Normal distribution to test



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	#NAME?

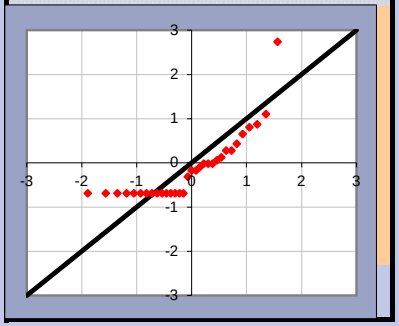


Normality test

Significance le: 5%

Non-normal distribution

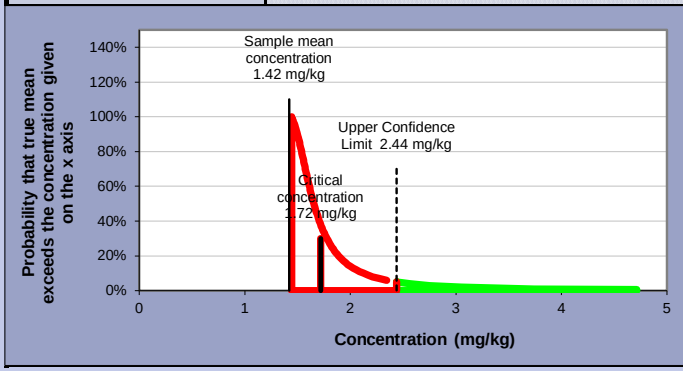
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

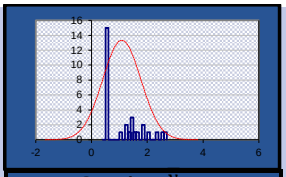


Evidence against Null hypothesis:	**62%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	No

Not enough evidence

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Beryllium		Outliers
TP229	Y	1.8		
TP306	Y	0.5		
TP306	Y	1.2		
TP306	Y	2		
TP307	Y	1.6		
TP307	N			6.4
TP307	N			2.9
TP308	Y	0.5		
TP308	Y	1.4		
TP308	Y	1.8		
TP309	Y	1.4		
TP309	N			5.1
TP309	Y	1.2		
TP310	Y	0.5		
TP310	Y	1.3		
TP310	Y	0.5		
TP311	Y	1		
TP311	Y	2.3		
TP311	Y	2.6		
TP205	Y	0.5		
TP206	Y	0.5		
TP207	Y	0.5		
TP217	Y	2.5		
TP221	Y	0.5		
TP222	Y	0.5		
TP226	Y	0.5		
TP228	Y	0.5		
TP231	Y	0.5		
TP232	Y	0.5		
TP234	Y	0.5		
TP235	Y	0.5		
TP236	Y	1.5		
TP237	Y	1.4		
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{x}$
1.083

Standard deviation, s
0.684

Sample size, n
30

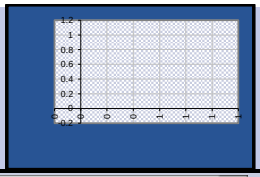
Maxiumum
2.600

Outlier Test Applicability
Not Applicable

Level of Significance,
5%

Tn = 2.216
Tcrit = 2.745

Outliers?
No
(3 selected)



Dataset: Beryllium (mg/kg) O/T:30/33

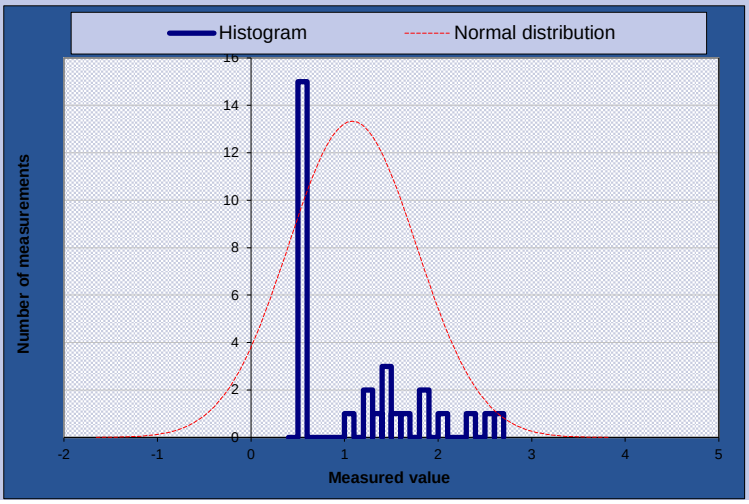
Use Normal distribution to test for outliers

Exclude identified outliers

Show individual summary

Back to summary

Back to data



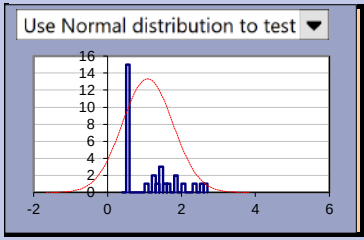
Test Results

Beryllium (mg/kg) O/T:30/33

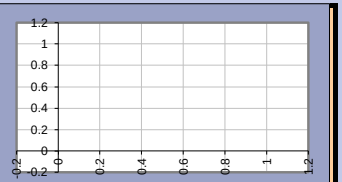
Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Horse Arena | Date: 11-Jun-2018

Project ref: GE16943 | Data description: | User details: FG

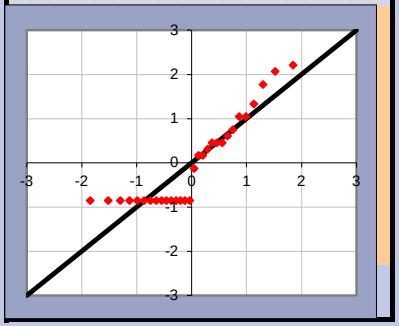
Dataset: Beryllium (mg/kg) O/T:30/33	
Sample mean (mg/kg), $\overline{x}$	1.0833
Sample standard deviation, s	0.6843
Sample size, n	30
Critical concentration, Cc (mg/kg)	1.72



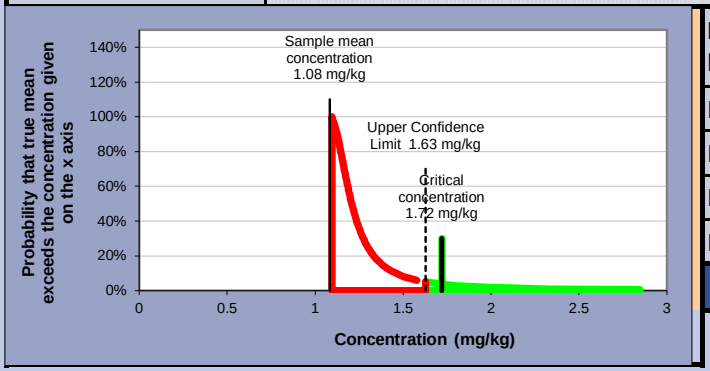
Outliers & non-detects	
Outliers present?	No
Significance level	5%
Outliers excluded	3
Non-detects	#NAME?



Normality test	
Significance le	5%
Non-normal distribution	
Use:	Auto: Chebychev



Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?
Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**96%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Test Results

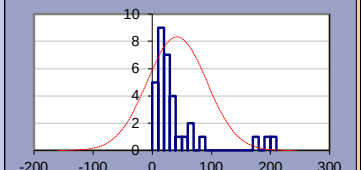
Nickel (mg/kg)

Client/client ref: Grainger PLC | Site ref: Woodcroft Farm - Horse Arena | Date: 11-Jun-2018

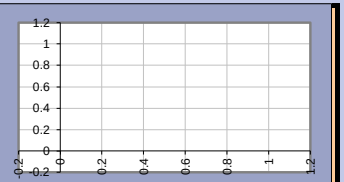
Project ref: GE16943 | Data description: | User details: FG

Dataset: Nickel (mg/kg)	
Sample mean (mg/kg), $\overline{x}$	41.906
Sample standard deviation, s	50.321
Sample size, n	33
Critical concentration, Cc (mg/kg)	180

Use Normal distribution to test



Outliers & non-detects	
Outliers present?	Yes
Significance level	5%
Outliers excluded	0
Non-detects	#NAME?

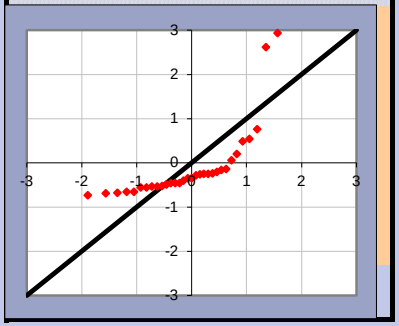


Normality test

Significance le: 5%

Non-normal distribution

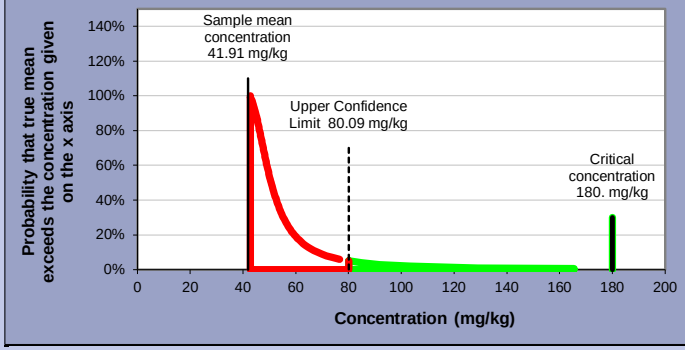
Use: Auto: Chebychev



Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	**100%**
Base decision on:	evidence level
Evidence level required:	**95%**
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Geo-Environmental

APPENDIX C

BRE Cover System Calculation Sheet



Calculations based on mixed zone (M)	600	mm

Contaminant	Site Data				Expressed as a Factor of Target Guideline Value				Cover Thickness Required for Compliance to Specified Target Guideline Value	
	Contamination of Ground (Cg)	Contamination of Cover (Cc)	Target Guideline Value 1	Target Guideline Value 2	Soil / Target Guideline Value 1	Cover / Target Guideline Value 1	Soil / Target Guideline Value 2	Cover / Target Guideline Value 2	Target Guideline Value 1	Target Guideline Value 2
	Units		Units		Fraction				(mm)	
Arsenic	95	16	38	38	2.5	0.4	2.5	0.4	433	433
Cadmium (Soil pH8)										
Chromium										
Chromium (VI)										
Mercury										
Selenium										
Copper										
Nickel										
Zinc										
Lead										
Boron (Water sol)										
Sulphate (total)										
Phenols										
Sulphide										
Cyanide										
Solvent Extractable Matter										
Benzo(a)pyrene										

Summary		
	Target Guideline Value 1	Target Guideline Value 2
Number of contaminants	17	17
Number of contaminants **with no** thickness calculation	16	16
Breakdown - Number for which no TV specfied	16	16
Breakdown - Number for which no soil specified	16	16
Breakdown - Number for which no cover specified	16	16
Breakdown - Number for which cover > TV	0	0
Number of contaminants **with** thickness calculation	1	1
Breakdown - Number for which no cover required	0	0
Breakdown - Number for which cover required	1	1

Overall thickness of cover required	**433**	**433**

APPENDIX D

Imported Soils Criteria



Geo-Environmental

IMPORTED SOIL SPECIFICATION

for the site at

WOODCROFT FARM, WOODCROFT LANE,

LOVEDEAN, HAMPSHIRE, PO8 9QA

on behalf of

GRAINGER PLC



Report:	**IMPORTED SOIL SPECIFICATION**
Site:	**WOODCROFT FARM, WOODCROFT LANE, LOVEDEAN, HAMPSHIRE, PO8 9QA**
Client:	**GRAINGER PLC**
Date:	**28-06-2018**
Reference:	**GE16943-ISS-180628**
Revision:	**1.0**
Prepared by:	
	FIONA GOODE BSc (Hons), MSc, FGS, MIEnvSc, RSoBRA **SENIOR CONSULTING ENGINEER**
Reviewed by:	
	GAVIN ROBERTS CGeol, BEng (Hons), MSc, FGS **TECHNICAL DIRECTOR**

Geo-Environmental Services Limited
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+44(0)1273 832972 www.gesl.net

AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Author's initials
1.0	28/06/2018	First issue	FG

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3.0	Nutritional Composition	5
4.0	Physical Composition	5
5.0	Source Requirements	6
6.0	Testing Rates and Compliance	6

1.0 Introduction

This document sets out the requirements for imported subsoil and Topsoil materials for any project undergoing redevelopment or other works where capping work is required.

Within the specification reference has been made to topsoil and subsoil. Topsoil relates to the top layer of natural soil that can support healthy vegetation growth. Subsoil relates to the layer of soil immediately below the topsoil to the depth of the underlying broken rock or geological parent material.

The specification considers the chemical, nutritional and physical properties of soils that are to be imported onto site in order to ensure materials used are suitable for their intended use and do not introduce any new hazard or pollutant linkage on to the site.

Where there is any discrepancy between this specification and BS3882:2015 or BS8601:2013, the latter documents shall take precedence unless otherwise formally confirmed by the relevant regulator.

2.0 Chemical Composition

The chemical criteria listed below are based on the published Category 4 Screening Levels (C4SLs) by DEFRA and/or the relevant Suitable for Use Levels (S4ULs) published by LQM, for a residential end use with plant uptake. From time to time these values may change in line with regulatory or UK policy changes. Such changes will require revision and re-issue of this document.

Where C4SLs or S4ULs are published for a range of Soil Organic Matter (SOM) values, these ranges and their respective SOM values have been presented and would be considered when assessing compliance with this Specification.

2.1 Method of Analysis

Samples should be analysed using UKAS or MCERTS accredited laboratories. For TPH analysis sample preparation must not include air drying.

2.1.1 Poly Aromatic Hydrocarbon (PAH)

The PAH analysis must include the EPA priority 16.

2.1.2 Total Petroleum Hydrocarbons (TPH)

The analysis for TPH should be undertaken on the ‘as received’ sample and not be subject to any pre-treatment and shall include aliphatic and aromatic carbon banding split.

2.2 Topsoil (0-300mm depth)

Tables 1, 1a, 1b and 1c provide a list of the maximum acceptable concentrations for a range of determinants for imported topsoil.

Determinant	Maximum concentration (mg/kg)
Inorganic	**SOM 6%**
Arsenic (total)	37
Boron (water soluble)	290
Cadmium (total)	11
Chromium (total)	130
Copper (total)	2400
Cyanide (total)	250
Lead (total)	200
Mercury (total inorganic)	40
Nickel (total)	180
pH	5.5 – 7.8
Selenium (total)	250
Sulphate (total)	2000
Zinc (total)	3700
Asbestos	Absent
Organic	
Phenols (total)	110
Poly Aromatic Hydrocarbon (speciated)	See Table 1a
Total Petroleum Hydrocarbon (speciated)	See Table 1b

Table 1 Chemical Specification for Topsoil

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Acenaphthene	210	510	1100
Acenaphthylene	170	420	920
Anthracene	2400	5400	11000
Benz(a)anthracene	7.2	11	13
Benzo(a)pyrene	2.2	2.7	3.0
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(ghi)perylene	320	340	350
Benzo(k)fluoranthene	77	93	100
Chrysene	15	22	27
Dibenz(ah)anthracene	0.24	0.28	0.30
Fluoranthene	280	560	890
Fluorene	170	400	860
Indeno(1,2,3CD)pyrene	27	36	41
Naphthalene	2.3	5.6	13.0
Phenanthrene	95	220	440
Pyrene	620	1200	2000

Table 1a Topsoil Specification for Speciated PAH

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Aliphatic			
EC 5-6	42	78	160
EC >6-8	100	230	530
EC >8-10	27	65	150
EC >10-12	130	330	760

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
EC >12-16	1100	2400	4300
EC >16-35	65000	92000	110000
EC >35-44	65000	92000	110000
Aromatic			
EC 5-7 (benzene)	70	140	300
EC >7-8 (toluene)	130	290	660
EC >8-10	34	83	190
EC >10-12	74	180	380
EC >12-16	140	330	660
EC >16-21	260	540	930
EC >21-35	1100	1500	1700
EC >35-44	1100	1500	1700
Aliphatic and Aromatic			
EC >44-70	1600	1800	1900

Table 1b Topsoil Specification for Speciated TPH

Determinant	Phytotoxicity GAC (mg/kg)		
	pH <6.0	pH 6.0-7.0	pH >7.0
Zinc	200	200	300
Copper	100	135	200
Nickel	60	75	110

Table 1c Topsoil Specification for phytotoxicity

2.3 Subsoil (300-1000mm depth)

Tables 2, 2a, 2b and 2c provide a list of the maximum acceptable concentrations for a range of determinants for imported subsoil.

Determinant	Maximum concentration (mg/kg)
Inorganic	SOM 6%
Arsenic (total)	37
Boron (water soluble)	290
Cadmium (total)	11
Chromium (total)	130
Copper (total)	2400
Cyanide (total)	250
Lead (total)	200
Mercury (total inorganic)	40
Nickel (total)	180
pH	5.5 – 7.8
Selenium (total)	250
Sulphate (total)	2000
Zinc (total)	3700
Asbestos	Absent
Organic	
Phenols (total)	110
Poly Aromatic Hydrocarbon (speciated)	See Table 2a

Determinant	Maximum concentration (mg/kg)
Inorganic	**SOM 6%**
Total Petroleum Hydrocarbon (speciated)	See Table 2b

Table 2 Chemical Specification for Subsoil

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Acenaphthene	210	510	1100
Acenaphthylene	170	420	920
Anthracene	2400	5400	11000
Benz(a)anthracene	7.2	11	13
Benzo(a)pyrene	2.2	2.7	3.0
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(ghi)perylene	320	340	350
Benzo(k)fluoranthene	77	93	100
Chrysene	15	22	27
Dibenz(ah)anthracene	0.24	0.28	0.30
Fluoranthene	280	560	890
Fluorene	170	400	860
Indeno(1,2,3CD)pyrene	27	36	41
Naphthalene	2.3	5.6	13.0
Phenanthrene	95	220	440
Pyrene	620	1200	2000

Table 2a Subsoil Specification for Speciated PAH

Determinant	Maximum Concentration (mg/kg)		
	1% SOM	2.5% SOM	6% SOM
Aliphatic			
EC 5-6	42	78	160
EC >6-8	100	230	530
EC >8-10	27	65	150
EC >10-12	130	330	760
EC >12-16	1100	2400	4300
EC >16-35	65000	92000	110000
EC >35-44	65000	92000	110000
Aromatic			
EC 5-7 (benzene)	70	140	300
EC >7-8 (toluene)	130	290	660
EC >8-10	34	83	190
EC >10-12	74	180	380
EC >12-16	140	330	660
EC >16-21	260	540	930
EC >21-35	1100	1500	1700
EC >35-44	1100	1500	1700
Aliphatic and Aromatic			
EC >44-70	1600	1800	1900

Table 2b Subsoil Specification for Speciated TPH

Determinant	Phytotoxicity GAC (mg/kg)		
	pH <6.0	pH 6.0-7.0	pH >7.0
Zinc	200	200	300
Copper	100	135	200
Nickel	60	75	110

Table 2c Subsoil Specification for phytotoxicity

3.0 Nutritional Composition

The nutritional criteria listed below are based on BS3882:2015 for topsoil and BS8601:2013 for subsoil. In the absence of published criteria, current guidance and best practice has been applied to derive appropriate criteria.

3.1 Topsoil & Subsoil

Table 3 details the minimum acceptable concentrations for imported topsoil and subsoil. The nutrient concentrations set out in Table 3 for Topsoil are based on those set out in BS3882:2015 which states *"Multipurpose topsoil is the grade suited to most situations where topsoil is required; however, there can be situations where specific purpose topsoil is required"*. In the event that an alternative specific Topsoil grade is required, i.e. acidic; calcareous; low fertility; low fertility acidic; or low fertility calcareous, the compliance criteria set out in BS3882:2015 shall be applicable in place of those set out in Table 3 below.

Topsoil/Subsoil	Parameter	Concentration
Topsoil (multipurpose grade only)	Phosphorous	16 – 140 mg/l
	Potassium	121 – 1500 mg/l
	Magnesium	51 – 600 mg/l
	Nitrogen	0.15 % m/m
	Carbon:nitrogen ratio	<20:1
Subsoil	Phosphorous	16 mg/l
	Potassium	121 mg/l
	Magnesium	51 mg/l
	Nitrogen	0.15 %
	Carbon:nitrogen ratio	<20:1

Table 3 Nutritional Specification for Topsoil and Subsoil

4.0 Physical Composition

The physical criteria listed below are based on BS3882:2015 Specification for Topsoil. In the absence of published criteria, current guidance and best practice has been applied to derive appropriate criteria.

4.1 Topsoil

Table 4 details the physical suitability requirements for imported topsoil and subsoil. Table 4 sets out acceptability criteria from BS3882:2015 for multipurpose Topsoil. In the event that an alternative specific Topsoil grade is required, i.e. acidic; calcareous; low fertility; low fertility acidic; or low fertility calcareous, the compliance criteria set out in BS3882:2015 shall be applicable in place of those set out in Table 4 below.

Topsoil/Subsoil	Parameter	Specification requirements
Topsoil (multipurpose Topsoil only)	Textural Classification	Sandy clay loam, sandy loam, loamy sand, sandy silt loam (as defined in BS3882:2015, Figure 1)
	Loss on Ignition	3 - 20% (for 5-20% clay soil) 5 - 20% (for 20-35% clay soil)
	Maximum Stone content:	>2mm = 30% >20mm = 10% >50mm = 0%
Subsoil	Textural Classification	Refer to BS8601:2013 Figure 1
	Loss on Ignition	2%
	Maximum Stone content:	>2mm = 40% >20mm = 20% >75mm = 0%

NB: Topsoil and Subsoil must be free from glass, brick fragments, plastic, metal, asbestos and other deleterious materials.

Table 4 Physical Specification for Topsoil & Subsoil

5.0 Source Requirements

5.1 Topsoil and Subsoil

The following will be provided with all soils imported to site:

- A site plan detailing the location and address of the source site, including grid reference.
- Location description of source material, including historic and current site uses.
- Sample analysis results of material at source, including details of laboratory, date of sampling, date samples received by laboratory etc.

5.2 Manufactured soils

Where natural soils are unavailable manufactured soils may be utilised, and the following should be provided:

- Details of the soil manufacturing process, including criteria for received soils, quality control procedure and validation protocol.
- Soils should be tested at a minimum ratio of one sample per 50m^3.

6.0 Testing Rates and Compliance

Sampling shall be undertaken in accordance with BS3882:2015 and BS8601:2013.

6.1 Topsoil

Where natural sourcing is proposed, the provenance of the material shall be determined by analysis of the soils at a minimum rate of 3No. samples per source site (up to 250m^3) and 1 sample per 250m^3 thereafter. Imported soils should be sampled once it has been laid on the site to support the analysis provided by the source supplier.

Where Topsoil is derived from a manufactured source, testing would be undertaken at a rate of 1 sample per 50m^3, with a minimum of 3No. tests for any given potential source material (or production batch).

6.2 Subsoil

Where the source of the material is known validation sampling should be undertaken at a minimum rate of 3 samples per source (up to 250m³) and 1 sample per 250m³ thereafter. Imported soils should be sampled once it has been laid on the site to support the analysis provided by the source supplier.

Where subsoil is derived from a manufactured source, testing would be undertaken at a rate of 1 sample per 50m³, with a minimum of 3No. tests for any given potential source material (or production batch)

Where the source of the material is not known the validation sampling should be undertaken in-line with the testing rates as set out for cover systems to ensure the materials are suitable for their intended use. Further guidance on minimum testing under this scenario is presented in Section 6.3 below.

6.3 Cover Systems

Where a cover system/ capping layer is proposed as part of the required remedial measures, sampling frequency will follow the guidance set out by the NHBC in their guidance for clean cover systems (2010) and supplemented within NHBC Technical Extra Guidance Issue 8, November 2012, outlined below:

- Sites with more than 30 plots testing should be conducted at a rate of one plot in four, with a minimum of 10 tests across the site;
- Sites with between 20 – 30 plots testing should be conducted at a rate of one plot in three, with a minimum of 7 tests across the site;
- Sites with between 5 -20 plots testing should be conducted at a rate of one plot in two with a minimum of 5 tests across the site;
- Sites with fewer than 5 plots testing should be conducted in every plot with a minimum of 3 tests across the site.

6.4 Sample failure

In the event that a sample fails to meet the specified criteria for any parameter the Environmental Consultant should be contacted for advice on the suitability of the materials.

Further testing may be required to provide reassurance that the exceedances are not representative of the soil and to provide clarification whether the soil is suitable for importation and/or proposed use.

6.5 Timing

Sampling and analysis undertaken by a manufactured topsoil supplier shall be no earlier than two weeks from the date of import, any results which are older than two weeks will be deemed not to be representative of the soils to be imported and rejected. Results showing consistency of batching may be requested to demonstrate consistency of the physical, chemical and nutritional composition of the material.

Imported soil suppliers and groundwork contractors are required to take reasonably practicable measures to ensure that compliance with this Specification does not hinder formal completion of individual plots or developments.

6.6 General Compliance

All analytical suites shall correspond with the chemical, nutritional and physical compliance criteria (as set out in Tables 1 to 4). The soil supplier shall ensure that the analytical limits of detection are equal or lower than the compliance values presented within this Specification. Where either testing suites or limits of detection do not comply with this Specification, the entire set of results shall be rejected.

Geo-Environmental

MATERIALS MANAGEMENT PLAN (MMP)

for the land at

WOODCROFT FARM PHASES 2B & 3,

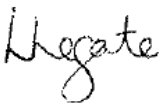
WOODCROFT LANE, LOVEDEAN,

HAMPSHIRE, PO8 9QA

on behalf of

VISTRY HOMES



Report:	**MATERIALS MANAGEMENT PLAN**
Site:	**WOODCROFT FARM PHASES 2B & 3, WOODCROFT LANE, LOVEDEAN, HAMPSHIRE, PO8 9QA**
Client:	**VISTRY HOMES**
Date:	**17/02/2021**
Reference:	**GE18761-MMP-FEB21**
Version:	**4.0**
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Figure 2	Concept Master Plan ref: 1924-SK-1106-C, drawn 22/01/2014, issued for planning
Figure 3	2DEE Survey Woodcroft Farm (Levels based on Leda GPS, drawn 11/09/2011, issued for planning
Figure 4	Site Survey Plan, drawn June 2020
Figure 5	Phasing Plan ref: 2668-C-1007B, revision B, drawn Feb 2018, issued for planning
Figure 6	Soil Remediation Areas Plan by Plot (Geo-Environmental), drawn March 2020
Figure 7	Sinkhole Area Plan (Geo-Environmental), drawn 28/06/2018
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Decision Notice/Planning

Appendix 1a	Decision Notice, ref APP/13/00804 from Havant Borough Council, dated 3rd September 2013
Appendix 1b	Consultee Response from Environmental Health dated 19th November 2013
Appendix 1c	Consultee Response from Environment Agency dated 27th September 2013
Appendix 1d	Consultee Response from Natural England dated 29th October 2013
Appendix 1e	Decision Notice, ref APP/20/00115 from Havant Borough Council, dated 11th February 2020
Appendix 1f	Formal discharge of condition notice from Environmental Health dated 14th January 2021 (CP and FY areas)

Appendix 1g Email consultee response from Environmental Health dated 16th February 2021 (HA area)
Appendix 1h EA consultation response dated 3rd December 2020
Appendix 1i Portsmouth Water consultation response dated 22nd October 2020

Desk Study and Investigation

Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013.
Appendix 2b Intrusive Site Investigation Letter Report ref: GE16662/FG02/170929 undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Linden Homes South, Dated 29th September 2017
Appendix 2c Geotechnical Interpretative Report for the site at Phase 2 Area, Woodcroft Farm, Lovedean, Hampshire, PO8 9QA, by Geo-Environmental Services Limited on behalf of Grainger PLC, dated 3rd August 2018
Appendix 2d Detailed Quantitative Gas Risk Assessment for the site at Woodcroft Farm, Waterlooville, undertaken by The Environmental Protection Group on behalf of Grainger PLC. Ref: EPG/8938/2018/DQGRA/V1 dated October 2018
Appendix 2e Technical Note – Discharge of Condition 11, further investigation, risk assessment, remediation method and verification reporting, written by Geo-Environmental Services Ltd on behalf of Linden Homes South ref: GE16943-FG-TN-191205, dated 5th December 2019
Appendix 2f Leachate Testing Letter Report for Woodcroft Farm (Phase 2B), Woodcroft Lane, Lovedean undertaken by Geo-Environmental Services Limited on behalf of Linden Homes South (trading as Vistry Homes Southern) ref: GE18761/FG02/200304, dated 4th March 2020
Appendix 2g Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020
Appendix 2h Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020
Appendix 2i Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V6.0-FEB21 version 6.0, dated February 2021
Appendix 2j Asbestos Management Plan, Woodcroft Farm Phase 2b & 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Ltd on behalf of Vistry Homes ref: GE18761/AMP/AUG20, dated August 2020

Tracking and Validation

Appendix 3 Example Tracking Forms.

AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Prepared by	Reviewed by	Approved by
1.0	28/08/2020	Initial issue (report only)	FG	LL	GE
2.0	12/11/2020	Issue following consultee responses	FG	LL	GE
3.0	22/12/2020	Updated to reflect amended proposed development level	FG	LL	LL
4.0	17/02/2021	Updated to reflect amended proposals to proposed cover system in Horse Arena area, and to include Local Authority consultation responses	FG	LL	LL

1.0 INTRODUCTION

1.1 General

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Vistry Homes Southern (Linden Homes South) to produce a Materials Management Plan for the re-use of materials on the site of origin for the development and re-landscaping on land at Phases 2B & 3 Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA (the site). The site's location is presented in Figure 1 with the phasing plan presented in Figure 4.

1.2 Site Context

The site comprises an area of land that forms part of Woodcroft Farm, located adjacent to the western fringes of Horndean, near Waterlooville. The site is irregular in shape with overall plan dimensions of about 650 m along the southern boundary by up to 300m along the western boundary and occupies an area of some 10 hectares. The ground level falls from the highest point located in the northeast part of the site at about 72.50m OD to a minor valley feature at the southwest part of the site at about 55.50m OD along the western site boundary.

The wider site's previous uses included use as a farm with associated barns and buildings, scrapyard, horse arena and a former chalk pit which was infilled as an inert landfill.

During the August 2017 intrusive investigation, the farm complex area, shown in Figure 5, comprised a farm house located in the south east of the complex area, with private gardens to the front and rear of the property. To the north and west of the farm house were a number of stable blocks that at the time of the site investigation works were occupied by a number of horses. The stable blocks were constructed on hard standing, generally concrete, and comprised a mixture of wooden stables and stables constructed within breeze block barns. These barns were noted to have corrugated roofs that have the potential to contain asbestos.

In the central area and west of the farm complex was an area utilised for parking, and the storage of scrap type items. This included engines, vehicles (in varying states of repair), a skip of metal, and other assorted metal items. There was also evidence of recent burning activities being undertaken within this area, piles of ash and blackened patches were noted. A manure heap was also located with the central northern part of this area.

This farmyard area was subsequently demolished with all buildings and areas of hardstanding being removed.

Four distinct depressions were present within the investigation area and these correlated with Sinkholes 1 – 4 as identified in previous phases of investigation, Figure 6. The investigation area comprised fallow grassed fields which had formerly been used for horse grazing, but which had been vacated such that the grass had grown to an uncropped height. Numerous mature deciduous trees including oaks were located around the site's perimeter.

The investigation area was accessed from Woodcroft Lane and the former farmyard located to the immediate south.

The site was bounded to the north by a line of trees with fields beyond; to the east by a field which formed part of the wider development area; to the south by the former farmyard and farmhouse and continuation of the fields, with an existing housing development to the south; and a line of trees with a field to the west.

The land beyond the western boundary comprised a shallow valley plunging at a relatively shallow gradient towards the south-west (approx.). Several depressions were observed on the northern flank of the valley. In addition, the land to the north of the site was observed to include several other depressions and areas of undulating ground.

Site Investigations:

Geoenvironmental and Geotechnical Ground Investigation Report, PBA, July 2013

The PBA 2013 report combined investigation comprising a detailed site walkover, a review of historical boreholes, summary of expected ground conditions and exploratory investigation which comprised a total of 11No. window sampler boreholes, 4No. deep cable percussive boreholes, 15No. machine excavated trial pits and 10No. dynamic probing holes. Combined groundwater and gas monitoring wells were installed to allow monitoring of ground gas and groundwater levels.

On completion of the fieldwork, a programme of laboratory soils testing was carried out to verify the visual identification and classification, and to determine the physical properties of selected samples of the materials encountered. Samples of soil for laboratory testing were taken from the exploratory holes and selected to be representative of the materials encountered.

The encountered ground conditions comprised, a thickness variable of Topsoil or Made Ground overlying superficial Head Deposits with clays of the Lambeth Group and Tarrant Chalk Member encountered at depth. The Head Deposits encountered appeared more extensive and thicker in the central and southwest parts of the site than anticipated based on the geological mapping. In many places the Head Deposits directly overlie the Chalk, while the Lambeth Group is absent. It is likely that periglacial weathering has resulted in removal of the Lambeth Group deposits along the valley feature footprint and resulted in the accumulation of the Head Deposits. Made Ground was locally encountered overlying the natural soils in the infilled pit and within the farmyard.

Made Ground was encountered at all the locations investigated at the infilled pit where landfill materials were placed during the 1970s. The Made Ground (Landfill) was found to be variable in composition and comprised brown grey and black clay with variable proportions of sand and gravel. Some timber and organic matter were encountered within the Made Ground. Some of the clay materials within the landfill were noted to have organic odour. The Made Ground within the infilled pit locally contained fragments of concrete and brick sections up to 1.20m long and 0.20m thick. The Made Ground was encountered to between 0.6 m (TP04) to a maximum depth of 5.80m below ground level (WS02) in the infilled pit. A fragment of cement bound tile suspected to contain asbestos that was detected in TP02 within the infilled pit.

Made Ground was encountered at both locations investigated at the dismantling and repair yard. The Made Ground was found to be variable in composition and comprised brown and black clayey gravel and brown sandy gravelly clay. The gravel size fractions were typically composed of flint, brick, and concrete. A layer about 0.10m thick of off white chalk fragments was encountered at the base of the Made Ground in WS03. The Made Ground

was between 0.50mand 0.60m thick. The surface at the dismantling and repair yard that was noted to be stained by oils and possibly other hydrocarbons. Slight hydrocarbon odour and grey staining was noted within the Made Ground in WS03.

The Head Deposits typically comprise brown, orange and yellow clay with variable proportions of silt, sand and gravel. Locally pockets of sand and/or gravel were present with some clay.

The Lambeth Group was encountered in the exploratory holes located at the southern and eastern parts of the site at the surface or below a veneer of Head Deposits. The Lambeth Group was found to comprise multicoloured clay with some silt and sand partings and locally lenses of silt and sand.

The Upper Chalk was encountered at a number locations across the site. The Chalk was generally white with occasional black specks and orange staining and was recovered as gravelly sandy chalk silt and silty chalk gravel and cobbles.

Groundwater was not encountered during the intrusive investigation.

Representative environmental soil testing was carried out based on the land use assessment for the site. The results of the assessment of the contamination tests did not identify any contamination above the adopted Tier 1 SAC values within either the Topsoil or the natural strata.

One elevated result for Lead was identified within the Made Ground. Asbestos screening identified detectable asbestos fibres within the Made Ground from one location. Asbestos fibres were identified within the Made Ground in the landfill area and the horse arena. It was also considered likely that asbestos would be identified within the Made Ground in the vicinity of the farm buildings.

Based on this assessment, it was recommended that prior to development, additional investigation in the vicinity of the farm buildings is undertaken. This should be done post demolition to minimise access constraints. Further delineation works may be required to provide more information on existing contamination.

In addition, based upon information gained from the three gas monitoring visits and the previous PBA investigation report, an Amber 2 gas scenario was identified in the vicinity of the former landfill, therefore gas protection measures were likely to be required in this area. A Green classification was identified for the remainder of the site. Further gas assessment was recommended and a detailed gas risk assessment to inform design of gas protection measures. This geo-environmental and geotechnical investigation report is presented in Appendix 2a.

Intrusive Site Investigation Letter Report, GE16662/FG02/170929, Geo-Environmental, September 2017

This supplementary geotechnical and geo-environmental investigation was undertaken by Geo-Environmental Services Limited in August 2017 to provide a soil contamination and ground gas risk assessment for the site. The intrusive investigation works comprised 39No. trial pits, 3No. cable percussive boreholes, and 7No. window sampler boreholes.

Encountered ground conditions were found to comprise a mantle of Topsoil and/or Made Ground overlying, clay, gravelly clay and sandy clay, with bands of flint cobbles and bands of sandy clay in certain locations. Chalk was

encountered within boreholes BH301 and BH303 at depths of 12.90m bgl and 1.90m bgl respectively. Made Ground was encountered within all the trial pits located within the farmyard complex area and was also encountered in TP211, TP213 and TP214. The Made Ground was found to comprise bricks, brick fragments, chalk of cobble and gravel size, ashy deposits, plastic, wood, possible asbestos (tiles and sheets), concrete, tarmac, and charcoal. Made Ground was encountered to a maximum depth of 2.30m bgl, although TP225 was terminated within the Made Ground at 0.60m bgl so the full depth of Made Ground in this location was not established. Due to the use of the farm buildings as stables, and horses being present at the time of the investigation, it was not possible to investigate beneath these existing farm/stable buildings. It was thought likely that Made Ground will be present beneath these buildings given it has been encountered in all areas of the farm complex investigated to date.

The Topsoil and/or Made Ground was underlain by firm to stiff clay and sandy clay of the Lambeth Group in the majority of locations. In some isolated locations mainly in the north of the site the Topsoil and/or Made Ground was underlain by gravelly clay, very sandy clay and clayey sand of the Lambeth Group. The clay and sand of the Lambeth Group were encountered to depths of up to 25.0m bgl. BH301 and BH303 found Chalk to underlie the Lambeth Group, the chalk was encountered at 12.90m bgl and 1.90m bgl respectively.

Groundwater was not encountered within any of the investigation locations and is anticipated to be present at depths in excess of 25.0m bgl.

Representative environmental soil testing was carried out based on the land use assessment for the site and comprised, 30No. brownfield contamination suites (including speciated PAH), 30No. total organic carbon, 3No. asbestos quantification tests and 3No. WAC tests. The assessment of the contamination test results for the entire site, was based on a residential end use scenario.

Elevated levels of Arsenic, Beryllium and Dibenzo(a,h)anthracene were identified within isolated areas of the site. In addition, previous investigations by third parties identified elevated concentrations of PAH, Lead and Zinc at locations within the farmyard complex area.

The soil samples were also submitted for asbestos screening and where asbestos was identified quantification testing was carried out. Asbestos was identified within 3No. locations within the farmyard area. Given the age of the buildings still present on site at the time of the intrusive investigation works it was considered that there was the potential for asbestos to be present within the building fabric. Previous investigations undertaken by third parties also identified the presence of asbestos within soils in the farmyard complex area.

It was considered that remedial action would be warranted to protect end users of a residential development, within isolated areas of the site in relation to the asbestos, PAH, Lead and Zinc identified within the shallow soils (Made Ground).

Due to the restriction in access to some areas of the farmyard complex during the initial investigation works, it was recommend that following demolition of the buildings on site, further intrusive investigations were carried out to identify and delineate the location of asbestos within the Made Ground within the farmyard area.

This Intrusive Site Investigation Letter Report is presented in Appendix 2b.

Supplementary Intrusive Investigation Works

Subsequent investigations undertaken by Geo-Environmental in May 2018, June 2018 and February 2020 were to carry out additional targeted investigation works within specific areas of the site including, but not exclusive to, the farmyard area (following demolition of the buildings), the chalk pit/ landfill area and the horse arena. The encountered conditions, results and assessments were reported under several separate covers including, Geotechnical Interpretative Report, Detailed Quantitative Gas Risk Assessment, Technical Note for the discharge of condition 11, Leachate Testing Letter Report and Remediation Strategy and Verification Reports. Copies of the relevant reports and technical notes are presented within Appendices 2c-2i.

The ground conditions encountered during these subsequent investigations were in line with previously encountered conditions, a thickness of Topsoil and/or Made Ground overlying Head Deposits and /or soils of the Lambeth Group which in turn in some locations overlay the Tarrant Chalk.

It was difficult to differentiate between Head Deposits and weathered Lambeth Group in several exploratory holes and Head Deposits were observed to vary in composition, with depth and laterally within individual trial pits and trenches. In addition, strata encountered in some exploratory holes appeared to include frost shattered gravel and these were considered likely to comprise Head Deposits derived from highly weathered Lambeth Group.

The ground conditions were observed to vary over relatively short distances, i.e. within the extent of some of the trial pits/trenches excavated. In addition, the depth to the Chalk was observed to vary significantly such that whilst Chalk was encountered at relatively shallow depth in some of the exploratory holes, it was not encountered in others.

Representative environmental soil testing was carried out based on the land use assessment for the site. It was considered that remedial action would be warranted in specific areas of the site; the farmyard, the chalk pit/ former land and the horse arena. Remedial action was not considered necessary for the majority of the site.

In addition, the findings of the various phases of investigation and monitoring were assessed in detail by EPG as part of completion of a Detailed Quantitative Gas Risk Assessment, which concluded that no ground gas protection measures were required for the proposed residential development on the chalk pit area.

Remediation Strategies

Remediation strategies have been written for each separate area of the site where it has been identified that remediation is a requirement, the farmyard, the chalk pit/ former land and the horse arena and are included within Appendices 2g-2i.

<u>Farmyard</u>

It is understood that a reduced dig would be required in identified specific rear garden areas within the former farmyard area, to allow for the installation of a soil cover system, so as to be protective for proposed end users. The plots requiring a reduced dig and the depth of reduced dig required are based on the current and proposed site levels and have been identified within Figures 12 - 19.

It is proposed to retain impacted soils within proposed garden areas where levels require raising either within the Farmyard area or within the Chalk Pit area where impacted material have already been identified, and hence a requirement of the volume of excavated soil being generated from the reduced dig. Following the completion of the reduced dig, installation of a soil cover system is required within all garden areas located in the former farmyard area. The soil cover system is to comprise; where the reduced dig does not remove all of the Made Ground and hence the cover system is to be laid over Made Ground, it shall incorporate a 150mm thick break layer formed of stone or crushed concrete with a geotextile membrane laid above and beneath, and overlain by a deter to dig geofabric to act as a visible deterrent overlain by a minimum 300mm thickness of subsoil and a minimum of 300mm of Topsoil; where the reduced dig removes all Made Ground and exposes uncontaminated natural strata, the soil cover system shall comprise clean subsoil and a minimum 300mm of suitable Topsoil, the thickness of subsoil in this scenario will defined by the difference between the finished garden level (minus 300mm Topsoil) and the reduced dig level.

It is proposed to re-use materials excavated as part of the reduced dig for raising site levels beneath proposed garden areas within the farmyard and chalk pit beneath the required soil cover system. It should be noted that whilst existing soils could remain in place beneath houses the deposition of soils impacted with asbestos beneath house footprints as part of any reprofiling works on this site would not be deemed suitable.

Topsoil from across the whole site has been identified as not being impacted by contaminants and therefore it is proposed to reuse this Topsoil across the site within areas of proposed private gardens and soft landscaping areas, so as to reduce or removed the need to import Topsoil material from external sources.

Chalk Pit/ Former Landfill

It is understood that a reduced dig would be required in identified specific rear garden areas within the chalk pit/ former landfill area, to allow for the installation of a soil cover system, so as to be protective for proposed end users. The plots requiring a reduced dig and the depth of reduced dig required are based on the current and proposed site levels and have been identified within Figures 12 - 19.

It is proposed to retain impacted soils within proposed garden areas where levels require raising either within the Farmyard area or within the Chalk Pit area where impacted material have already been identified, and hence a requirement of the volume of excavated soil being generated from the reduced dig. Following the completion of the reduced dig, installation of a soil cover system is required within all garden areas located in the chalk pit/ former landfill area. The soil cover system is to comprise; where the reduced dig does not remove all of the Made Ground and hence the cover system is to be laid over Made Ground, it shall incorporate a 150mm thick break layer formed of stone or crushed concrete with a geotextile membrane laid above and beneath, and overlain by a deter to dig geofabric to act as a visible deterrent overlain by a minimum 300mm thickness of subsoil and a minimum of 300mm of Topsoil; where the reduced dig removes all Made Ground and exposes uncontaminated natural strata, the soil cover system shall comprise clean subsoil and a minimum 300mm of suitable Topsoil, the thickness of subsoil in this scenario will defined by the difference between the finished garden level (minus 300mm Topsoil) and the reduced dig level.

It is proposed to re-use materials excavated as part of the reduced dig for raising site levels beneath proposed garden areas within the farmyard and chalk pit beneath the required soil cover system. It should be noted that

whilst existing soils could remain in place beneath houses the deposition of soils impacted with asbestos beneath house footprints as part of any reprofiling works on this site would not be deemed suitable.
Topsoil from across the whole site has been identified as not being impacted by contaminants and therefore it is proposed to reuse this Topsoil across the site within areas of proposed private gardens and soft landscaping areas, so as to reduce or removed the need to import Topsoil material from external sources.

Horse Arena

It is understood that a surface strip of the sand dressing surface would be undertaken across the horse arena area, followed by a surface strip of the Topsoil from the vicinity of TP212, TP229, TP306 and TP307, i.e. those areas not covered by sand dressing. The Topsoil within these areas will be segregated and stockpiled to await further testing to demonstrate their suitability for reuse.

Given the increase in ground levels indicated by the Levels Strategy drawing, there is no requirement to undertake a reduced dig to accommodate the soil cover system in gardens. The soil cover system is to comprise; a 150mm thick break layer formed of stone or crushed concrete with a geotextile membrane laid above and beneath, and overlain by a deter to dig geofabric to act as a visible deterrent overlain by a minimum of 450mm in thickness to include a minimum of 300mm of Topsoil.

It may be possible to reuse Topsoil from the vicinity of TP212, TP229, TP306 and TP307, locations that are not overlain by sand dressing, once further testing has demonstrated their suitability for reuse, within private garden areas and areas of soft landscaping both within the Horse Arena area and other areas across the site.

Topsoil from across the whole site has been identified as not being impacted by contaminants and therefore it is proposed to reuse this Topsoil across the site within areas of proposed private gardens and soft landscaping areas, so as to reduce or removed the need to import Topsoil material from external sources.

1.3 Planning Conditions

It is understood that a planning application has been approved for the site by Havant Borough Council under Planning Reference APP/13/00804. A number of ground investigations, including a Phase I desk study and Phase II site investigation, have been undertaken for the site, and were submitted in support of the planning application (a copy of which is provided in Appendix 2a-2f). The following pre-commencement planning conditions have been attached to the application which relate to the remediation and validation of land contamination on the site:

11. Prior to the commencement of construction within any specified phase or defined area the development approved by this Planning Permission (as may be agreed in writing by the Local Planning Authority), a scheme to deal with the risks associated with contamination of the site shall be submitted to and approved in writing by the Local Planning Authority. That scheme shall include all of the following elements unless specifically excluded in writing by the Local Planning Authority.

1. *A scheme of further investigation, based on the previously submitted GeoEnvironmental & Geotechnical report. The scope of the investigation shall be sufficient to:*
    - *confirm the preliminary assessment of the nature and extent of contamination at the site,*
    - *inform an appropriate assessment of the risks to all receptors that may be affected, including controlled waters, and;*

- *enable the appropriate design of remediation and/or risk mitigation measures (if required).*

2. *The results of the further investigation and risk assessment (1) and if appropriate, a method statement based on these results giving full details of the remediation and/or risk mitigation measures required, and how they are to be undertaken.*
3. *A verification report or statement (as appropriate) upon completion of the works set out in (2) [if any], confirming that measures undertaken have been implemented in accordance with the method statement, and have achieved the required performance standards. The verification report / statement shall provide details of any measures necessary for maintenance, further monitoring and reporting.*

All elements shall be adhered to unless agreed in writing by the Local Planning Authority.

Reason: To prevent future occupants of proposed residential properties being exposed to unacceptable risks from identified contamination & soil gas associated with automotive repair and landfill activity previously undertaken at the site, and to ensure that the site does not pose an unacceptable risk to the groundwater Source Protection Zone 1; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

12. Prior to the commencement of construction of any part of the development approved by this Planning Permission, a protocol for the identification & assessment of any unforeseen ground conditions shall be submitted to and approved in writing by the Local Planning Authority. The provisions of the approved protocol shall be observed throughout the undertaking of all relevant construction activities.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

13. If, during development, contamination not previously identified at the site is found to be present, then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted, and obtained written approval from the Local Planning Authority for an addendum to the Method Statement required under Condition 1, (2). This addendum shall detail how this unexpected contamination shall be dealt with, and the development shall not be carried out other than in accordance with the approved details.

Reason: For the protection of workers and the general public during the development of potentially contaminated land, and to prevent future occupants of proposed residential properties being exposed to unacceptable risks from unidentified &/or unexpected contamination that may be associated with previous activities undertaken at the site; having due regard to policies and proposals E1 of the Hampshire County Structure plan 1996-2011 (Review), and DM10 of the Havant Borough Adopted Core Strategy (2011), and DM17 of the Draft Local Plan (Allocations) 2012.

2.0 MATERIALS MANAGEMENT

2.1 Definition of Waste: Development Industry Code of Practice

The Code of Practice (CoP) is seen as best practice for the development of land. It allows for a site specific determination of whether excavated materials are considered to be waste, or not, when it is proposed to use those excavated materials either directly or following successful treatment.

The process for the redevelopment of land not affected by contamination via the CoP involves:

- Adequate characterisation of the site and the materials to be excavated;
- Development of a Design Statement and/or Remediation Strategy and Verification Plan (RSVP);
- Production of a Materials Management Plan to show that the "four factors" have been adequately addressed and includes a Verification Plan;
- Review of the MMP and supporting information by an independent Qualified Person;
- Agreement of the RSVP and re-use in principal with the Environment Agency;
- Completion and submission of a Declaration by the Qualified Person, if content with the information provided, to the Environment Agency and copied to the person commissioning the Qualified Person;
- Implementation of the MMP;
- Production of a Verification Report.

The MMP has to include details relating to the assessment of the development site, e.g. desk study and/or site investigation information to demonstrate that the material is suitable for the intended use.

The CoP requires that the following "four factors" are demonstrated:

- Pollution of the environment and harm to human health is prevented and not increased in reusing the excavated materials and the risk from re-use is not increased from the baseline assessment of the site;
- The materials are suitable for use both geotechnically and geochemically (without any further processing);
- There is certainty of use; and
- The quantity that is absolutely necessary (and no more) is used.

Suitable for use criteria have been established underpinned by several intrusive ground investigations undertaken on the site (Appendix 2a, 2b, 2c, 2g, 2h and 2i) and site survey plans, levels strategy plans and development levels plans forming the design statement for the site (Figures 3, 4, and 8 to 19).

It has been identified that in order to achieve the required development levels across the farmyard and chalk pit areas of the site, including levels required to construct proposed residential dwellings and associated garden areas the following volume of material is needed c.558m^3 (this figure does not include the required suitably clean materials for the proposed soil cover systems). The excavation of the required reduced dig within specific plots located in the farmyard area and the chalk pit/ former landfill area and foundation arising will generate c.312m^3. Therefore, it is proposed to re-use this excavated material within garden areas, beneath the soil cover system within the farmyard and chalk pits areas where impacted materials have already been identified, where plots have also been identified as requiring levels to be raised to achieve final development levels, and remove the need to import material to the site. In addition, Topsoil from across the entire site has been identified as not being impacted by contaminants therefore it is proposed to reuse this site won Topsoil within proposed private gardens areas and proposed areas of soft landscaping to remove the need to import Topsoil material to site.

2.2 Materials Management Plan form

This form should be completed once the lines of evidence have been marshalled in relation to suitability for use, certainty of use and quantity required.

The answers to the questions posed within this form together with the supporting information will constitute the MMP and must be provided to the Qualified Person.

A Qualified Person may comment on draft versions of this MMP, but will not complete the Declaration until all the relevant documents, demonstrating lines of evidence have been provided for each site.

The person / organisation who will pay the Declaration fee should confirm that they have read and understand the Terms and Conditions relating to the payment of the Declaration fee to CL:AIRE. Details are available on the CL:AIRE website.

The person / organisation agreeing to pay the Declaration Fee - Name, organisation and contact details inc. email address -	Declaration Fee: Stephen Clark Vistry Southern, Central 40 Lime Tree Way Chineham Park Basingstoke RG24 8GU Email: Stephen.Clark@LindenHomes.co.uk Mobile: 07483 341072

X I confirm I have read and understood the Terms & Conditions.

1. Specify the scenario to which this MMP relates, as described in the Definition of Waste: Development Industry Code of Practice (DoW CoP) (1, 2, 3 or 4):

X 1. Reuse on the Site of Origin
☐ 2. Direct Transfer of clean naturally occurring soil / mineral materials
☐ 3. Cluster Project
☐ 4. Combination of any of the above

In the case of a combination of reuse scenarios, please describe it below (e.g. (i) Reuse on Site of Origin and Direct Transfer of clean naturally occurring unpolluted soils, (ii) Reuse on the Site of Origin with Direct Transfer of clean naturally occurring soil to x number of development sites etc:
(NB: A Declaration is required for reuse on the Site of Origin and for any 2 site arrangement i.e. there is no facility for a combination Declaration)

2. Organisation and name of person preparing this MMP	Fiona Goode Senior Consultant Engineer Geo-Environmental Services Limited Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint West Sussex BN6 9GL

Document Control

Date issued	28th August 2020 (re-use on site of Origin) – initial report only
Revision Date/Summary of revision 1	12th November 2020 (re-use on site of Origin) – complete report Report updated to include consultation responses from EA and Portsmouth Water
Revision Date/Summary of revision 2	22nd December 2020 (re-use on site of Origin) – complete report Report updated to include updated consultation response from EA and to reflect the updated proposed development levels on site
Revision Date/Summary of revision 3	17th February 2021 (re-use on site of Origin) – complete report Report updated to reflect amendments to the proposed soil cover system within the Horse Arena area and to include consultation responses from Local Authority

Insert additional lines to the document control table above for any subsequent revisions.
Note - revisions to the MMP do not trigger an additional Declaration by a Qualified Person, unless an additional site is added to the project.

Site Details

3. Site / Project name(s)	Woodcroft Farm Phase 2B and 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA
Reuse / receiving site name :	Re-use on Site of Origin - Woodcroft Farm Phase 2B and 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA
Donor site name (if Direct Transfer)	n/a

Landowners

4a. Name of Landowner(s) (full address and contact details) – where excavated materials are to be reused	Landowner/Developer: Stephen Clark Vistry Southern, Central 40 Lime Tree Way Chineham Park Basingstoke RG24 8GU Email: Stephen.Clark@LindenHomes.co.uk Mobile: 07483 341072
4b. Name of Landowner(s) (full address and contact details) – where excavated materials are arising from	Stephen Clark Vistry Southern, Central 40 Lime Tree Way Chineham Park Basingstoke RG24 8GU Email: Stephen.Clark@LindenHomes.co.uk Mobile: 07483 341072

Summary and objectives

5a. Provide a brief description of the planned project and how excavated materials are to be reused within it.	Phases 2B and 3 of the Woodcroft Farm development site comprises a development of up to 288No. homes with, new access road from Eagle Avenue, internal access roads, associated car parking, open space and landscaping. In order to achieve the required final site levels and accommodate recommended soil cover systems for the proposed residential dwellings and the associated garden areas some cut and fill earthworks is required. Remediation is required within specific areas of the site, the farmyard, the chalk pit and the horse arena. It has been identified that within the rear

	garden areas of specific plots with the farmyard area and the chalk pit/ former landfill area a reduced dig is required. All other remedial measures are to incorporate a soil cover system specific to the area of remediation. In addition, Topsoil located across the entire site has been identified as not being impacted by contaminants and therefore has been deemed as being suitable for use within proposed private garden areas and areas of soft landscaping. As such it is proposed to reuse the materials excavated from the specific plots, where a reduced dig is required, for use within the required fill aspect of proposed garden areas, beneath the soil cover system, of residential plots within the farmyard and chalk pits areas where impacted material have already been identified, achieving the development levels within the development parcels. It is also proposed to reuse site won Topsoil for landscaping purposes including re-using within garden areas in order to balance the requirement for materials on the wider site. It is proposed to reuse 146m^3 of the Made Ground excavated as part of the plot specific reduced dig. These materials have been identified as being impacted by contaminants so would not be suitable for re-use within the soil cover systems of private garden areas or within areas of soft landscaping but would be suitable for reuse beneath these propose soil cover systems, where impacted materials have already been identified. In addition, in-line with NHBC requirements this material would also not be suitable for re-use beneath proposed buildings. As such it is proposed to reuse this material with garden areas of plots were levels need to be raised within the farmyard and chalk pit areas of the site, beneath proposed soil cover systems. All Topsoil materials proposed for re-use are naturally occurring materials, in addition a site investigation undertaken on the site did not identify any contaminants above a residential end use screening criteria. Where materials are to be excavated they will be segregated into the material types identified and separately stockpiled on the site prior to use where required. Following the works each section will be validated with respect to the placement of material on the site. Importation of any additional subsoil/Topsoil onto the site, from an off-site source, would be subject to amendments of the MMP and subsequent declarations as required.

General Plans and Schematics

6. **Attach** a location plan for the site(s) and a plan of the site(s) which identifies where different materials are to be excavated from, stockpile locations (if applicable), where materials are to be treated (if applicable) and where materials are to be reused.	Plan Document Reference(s): Figure 1 Site Location Plan ref: 1924-A-1000-A, drawn April 2013, issued for planning Figure 2 Concept Masterplan ref: 1924-SK-1106-C, drawn 22/01/2014, issued for planning Figure 3 2DEE Survey Woodcroft Farm (levels based on Leda GPS), drawn 11/09/2011, issued for planning Figure 4 Site Survey Plan, drawn June 2020 Figure 5 Phasing Plan ref: 2668-C-1007B, revision B, drawn Feb 2018, issued for planning Figure 6 Soil Remediation Areas Plan by Plot (Geo-Environmental), drawn March 2020 Figure 7 Sinkhole Area Plan (Geo-Environmental), drawn 28/06/2018 Figure 8 Levels Strategy Sheet 1 ref: 192932/001, drawn June 2020, Figure 9 External Levels, Contours and Kerbing Sheet 3 ref: 192931-073, drawn November 2020 Figure 10 External Levels, Contours and Kerbing Sheet 4 ref: 192931-074, drawn November 2020 Figure 11 External Levels, Contours and Kerbing Sheet 5 ref: 192931-075, drawn November 2020 Figure 12 Development Levels Plan – Phase 2B Farmyard (Geo-Environmental), 17/12/2020 Figure 13 Development Levels Plan – Phase 3 Farmyard and Chalk Pit (Geo-Environmental), 17/12/2020 Figure 14 Development Levels Plan – Phase 3 Farmyard (Geo-Environmental), 17/12/2020 Figure 15 Development Levels Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard (Geo-Environmental), 17/12/2020 Figure 16 Remediation Strategy Plan – Phase 2B Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 17 Remediation Strategy Plan – Phase 3 Farmyard and Chalk Pit Volumes (Geo-Environmental), 17/12/2020 Figure 18 Remediation Strategy Plan – Phase 3 Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 19 Remediation Strategy Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard Volumes (Geo-Environmental), 17/12/2020

7. **Attach** a schematic of proposed materials movement. Where there is only one source area and one placement area briefly describe it. For all other projects a schematic is required.	Description & Schematic Document Reference: Phases 2B and 3 of the Woodcroft Farm development site comprises a development of up to 288No. homes with, new access road from Eagle Avenue, internal access roads, associated car parking, open space and landscaping. In order to

	achieve the required final site levels and incorporation soil cover systems for the proposed residential dwellings and the associated garden areas some cut and fill is required. Given the need for a cut and fill exercise associated with the construction of proposed development to achieve required development levels, and the remediation requirements of specific areas within the development, material required for landscaping purposes and the need for Topsoil within gardens and areas of soft landscaping, it is proposed to re-use material on the site of origin under the CL:AIRE Definition of Waste Code of Practice, to include the underlying naturally occurring Topsoil and Made Ground. Total volume of reuse on site of origin (Made Ground)– 146m^3 References: Figure 8 Levels Strategy Sheet 1 ref: 192932/001, drawn June 2020, Figure 9 External Levels, Contours and Kerbing Sheet 3 ref: 192931-073, drawn November 2020 Figure 10 External Levels, Contours and Kerbing Sheet 4 ref: 192931-074, drawn November 2020 Figure 11 External Levels, Contours and Kerbing Sheet 5 ref: 192931-075, drawn November 2020 Figure 12 Development Levels Plan – Phase 2B Farmyard (Geo-Environmental), 17/12/2020 Figure 13 Development Levels Plan – Phase 3 Farmyard and Chalk Pit (Geo-Environmental), 17/12/2020 Figure 14 Development Levels Plan – Phase 3 Farmyard (Geo-Environmental), 17/12/2020 Figure 15 Development Levels Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard (Geo-Environmental), 17/12/2020 Figure 16 Remediation Strategy Plan – Phase 2B Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 17 Remediation Strategy Plan – Phase 3 Farmyard and Chalk Pit Volumes (Geo-Environmental), 17/12/2020 Figure 18 Remediation Strategy Plan – Phase 3 Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 19 Remediation Strategy Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard Volumes (Geo-Environmental), 17/12/2020

Parties Involved and Consultation – if more than one party please provide additional details for them and identify the location that they will be working e.g. where a site is zoned

8a. Main earthworks contractor(s) (full address and contact details) – Where excavated materials are to be reused	TBC
8b. Main earthworks contractor(s) (full address and contact details) - Where excavated materials are arising from	TBC

9. Treatment contractor(s) (full address and contact details) – for treatment on site of origin, or at a Hub site within a fixed STF / Cluster Project	No on-site treatment proposed.

10. Where wastes and materials are to be transported between sites, provide details of the transport contractor(s) (full address, contact details and waste carriers registration details (if applicable))	No transportation of material to other site proposed. Proposals are to re-use site won materials on site.

11. Provide Local Authority contact details (full address and named contacts) where excavated materials are to be reused	Jonathan Driver Environmental Control Officer Havant Borough Council Environmental Health Email: jonathan.driver@havant.gov.uk Telephone: 023 9244 6677

12a. For the site where materials are to be reused and for Hub Site locations provide Environment Agency contact details (full address and named contacts):	Vic Jennings - Senior Environment Officer EPR Waste – West Solent & South Downs Area 20 Manners View, Dodnor, Newport, Isle of Wight. PO30 5FA Tom Wickens Technical Specialist - (Groundwater Quality and Contaminated Land) Solent and South Downs Romsey Office, Canal Walk, Romsey, Hampshire, SO51 8DU
For all Cluster Projects: 12b. Attach any relevant documentation from the EA relating to the excavation and reuse of the materials to demonstrate no objection to the proposals (see 3.37 of DoW CoP)	EA references: N/A Not a cluster project.
If the EA has not been consulted please explain why (see paragraph 3.39 of the DoW CoP).	N/A Not a cluster project.

Lines of Evidence

There is no one single factor that can be used to decide that a substance or object is waste, or when it is, at what point it ceases to be waste; as complete a picture as possible has to be created.

The following sections require completion to ensure the correct decision is made.

If a requested item is not relevant it is important to clearly state why this is so (e.g. no planning permission required because permitted development status exists).

Suitable for use criteria

13. Please describe or provide copies of the required specification(s) for the materials to be reused on each site.	The proposals include a reduced dig of Made Ground material to be undertaken within specific areas of the site and at specific plots excavation and placement of natural ground for use as a cover system on the site for human health. The contamination testing has identified several hotspots of contamination and the presence of low levels of asbestos within the Made Ground soils. The RSVP's present the specification for subsoil and Topsoil to be installed as part of the cover system on the site. Document Reference(s): Appendix 2g Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2h Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2i Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V6.0-FEB21 version 6.0, dated February 2021 Appendix 2j Asbestos Management Plan, Woodcroft Farm Phase 2b & 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Ltd on behalf of Vistry Homes ref: GE18761/AMP/AUG20, dated August 2020 Figure 8 Levels Strategy Sheet 1 ref: 192932/001, drawn June 2020, Figure 9 External Levels, Contours and Kerbing Sheet 3 ref: 192931-073, drawn November 2020 Figure 10 External Levels, Contours and Kerbing Sheet 4 ref: 192931-074, drawn November 2020 Figure 11 External Levels, Contours and Kerbing Sheet 5 ref: 192931-075, drawn November 2020 Figure 12 Development Levels Plan – Phase 2B Farmyard (Geo-Environmental), 17/12/2020 Figure 13 Development Levels Plan – Phase 3 Farmyard and Chalk Pit (Geo-Environmental), 17/12/2020 Figure 14 Development Levels Plan – Phase 3 Farmyard (Geo-Environmental), 17/12/2020

	Figure 15 Development Levels Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard (Geo-Environmental), 17/12/2020 Figure 16 Remediation Strategy Plan – Phase 2B Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 17 Remediation Strategy Plan – Phase 3 Farmyard and Chalk Pit Volumes (Geo-Environmental), 17/12/2020 Figure 18 Remediation Strategy Plan – Phase 3 Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 19 Remediation Strategy Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard Volumes (Geo-Environmental), 17/12/2020

Where contamination is suspected or known to be present 14a. Please provide copies of or relevant extracts from the risk assessment(s) that has been used to determine the specification for use on the site. **This must relate to the place where materials are to be used.** This must be in terms of (i) human health (ii) controlled waters and (iii) any other relevant receptors. If a risk assessment is not relevant for a particular receptor given the site setting please explain why below:	For Made Ground Document Reference(s) Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013. Appendix 2b Intrusive Site Investigation Letter Report ref: GE16662/FG02/170929 undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Linden Homes South, Dated 29th September 2017 Appendix 2c Geotechnical Interpretative Report for the site at Phase 2 Area, Woodcroft Farm, Lovedean, Hampshire, PO8 9QA, by Geo-Environmental Services Limited on behalf of Grainger PLC, dated 3rd August 2018 Appendix 2g Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2h Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of

	Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2i Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V6.0-FEB21 version 6.0, dated February 2021 Appendix 2j Asbestos Management Plan, Woodcroft Farm Phase 2b & 3, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Ltd on behalf of Vistry Homes ref: GE18761/AMP/AUG20, dated August 2020
14b. Please attach any relevant documentation from the LA relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 of the CoP)	LA Document references: Use of DoWCoP and re-use on site of Made Ground soils is presented within the RSVP's (Appendix 2g-2i) for the site. Correspondence with the Local Authority pertaining to site and remediation works are presented in Appendix 1f and Appendix 1g.
14c. Please attach any relevant documentation from the EA relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 and Table 2 of the CoP)	EA Document references: Use of DoWCoP and re-use on site of Made Ground soils is presented within the RSVP's (Appendix 2g-2i) for site. Correspondence with the Environment Agency pertaining to site and remediation works are presented in Appendix 1h.
14d. Please attach any relevant documentation from any other regulators (if relevant) relating to the excavation and reuse of the materials to demonstrate no objection (see 3.37 of the CoP)	Portsmouth Water Document references: Use of DoWCoP and re-use on site of Made Ground soils is presented within the RSVP's (Appendix 2g-2i) for site. Correspondence with Portsmouth Water pertaining to site and remediation works are presented in Appendix 1i.

Where contamination is not suspected 15a. Please attach copies or relevant extracts from the Desk Top Study that demonstrates that there is no suspicion of contamination.	For Topsoil Document Reference(s) Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013.
15b. Please attach copies of or relevant extracts from the site investigation/testing reports that adequately characterise the clean materials to be used (if appropriate).	For Topsoil Document Reference(s) Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013. Appendix 2b Intrusive Site Investigation Letter Report ref: GE16662/FG02/170929 undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Linden Homes South, Dated 29th September 2017 Appendix 2g Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2h Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2i Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V6.0-FEB21 version 6.0, dated February 2021

15c. Please attach copies of any other relevant information (if available) confirming that land contamination is not an issue.	Areas of the site not impacted by contamination Document Reference(s) Appendix 2a Geoenvironmental and Geotechnical Ground Investigation Report, undertaken by Peter Brett Associates LLP on behalf of Grainger PLC, Project ref: 21834/030, Doc ref: R02/rev01, Dated July 2013. Appendix 2b Intrusive Site Investigation Letter Report ref: GE16662/FG02/170929 undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Linden Homes South, Dated 29th September 2017

NB: It is your responsibility to assess the nature of the material to be used and that it fits within the limitations of the scenario under which it is to be used

Certainty of use

Various lines of evidence are required to demonstrate that the materials are certain to be used. This includes:

- The production of this MMP
- An appropriate planning permission (or conditions that link with the reuse of the said materials)
- An agreed Remediation Strategy(ies)
- An agreed Design Statement(s)
- Details of the contractual arrangements

Please identify in the following sections what lines of evidence relate to the site(s) **where the materials are to be used.**

16a. Planning Permission(s) relating to the site where materials are to be reused Please provide a copy of the relevant planning permission	Document Reference: Appendix 1a Decision Notice, ref APP/13/00804 from Havant Borough Council, dated 3rd September 2013 Appendix 1b Consultee Response from Environmental Health dated 19th November 2013 Appendix 1c Consultee Response from Environment Agency dated 27th September 2013 Appendix 1d Consultee Response from Natural England dated 29th October 2013 Appendix 1e Decision Notice, ref APP/20/00115 from Havant Borough Council, dated 11th February 2020
16b. Explain how the reuse of the excavated materials fits within the planning permission(s) for each site.	Phases 2B and 3 of the Woodcroft Farm development site comprises a development of up to 288No. homes with, new access road from Eagle Avenue, internal access roads, associated car parking, open space and landscaping. In order to achieve the required final site levels and accommodate recommended soil cover systems for the proposed residential dwellings and the associated garden areas some cut and fill is required. Remediation is required within specific areas of the site, the farmyard, the chalk pit and the horse arena. It has been identified that within the rear garden areas of specific plots with the farmyard area and the chalk pit/ former landfill area a reduced dig is required. All other remedial measures are to incorporate a soil cover system specific to the area of remediation. In addition, Topsoil located across the entire site has been identified as not being impacted by contaminants and therefore has been deemed as being suitable for use within proposed private garden areas and areas of soft landscaping. As such it is proposed to reuse the materials excavated from the specific plots, where a reduced dig is required, for use within the required fill aspect of proposed garden areas, beneath the soil cover system, of residential plots within the farmyard and chalk pits areas where impacted material have already been identified, achieving the development levels within the development parcels. It is also proposed to reuse site won Topsoil for landscaping purposes including re-using within garden areas in order to balance the requirement for materials on the wider site.

16c. If planning permission is not required for any one site please explain why below e.g. permitted development, clean up of a chemical spill, surrender of an Environmental Permit, re-contouring within the existing permission.	N/A

Where contamination is suspected or is known to be present 17. Please provide a copy of any Remediation Strategy (ies) that have been agreed with relevant regulators.	The majority of the materials to be re-used on site comprise clean naturally occurring materials (Topsoil). However, it is proposed to re-use a limited volume of Made Ground from isolated areas of the site to enable the construction of development levels using on site materials. Remediation Strategies and Verification Plans have been developed for each of these specific areas (Farmyard, Chalk Pit and Horse Arena). Document Reference (s): Appendix 2g Remediation Strategy and Verification Plan for Chalk Pit and Landfill Area (CP), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-CP-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2h Remediation Strategy and Verification Plan for Farmyard (FY), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-FY-V6.0-DEC20 version 6.0, dated December 2020 Appendix 2i Remediation Strategy and Verification Plan for Horse Arena (HA), Woodcroft Farm, Woodcroft Lane, Lovedean, Hampshire, PO8 9QA undertaken by Geo-Environmental Services Limited on behalf of Grainger PLC and Vistry Southern ref: GE16943-RSVP-HA-V6.0-FEB21 version 6.0, dated February 2021

Where contamination is not suspected 18. Please provide a copy of any Design Statement(s) that have been agreed (e.g. with the planning authority or in the case of permitted developments the client).	N/A

Quantity of Use

19. Please provide a breakdown of the excavated materials for each site and how much will be placed at each site or sub area of each site. Where this is not specific to a single readily identifiable source refer to an annotated plan, schematic or attach a tabulated summary.	Document Reference(s): Figure 8 Levels Strategy Sheet 1 ref: 192932/001, drawn June 2020, Figure 9 External Levels, Contours and Kerbing Sheet 3 ref: 192931-073, drawn November 2020 Figure 10 External Levels, Contours and Kerbing Sheet 4 ref: 192931-074, drawn November 2020 Figure 11 External Levels, Contours and Kerbing Sheet 5 ref: 192931-075, drawn November 2020 Figure 12 Development Levels Plan – Phase 2B Farmyard (Geo-Environmental), 17/12/2020 Figure 13 Development Levels Plan – Phase 3 Farmyard and Chalk Pit (Geo-Environmental), 17/12/2020 Figure 14 Development Levels Plan – Phase 3 Farmyard (Geo-Environmental), 17/12/2020 Figure 15 Development Levels Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard (Geo-Environmental), 17/12/2020 Figure 16 Remediation Strategy Plan – Phase 2B Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 17 Remediation Strategy Plan – Phase 3 Farmyard and Chalk Pit Volumes (Geo-Environmental), 17/12/2020 Figure 18 Remediation Strategy Plan – Phase 3 Farmyard Volumes (Geo-Environmental), 17/12/2020 Figure 19 Remediation Strategy Plan – Phase 3 Horse Arena, Chalk Pit and Farmyard Volumes (Geo-Environmental), 17/12/2020

	Figures 12-15 present the overall depth of Made Ground reduced dig required within each identified Plot within the Farmyard area and chalk pit/ former landfill area of the site. Re-use on site of Origin – 146m^3 Made Ground.

20a. How has consolidation/compaction been considered in the above mass balance calculations?	Assumed 1:1 ratio. Material to be compacted and therefore negligible net bulking assumed.
20b. How has loss due to treatment being considered in the above mass balance calculations (if applicable)?	No treatment proposed.
20c. How has the addition of treatment materials being considered in the above mass balance calculations (if applicable)? Note - An exact figure is not required but one that is reasonable in the circumstances and can be justified if challenged.	Treatment is not proposed.

Contingency arrangements

Explain what is to happen in the following situations and identify the appropriate clauses in the contract(s) (Such clauses must be provided to the Qualified Person, preferably as a summary document): or

21a. What is to happen to, and who is to pay for out of specification materials?	Reference: Materials to be re-used will be assessed from the site investigation data and earthworks phase acceptability testing. The materials will be visually inspected upon excavation. Any 'out of specification materials' e.g. potential mobile contaminants will be set aside. The earthworks specifications include for provision of wetting/drying of site won soils to meet fill specification acceptability and any soils in this category would not be considered to be 'out of specification' but potentially requiring commonplace civil engineering treatment prior to placement. The Site Manager will review any 'out of specification' materials and arrange for the material to be further assessed or to be taken off site to an appropriately authorised facility, under the appropriate duty of care. This will either be at the cost of the developer Vistry Homes Southern or contracted to the ground works contractor.
21b. What is to happen to, and who is to pay for any excess materials?	Reference: Should excess materials be identified throughout the development, the remaining works will be re-assessed to determine if the level of further excavation works, or level of imported materials can be reduced accounting for the excess volumes encountered. Where it cannot be demonstrated that there is a specific requirement or need for these materials on site, excess materials will be taken to an appropriately licensed facility. Where materials are required to be disposed of this will either be at the cost of the developer or contracted to the ground works contractor as part of their appointment on site.
21c. What happens if the project programme slips in relation to excavated materials or materials under -going treatment?	Reference: The works are to be undertaken on a phased basis moving round the site, whilst the preferred option is to complete all earthworks of each phase prior to starting formal development works on site, there is typically limited scope in the programme to account for time delays. It is recommended that the earthworks are limited during wetter months to reduce softening of materials laid. There may be a requirement for stockpiling excavated materials in the interim prior to placement subject to plant and weather conditions.
21d. Other identified risk scenarios for the project (relating to excavated materials)?	Reference: None identified at this time.

The Tracking System

22a. For all sites please describe the tracking system to be employed to monitor materials movements.	- See example tracking forms in Appendix 3. - Material placement will be recorded on an annotated plan. - Visual inspection of materials upon excavation and placement (name of individual, date and time)
Where contamination is suspected or known to be present, state the procedures put in place to: 22b. Prevent contaminants not suitable for the treatment process being accepted	Contamination has been identified within the materials proposed for re-use. Movement of materials containing asbestos will be controlled under an asbestos management plan. In addition, a watching brief will be undertaken during excavation and placement of the material. Should any potentially mobile contamination (e.g. hydrocarbon impacted soils) be identified this will be separated for further assessment. This tracking process is required in order to ensure that the materials re-used do not result in additional post-development risks not already quantified with respect to controlled water, human health or the environment. Based on the development works proposed in line with the RMS and the proposed end use of the material, the risk to Human Health has been assessed and mitigated through the inclusion of a clean soil cover system in the deposition area.
Where contamination is suspected or known to be present, state the procedures put in place to: 22c. Prevent cross contamination of materials not in need of treatment, wastes awaiting treatment and treated materials	The previous site investigations have identified hotspots of Arsenic, Beryllium and Dibenzo(a,h)anthracene along with the presence of asbestos fibres and ACMs on site. No treatment of these materials is required as part of the works proposed. No specific treatment of materials is proposed, Made Ground and natural soils on site have been assessed via several phases of intrusive investigation works on the site and an Asbestos Management Plan has been developed for the site. Made Ground and natural materials will be stockpiled separately to prevent cross contamination, with polythene sheeting used to place Made Ground materials on top of to prevent contamination with the surface or soils beneath. Where stockpiling of materials for re-use is proposed for period greater than 1 year then the Environment Agency will be consulted to confirm the ongoing certainty of use of this material.

Where contamination is suspected or known to be present, state the procedures put in place to: 22d. Demonstrate that materials that do not require treatment and successfully treated materials reach their specific destination	Made Ground and natural materials will be stockpiled separately to prevent cross contamination, with polythene sheeting used to place Made Ground materials on top of to prevent contamination with the surface or soils beneath. Plans of where Made Ground materials can been reused (without treatment) will be present on site and the ground workers/ earthworks contractor will be aware and in charge of material movements. Treatment of material is not proposed on the site. Material movements on site will be tracked and recorded by the ground workers during the course of the works. Example tracking forms are presented in Appendix 3.
Where contamination is suspected or known to be present, state the procedures put in place to: 22e. Ensure that waste for off-site disposal or treatment is properly characterised and goes to the correct facility	Where materials are to be disposed of from site, they will be subject to WAC testing if not already classified as part of the original soil investigation undertaken and the appropriate duty of care undertaken. Records of materials disposed of from together with their description and end locations will be required as part of the works and kept in the site office and later Vistry Home Southern Offices.

23. Please attach a copy of the tracking forms / control sheets that are to be used to monitor materials movements. To include transfer of loads on site into stockpiles prior to treatment (if applicable), stockpiled after treatment (if applicable), stockpiled awaiting use (as appropriate) and final placement.	Document reference(s) - See example tracking forms in Appendix 3 - Material placement will be recorded on an annotated plan. - Visual inspection of materials upon excavation and placement (name of individual, date and time)

For Hub Sites within Cluster Projects & where materials need treatment before reuse 24. Please attach a copy of the Environmental Permit covering the treatment process.	Permit reference / EA letter reference: N/A – not a cluster site.

Alternatively if the treatment is covered by a Mobile Plant Permit and associated Deployment Form, attach a copy of the EA agreement to the Deployment Form.	

Records

25. Where, and in what form, are records to be kept? Note – records e.g. transfer notes, delivery tickets, Desk Top Study, Site Investigation, Risk Assessment(s), Verification Report(s) need to be kept for at least 2 years after the completion of the works and production of the Verification Report	1) Will be kept on site during the earthwork and development site works and then at Vistry offices. 2) The records will be kept for a minimum of two years in paper and electronic form.

Verification Plan

26. Provide or explain the Verification Plan which sets out how you will record the placement of materials and prove that excavated materials have been reused in the correct location and in the correct quantities within the development works (see 3.4 of the DoW CoP).	Document Reference The Verification Report shall include the following minimum details: General - Appropriate site plans – including surveys and photos of placed materials - Experience and qualifications of the person preparing the report. - Description of the project. - Description of how the use of materials links with the objectives of re-use at the site. Site Specific - Reference to site investigation data. - Reference to site risk assessments. - Reference to the MMP and associated tracking systems, including alterations made and why. - Details of any amendments required to the MMP and why.

	- Laboratory Analysis undertaken to demonstrate/verify suitability where required of the use as part of validation works (moisture content testing). - Post earthworks topographical survey. - Reference to any contingency arrangement (s) that had to be implemented. - Record of the quantity of materials used. - Copy of Declaration (s) by Qualified Person(s). <u>Development Dates:</u> Earliest material movement date is February 2021 Latest completion date is January 2022 Estimated Verification Report date – February 2022 Verification Report to be compiled with input from Groundwork Contractor, Vistry Homes and Geo-Environmental. Point of contact at this time for verification report is: Fiona Goode, Senior Consultant Engineer, Geo-Environmental Services Limited, Unit 7 Danworth Farm, Hurstpierpoint, West Sussex BN6 9GL. Tel: 01273 832972 Email: Fiona.goode@gesl.net