

VERIFICATION REPORT

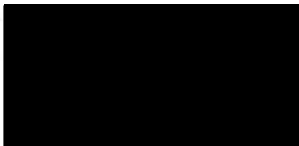
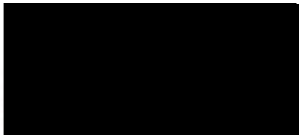
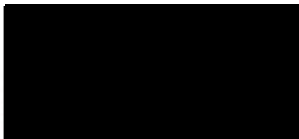
for land at

BOORLEY GARDENS, WINCHESTER ROAD

HEDGE END, SOUTHAMPTON, SO32 2UA

on behalf of

BELLWAY HOMES

Report:	VERIFICATION REPORT
Site:	BOORLEY GARDENS, WINCHESTER ROAD, HEDGE END, SOUTHAMPTON, SO32 2UA
Client:	BELLWAY HOMES
Date:	11/07/2024
Reference:	GE20346/VRv2.0/JUL24
Version:	2.0
Prepared by:	
	SHAUN ARMITAGE BSc (Hons), FGS Principal Engineer
Reviewed by:	
	GAVIN ROBERTS CGeol, BEng (Hons), MSc, FGS Technical Director
Authorised by:	
	GAVIN ROBERTS CGeol, BEng (Hons), MSc, FGS Technical Director

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

[Environmental Consultants](#) | [Geotechnical Engineers](#) | [Site Investigations](#)

AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Author's initials	Reviewed by	Authorised by
1.0	29/09/2023	First issue	SA	GR	KOD
2.0	11/07/2024	Updated to include verification of clean soil placement in garden areas of Plots 18-23 in former Park Farm area under ref. GE22457	SA	GR	GR

CONTENTS

1.0	INTRODUCTION	1
1.1	General	1
1.2	Objectives	1
1.3	Planning Permission	1
2.0	BACKGROUND	3
2.1	Proposed Site Use	3
2.2	Investigation and Assessment	3
2.3	Conceptual Site Model	6
2.4	Approach for Remediation, Monitoring and Validation	6
3.0	SOILS	8
3.1	End Users	8
4.0	REDUCED DIG AND SOILS DISPOSAL	9
5.0	INSPECTION/VALIDATION	10
5.1	Validation inspection of reduced dig works	10
5.2	Validation inspection of shallow soils within private gardens (Plots 18-23)	11
6.0	DISCOVERY STRATEGY	13
7.0	VERIFICATION	14

FIGURES

FIGURE 1	Site Location Plan
FIGURE 2	Development Layout Plan
FIGURE 3	Location of Validation Samples

APPENDICES

APPENDIX A	Statom Remediation Validation Report
APPENDIX B	Site Diary Inspection Records of Reduced Dig and Shallow Garden Soils
APPENDIX C	Independent Geochemical Laboratory Test Results



1.0 INTRODUCTION

1.1 General

Following a desk study and two phases of intrusive investigations undertaken by third parties, two further phases of intrusive investigation by Geo-Environmental Services Limited ('Geo-Environmental') and development of a Remediation Strategy and Verification Plan (RSVP), referenced GE20346/RSVPv4/MAR23, Geo-Environmental was appointed by Jackson Rowe on behalf of Bellway Homes and Miller Homes to prepare a Verification Report. The Verification Report was to compile the relevant information in relation to the residential development at Boorley Gardens, Winchester Road, Hedge End, Southampton, SO32 2UA, herein referred to as 'the site' (see Figure 1). This report relates specifically to the reduced dig undertaken in a specific section of the wider site (also shown in Figure 1). Remediation was not required in other areas of the site.

This report sets out the works undertaken to date to provide independent verification of the risk mitigation measures undertaken to protect the development and end users thereof. This report provides final validation for the reduced dig works undertaken. However, the Local Authority Pollution Control Specialist requested confirmation that the soils used to construct the garden areas in the contamination affected area of the site were 'free from contamination'. Therefore, this updated report prepared for Bellway Homes provides final validation for works undertaken and independent inspection in relation to soil placement in gardens of Plots 18-23.

1.2 Objectives

A desk study and two phases of intrusive investigations undertaken by third parties and two further phases of intrusive investigation undertaken by Geo-Environmental identified the presence of potential hazards and through a risk assessment process a series of pollutant linkages were identified which required action to mitigate or otherwise reduce the risk. The Remediation Strategy and 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.

This Verification Report (VR) presents the details and findings of inspection visits undertaken by Geo-Environmental and/or to compile data provided by the Client in order to demonstrate that the soil risk mitigation measures were implemented as detailed within the RSVP.

1.3 Planning Permission

It is understood that outline planning permission was granted at appeal for the site under Application Number O/15/75953 (appeal ref. APP/W1715/W/15/3130073 dated 30th November 2016). The following conditions relating to land contamination were attached to the permission:

Condition 18.

No work shall commence on site until the following has been submitted to, and approved in writing by the LPA:

- a) A Report of Preliminary Investigation comprising a Desk Study, Conceptual Site Model, and Preliminary Risk Assessment documenting previous and existing land uses of the site and adjacent land in accordance with national guidance and as set out in Contaminated Land Report Nos. 11, CLR11, and BS 10175:2011+A1:2013 Investigation of potentially contaminated sites - Code of Practice, and, unless otherwise agreed with the LPA;*
- b) A Report of a site investigation documenting the ground conditions of the site and incorporating chemical and gas analysis identified as appropriate by the Preliminary Investigation and in accordance with BS 10175:2011+A1:2013, and BS 8576:2013 and unless otherwise agreed with the LPA;*



- c) *A detailed site specific scheme for remedial works and measures to be undertaken to avoid the risk from contaminants and/or gases when the site is developed and proposals for future maintenance a [sic] and monitoring.*

Such a scheme shall include nomination of a competent person to oversee the implementation of the works.

Condition 19.

The development hereby permitted shall not be occupied / brought into use until there has been submitted to the LPA verification by the competent person approved under the provisions of condition 18(c) that any remediation scheme required and approved under the provisions of condition 18(c) has been implemented fully in accordance with the approved details (unless varied with the written permission of the LPA in advance of implementation).

Unless agreed in writing with the LPA such verification shall comply with the guidance contained in CLR11 and EA Guidance for the Safe Development of Housing on Land Affected by Contamination - R&D Publication 66: 2008. Typically, such a report would comprise:

- A description of the site and its background, and summary of relevant site information;*
- A description of the remediation objectives and remedial works carried out;*
- Verification data, including - data (sample locations/analytical results, as built drawings of the implemented scheme, photographs of the remediation works in progress, etc;*
- Certificates demonstrating that imported and / or material left in situ is free from contamination, gas / vapour membranes have been installed correctly.*

Thereafter the scheme shall be monitored and maintained in accordance with the scheme approved under condition 21(c) [sic].

It is understood that a Reserved Matters Application has been approved by Eastleigh Borough Council (ref. RM/17/81628, dated 16th January 2019) for Phase 1 of the development (equating to 301No. residential dwellings with associated parking, road infrastructure, landscaping, open space, surface water drainage networks, on-site waste water treatment works, provision of additional vehicular parking for Hedge End Railway Station and bus only connection to Shamblehurst Lane North).

It is understood that a Reserved Matters Application (ref. RM/18/84466 dated 9th April 2021) has also been approved for Phase 2 of the development (equating to 143 dwellings with associated parking, landscaping, open space and works, including diversion of a drainage ditch).

It is understood that a Reserved Matters Application (ref. RM/19/86658 dated 5th April 2022) has also been approved for Phase 3 of the development (equating to development of 236 residential dwellings with associated parking, landscaping and open space).

No conditions relating to land contamination were noted to be attached to these Reserved Matters approvals. However, it should be noted that the lack of planning conditions applied to the development in relation to contamination would not remove the developer's responsibility to deal with contamination identified in line with current guidance, regulations and duty of care.

This Verification Report has been prepared to address Condition 19 of the outline planning permission for the site.

2.0 BACKGROUND

This Verification Report has been produced in order to demonstrate that the works required and presented within the Remediation Strategy and Verification Plan (RSVP) have been carried out. The RSVP for the site was developed by Geo-Environmental following several phases of investigation works for the site undertaken by third parties and Geo-Environmental including:

- Desk Study Report, Ref. E-E1589/LJE/CDS, dated November 2014, prepared by Opus International Consultants (UK) Ltd for Gleeson Developments, Miller Homes and Welbeck Strategic Land LLP;
- Geo Environmental Site Investigation Report, Ref. BRD2924-OR1-C, dated 21st July 2017, prepared by BRD Environmental for Gleeson Strategic Land and Miller Homes;
- Geo-Environmental Report, Ref. CRM.1668.012.GE.R.001.A, dated January 2021, prepared by Enzygo Geoenvironmental for Bellway Homes;
- Detailed Quantitative Gas Risk Assessment, dated 30th June 2022, prepared by Geo-Environmental for Bellway Homes & Miller Homes, Ref. GE20584/DQGRA/JUN22;
- Ground Appraisal Report, dated 9th March 2023, prepared by Geo-Environmental for Bellway Homes & Miller Homes, Ref. GE20584/GARv2/MAR23.

Whilst a summary of these reports is presented below, reference should be made to the full reports for further details. The factual correctness of third party information is assumed and no liability is accepted for any errors in such information or subsequent assessment thereof.

2.1 Proposed Site Use

It is understood that the site is proposed to be developed for a residential land use with, together with a primary school and open space leisure areas.

2.2 Investigation and Assessment

Opus (2014)

The report comprised a review of historical mapping and environmental dataset information pertaining to the site, an account of a site walkover and a preliminary risk assessment for the proposed development at the site (stated as up to 680 dwellings, a local centre, a primary school and public open space).

The report identified the underlying geology at the site to comprise Wittering Formation or Earnley Sand in the southern portion of the site. Superficial Alluvium was recorded along the northern site boundary. Reference to the environmental information indicated no radon protection measures were required at the site.

The Wittering Formation and Earnley Sand were classified as Secondary 'A' aquifers. An aquifer status was not reported for the Alluvium. The site was noted to lie outside any Source Protection Zone (SPZ). No groundwater abstractions were recorded within 1km.

The nearest surface water was reportedly a tertiary river running along the northern boundary. The nearest surface water abstraction was recorded c.310m east of the site. The nearest discharge consent was recorded c.45m west and comprised public sewage to a freshwater stream/river. The nearest pollution incident occurred in 1998, c.15m west of the site involving the release of petrol into a storm drain recorded as a minor (Category 3) incident.

No historic or active landfills or waste treatment sites were recorded within 1km of the site. Nine contemporary trade entries were recorded within 100m of the site including general engineers, joinery, road haulage, door manufacturers, macadam laying contractors, gate manufacturers, and pet food and animal feeds.



Historically, the site was reported as predominantly farmland with a railway line on the western boundary throughout the mapping editions reviewed. Park Farm, a complex of farm buildings, was located in the east of the site from the 1960s. Hedge End and Boorley Green became increasingly expanded with predominantly residential developments over the mapped period.

A site walkover was undertaken as part of the desk study. At that time, the site largely comprised grazing pasture for sheep and horses. A number of drainage ditches were noted within the site. A stream was reported on the northern boundary. Park Farm in the east comprised a farmhouse with garden, a milking parlour and various barns utilised for livestock housing and haylage and straw storage. Several of the barns were noted to be roofed and clad with what was potentially asbestos cement. Three old 205 litre storage drums were noted adjacent to a lean-to. An above ground oil tank in a concrete bund was noted in the front garden of the farmhouse. An above ground diesel storage tank with integrated bund was recorded adjacent to one of the farm buildings. No visual or olfactory evidence of hydrocarbon contamination was reportedly observed at either tank location. During the walkover survey, Opus were advised that a horse was buried in one of the paddocks at Park Farm.

The Preliminary Risk Assessment identified the oil and diesel tanks, agrochemicals, manure piles, and asbestos within buildings as potential on-site sources of contamination. The adjacent railway and Braxell Cottage haulage vehicle repair to the east were identified as potential off-site sources. Risk ratings of low to medium were generally assigned to receptors, with a medium risk assigned to future site users in relation to soil contamination, and a medium to high risk assigned in terms of the asbestos containing materials in the farm buildings.

The report recommended a ground investigation including laboratory analysis of soil samples was undertaken.

BRD Environmental (2017)

BRD Environmental's intrusive investigation at the site comprised 31No. machine excavated trial pits to depths of up to 3.00m bgl and 15No. windowless sample boreholes to depths of 3.00m to 5.00m bgl. Soakage testing was undertaken in 6No. trial pits. Combined gas and groundwater monitoring boreholes were installed to 4m bgl in 10No. of the boreholes. Ground gas and groundwater monitoring was undertaken on 6No. occasions during August and September 2017.

The investigation reportedly encountered a mantle of Topsoil or Topsoil containing very low proportions of anthropogenic materials (brick and charcoal) overlying clay soils of the Wittering Formation and London Clay Formation. Made Ground to depths of between 0.20m and 0.25m bgl was reported in two locations (WS5 and WS6) within the yard area of Park Farm in the east of the site. During the return monitoring, groundwater was reported at depths ranging between 0.75m to 2.76m bgl.

A human health risk assessment of the results of geochemical laboratory testing undertaken on soil samples obtained during this investigation reported elevated concentrations of PAH compounds (Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(a)pyrene and Dibenzo(a,h)anthracene) in one location (WS6 at 0.20m bgl) and chrysotile asbestos fibres in two locations (WS5 at 0.10m bgl and WS6 at 0.20m bgl). All elevated contaminant concentrations were recorded within the Made Ground soils encountered in the Park Farm yard. Recommendations were made for further investigation in the Park Farm area of the site to assess the extent of contaminated soils followed by a reduced dig and off-site disposal of impacted soils or re-used under hardstanding (if/where deemed to be suitable).

The BRD Environmental report indicated the only source of ground gases to be natural soils with low organic content and identified the risk as negligible. Nevertheless, ground gas monitoring was undertaken in 10No. boreholes across the site on 6No. occasions between August and September 2017. The monitoring reported methane at concentrations between 0.0% and 0.2%, carbon dioxide between 0.5% and 13.1% and oxygen between 5.2% and 20.3%. Flow rates were recorded between <0.0l/hr and 0.5l/hr. Atmospheric pressure was recorded



between 1006mb and 1021mb. Based on the maximum concentrations of carbon dioxide recorded, the report stated the gas regime of the Park Farm area of the site was NHBC Amber 1, for which gas protection measures would be required. The report stated that the area of the site outside Park Farm could be classified Green as elevated carbon dioxide was only recorded in three boreholes (WS3, WS5 and WS6) in or near Park Farm. Recommendations were made for further investigation and gas monitoring in the area of Park Farm to 'delineate' the extent of elevated carbon dioxide concentrations. Zonation of the site in terms of the recorded ground gas concentrations alone is not in line with best practice and a detailed ground gas risk assessment has now been undertaken for the site. It should be noted that the Opus International Consultants (UK), November 2014 desk study report for the site has not been provided to allow a separate review of the potential source of ground gases identified as part of the Phase 1 assessment of the site.

The report stated that, the soil contaminant concentrations recorded at the site were not considered to present any significant risk to groundwater.

Enzygo Geoenvironmental (2021)

The report gave an account and interpretation of a supplementary investigation undertaken at the site. The investigation was undertaken in two fields which BRD Environmental were unable to access in 2017 and in the area around Park Farm including additional ground gas monitoring.

The investigation comprised 12No. window sampler boreholes to a maximum depth of up to 5.0m bgl, five of which were in the area surrounding Park Farm. Five boreholes were installed with combined gas and groundwater monitoring standpipes, three of which were in the fields immediately surrounding Park Farm. Ground gas and groundwater monitoring was undertaken on 6No. occasions during January and February 2021. Borehole WS6 from the BRD investigation was also monitored on 4No. occasions.

The investigation recorded Made Ground to between 0.20m to 0.90m bgl in all locations, formed of sandy clay with occasional brick and ash. Clay and sand-based soil of the Wittering Formation were encountered below the Made Ground. Groundwater was recorded at between 2m and 4m bgl during the investigation and between 0.11m and 1.15m bgl during the return monitoring.

Twelve samples of Made Ground were submitted for laboratory testing for a suite of common brownfield contaminants. No elevated contaminants were identified when screening against Tier 1 assessment criteria by Enzygo, but the report referenced the elevated PAH and asbestos reported within the BRD report. The report recommended removal of the impacted Made Ground identified by BRD in the Park Farm area where soft landscaping is proposed.

The Enzygo report initially identified a negligible risk of ground gases at the site. However, ground gas monitoring was undertaken on 6No. occasions over a 1 month period. The monitoring recorded methane at <0.1% throughout, carbon dioxide ranging between 0.9% and 16.9% and oxygen between 5.2% and 20.3%. Flows were recorded between <0.0009l/hr and <0.0172l/hr. Atmospheric pressure ranged between 986mb and 1035mb. Carbon dioxide was noted to be recorded in excess of 5% in WS101, WS103, WS105 and WS6. These were attributed to the potential presence of a former cesspit at Park Farm, although no evidence for such a feature was presented. Recommendations were made for the site to be zoned as Characteristic Situation 1 in areas outside of Park Farm and Characteristic Situation 2 within the area of Park Farm, which would require gas protection measures. Again, zonation of the site in terms of the recorded ground gas concentrations alone is not in line with best practice and a detailed ground gas risk assessment has now been undertaken for the site.

Geo-Environmental Ground Appraisal Report and Detailed Quantitative Gas Risk Assessment

Two phases of intrusive investigation were undertaken in the Park Farm area of the site by Geo-Environmental and detailed in the Ground Appraisal Report (GE20584/GARv2/MAR23).



Initially an intrusive investigation comprising 5No. dynamic sampler boreholes was undertaken in May 2022. The investigation was undertaken to support the Detailed Quantitative Gas Risk Assessment for the site but also to undertake a contamination assessment of soils. The boreholes were drilled to 5.00m bgl and installed with ground gas monitoring standpipes. Geochemical testing of soil and groundwater samples was undertaken. Three return ground gas and VOC monitoring visits were undertaken between 26th May and 15th June 2022.

The initial investigation revealed ground conditions comprising a mantle of Made Ground or Topsoil overlying clay soils of the Wittering Formation with London Clay Formation at depth. Faint or mild diesel odours and possible staining was recorded to 3.50m bgl on WS202 adjacent to the above ground diesel storage tank (also the location of a former steel single skin tank). Groundwater was recorded at between 0.59m and 3.51m bgl during return monitoring.

No elevated soil contaminants in terms of human health were recorded during the May 2022 investigation. Minor hydrocarbon impact was observed in soils in WS202 adjacent to an above ground diesel tank, with some potential hydrocarbon breakdown products identified in soils analysed. A groundwater sample from this location recorded elevated metal compounds and three volatile organic compounds (VOCs). The metal concentrations were considered representative of general background groundwater quality in the area of the site. The VOCs were potentially associated with the natural breakdown and degradation of minor spillages of fuels at the site. Further localised investigation was recommended in the area of the diesel tank following demolition and site clearance.

The Detailed Quantitative Gas Risk Assessment (GE20584/DQGRA/JUN22) concluded that the site should be considered a Characteristic Situation 1 classification, with no requirement for gas protection measures.

A post demolition investigation was undertaken in February 2023 following demolition and removal of the buildings and hardstanding at Park Farm. The investigation comprised 13No. trial pits to a maximum depth of 2.50m bgl targeting areas below former buildings and hardstanding. Four trial pits also targeted the area surrounding the diesel tanks which had been removed.

The 2023 investigation revealed up to 0.55m depth of Made Ground overlying clay soils of the Wittering Formation. Groundwater was recorded at depths between 1.30m and 1.80m bgl. Slight hydrocarbon odours were noted with two trial pits (TP102 and TP103) in the area of the former diesel tank to a maximum 2.30m bgl.

The contamination testing recorded elevated PAH and Lead concentrations within a sample of Made Ground from TP107 in terms of human health. Fragments of asbestos cement were recorded on the site surface in two locations and within Made Ground soil in TP112. A reduced dig exercise to remove the Lead, PAH and asbestos containing Made Ground from within proposed private gardens and areas of soft landscaping was recommended.

Slightly elevated TPH concentrations were recorded within soils sampled in the area of the former diesel tank. However, as the contamination source had been removed and minor soil based impact would be expected to degrade over time, such that no remediation in terms of groundwater protection was considered to be required.

2.3 Conceptual Site Model

The conceptual site model (CSM) developed as part of the risk assessment identified particular hazards, or potential hazards which were considered to require intervention (remediation) to mitigate the risk of harm.

2.4 Approach for Remediation, Monitoring and Validation

Remediation works were proposed to break the pathways of identified sources of contamination to receptors. The aim of the remediation was not necessarily to remove all contamination from the site but to provide

betterment and to reduce the identified risk to an acceptable level with respect to relevant receptors, e.g. human health, the built environment and controlled waters.

The remediation works undertaken comprised a reduced dig in the former Park Farm area of the site, and subsequent off-site disposal of Made Ground.

3.0 SOILS

3.1 End Users

With reference to the intrusive investigations undertaken by third parties and Geo-Environmental, it was considered that the Made Ground soils in the Park Farm area of the site were variously impacted by PAH, Lead and asbestos. As such, remedial measures were deemed necessary to protect end users of the proposed properties from soil contamination within private garden and soft landscaped areas across the site.

Given the nature of the contaminants identified within these soils and their recorded depths, the impacted soils were to be removed entirely back to natural ground across the whole of the Park Farm area. Validation inspection, sampling and laboratory testing of exposed soils following the reduced dig was to be undertaken.

Following the reduced dig, certifiably 'clean' Topsoil and subsoil was to be used to construct garden areas and areas of soft landscaping.

4.0 REDUCED DIG AND SOILS DISPOSAL

The reduced dig was undertaken by Statom Group between 31st July and 31st August 2023. Statom's factual Remediation Validation Report is included as Appendix A. The arising soils were disposed of off-site and Statom's report includes the relevant waste transfer notes and waste consignment notes.

Statom's works also removed a former septic tank from the site which was previously identified during Geo-Environmental's investigations and not identified as a contamination risk.

Independent inspection of the reduced dig was undertaken by Geo-Environmental on 10th and 26th August 2023. The records of these independent validation inspections are presented in Appendix B and discussed within Section 5.1 of this report.



5.0 INSPECTION/VALIDATION

5.1 Validation inspection of reduced dig works

Validation inspection visits were undertaken during and upon completion of the reduced dig works. The inspections were undertaken on 10th and 26th August 2023 by a Geo-Environmental Engineer. Inspection of the exposed formation in completed areas was undertaken to visually confirm the removal of Made Ground soils.

The inspections confirmed that in all inspected areas, Made Ground had been removed exposing natural soils. In general, the natural ground conditions were found to comprise firm to stiff orange and grey mottled clay with varying proportions of sand and rare to frequent roots and rootlets.

Validation samples of the exposed formation were also obtained and were submitted to a UKAS accredited laboratory for testing for a suite of commonly occurring brownfield contaminants including asbestos to confirm the chemical suitability of the exposed natural soils. Nine samples were obtained (referenced Base #1 to Base #9) in locations providing a broad coverage of the site. The locations of these samples are shown in Figure 3. The laboratory test results are presented within Appendix C.

The results of the analyses were compared to the Suitable for Use (S4UL) Levels and Category 4 Screening Level (C4SL) for 'private gardens with home-grown produce' (representative of the development end use), which are summarised in Table 5.1 below:

Determinand	Soil Screening Value (mg/kg)	Sample Max. Conc. (mg/kg)	Below Screening Value?
Arsenic	37	8.1	Yes
Benzo(a)pyrene	2.7	0.37	Yes
Beryllium	1.7	0.65	Yes
Boron (Water Soluble)	290	0.8	Yes
Cadmium	11	<0.2	Yes
Chromium (Total)	130	33	Yes
Copper	2400	48	Yes
Hexavalent Chromium	6	<1.8	Yes
Lead	200	57	Yes
Mercury (inorganic)	40	<0.3	Yes
Nickel	180	9.8	Yes
Phenols	110	<1.0	Yes
Selenium	250	<1.0	Yes
Total Petroleum Hydrocarbons	110	35.4	Yes
Vanadium	410	43	Yes
Zinc	3700	200	Yes

Table 5.1 Summary of Chemical Analyses (Validation Inspection Visits 10/08/2023 & 26/08/2023)

The results indicated that all of the determinands tested were below the limiting concentrations set within the Remediation Strategy and Verification Plan (RSVP).

All samples were submitted for asbestos screening and returned with no asbestos fibres identified.

In addition, the results of the speciated hydrocarbon analyses were all returned as either below the laboratory detection limits or below their respective human health screening values for the proposed end use.



5.2 Validation inspection of shallow soils within private gardens (Plots 18-23)

Following the reduced dig detailed in Section 5.1, it is understood that site-won clean subsoil and Topsoil was utilised to construct the garden areas of these plots.

The inspection/validation of the shallow soils installed within the private gardens was undertaken by a Geo-Environmental Engineer on 24th June 2024 (Plots 18-21 and sampling of Topsoil awaiting spreading on Plots 22 & 23) and 8th July 2024 (Plots 22-23 following Topsoil spreading). The visual inspection records including site photographs and hand pit logs are presented in Appendix B.

Inspection comprised six shallow hand pits (HP01 to HP04, and Plot22 and Plot23) which were excavated by an Engineer from Geo-Environmental within each of the rear garden areas of Plots 18-23, to confirm the status of the shallow soils. Photographs and site inspection records taken during this inspection visit are presented in Appendix B, which confirm the depth of the installed Topsoil, along with soil logs of the material encountered. It should be noted that at the point of inspection the turf and any further soil likely associated with the turf placement had not been laid within the rear garden areas of Plots 18-21. Turf had been laid in Plots 22 and 23, but was lifted to expose the soil surface and inspection measurements did not take account of the turf on these two plots.

The inspection confirmed that in all inspected areas (hand pits HP01 to HP04, and Plot22 and Plot23) the Topsoil was found to be between 200mm and 250mm in thickness overlying subsoil within all hand pits.

Six soil samples (three of Topsoil and three of subsoil), obtained during the validation inspection and referenced HP01 at 0.60m bgl (Plot 18, subsoil), HP02 at 0.10m bgl (Plot 19, Topsoil), HP03 at 0.15m bgl (Plot 20, Topsoil), HP03 at 0.45m bgl (Plot 20, subsoil), HP04 at 0.40m bgl (Plot 21, subsoil), and T/S2 (Topsoil heap to be spread on Plots 22 & 23), were submitted to a UKAS accredited laboratory for testing for a suite of commonly occurring brownfield contaminants including asbestos screening to confirm the chemical suitability of the soils. The laboratory test results are presented within Appendix C.

The results of the analyses were compared to the Suitable for Use (S4UL) Levels and Category 4 Screening Level (C4SL) for 'private gardens with home-grown produce' (representative of the development end use), which are summarised in Table 5.2 below:

Determinand	Soil Screening Value (mg/kg)	Sample Max. Conc. (mg/kg)	Below Screening Value?
Arsenic	37	10	Yes
Benzo(a)pyrene	2.7	<0.05	Yes
Beryllium	1.7	0.56	Yes
Boron (Water Soluble)	290	0.6	Yes
Cadmium	11	<0.2	Yes
Chromium (Total)	130	26	Yes
Copper	2400	22	Yes
Hexavalent Chromium	6	<1.8	Yes
Lead	200	45	Yes
Mercury (inorganic)	40	<0.3	Yes
Nickel	180	7	Yes
Phenols	110	<1.0	Yes
Selenium	250	<1.0	Yes
Total Petroleum Hydrocarbons	110	11	Yes
Vanadium	410	42	Yes
Zinc	3700	68	Yes

Table 5.2 Summary of chemical analyses (Plots 18-23 Inspection Visit 24/06/2024)

The results indicated that all of the determinands tested were below the limiting concentrations set within the Remediation Strategy and Verification Plan (RSVP).

All samples were submitted for asbestos screening and returned with no asbestos fibres identified.

In addition, the results of the speciated hydrocarbon analyses were all returned as either below the laboratory detection limits or below their respective human health screening values for the proposed end use.

A soil sample was obtained from HP01 at 0.10m bgl (Plot 18, Topsoil) and was submitted for analysis of the soil's nutritional and soil composition, the results of which were assessed to confirm the materials suitability for Topsoil for general landscape purposes. Assessment in terms of the suitability of the soil's nutritional, physical and chemical properties has been undertaken by comparing the laboratory testing results against the criteria in Table 1 in BS3882:2015 *Specification for Topsoil*. Table 5.3 shows the instances where the soil properties fall outside the suitability criteria for a 'multipurpose Topsoil':

Determinand	BS2882 Criteria for Multipurpose Topsoil	Sample ID	Concentration / Result	Comments
Potassium	121-1500mg/l	HP01 at 0.15m	109mg/l	Result slightly below criteria

Table 5.3 Summary of soil properties outside suitability criteria for 'multipurpose Topsoil' (HP01 at 0.10m bgl, Plot 18, Topsoil)

The soils tested within the Topsoil are suitable for use in garden and landscaped areas of the site in terms of human health. The majority of the physical, nutritional and chemical properties of these soils fall within the criteria set out in BS3882 for a 'multipurpose Topsoil'.

The extractable potassium result is slightly below the range set out in BS3882 for multipurpose Topsoil. However, this marginal non-compliance is not considered to prevent the use of these soils as Topsoil.

6.0 DISCOVERY STRATEGY

A discovery strategy remains in place throughout the development works on this site. Geo-Environmental has not been made aware of any discoveries having been made to date and thus, the strategy as set out in the RSVP did not require enacting, to the best of our knowledge. However, the strategy remains in place for the remainder of the development works.

7.0 VERIFICATION

In accordance with the Client's instruction, Geo-Environmental undertook routine and independent inspection during key stages of the reduced dig process. The risk mitigation measures in relation to remedial measures, reduced dig across the former Park Farm area of the site, and shallow garden soils in Plots 18-23 have been inspected and were considered to comply with the requirements of the Remediation Strategy and Verification Plan at the point of inspection, unless specifically highlighted herein.

The verification of the reduced dig was undertaken by Geo-Environmental in part by obtaining samples of the exposed formation soils following the reduced dig. There was no visual evidence on the site to indicate that the areas remote from the sampling locations were likely to differ significantly from the areas where the samples were obtained. It has been assumed based on the data available that the results of these samples are representative of the exposed formation soils within former Park Farm area of the site.

Geo-Environmental can only verify the reduced dig works at the locations inspected at the time of site visits. Geo-Environmental accepts no liability for areas that have not been directly overseen or inspected or works that have subsequently been undertaken on the site following our inspection visits that may in any way alter or affect the validation works inspected and reported herein.

The inspection of the shallow gardens soils was undertaken by Geo-Environmental via the excavation of a selected number of hand pits. There was no visual evidence on the site to indicate that the areas remote from the pits were likely to differ significantly from the areas where the pits were located. However, the confirmation of depth and composition of Topsoil and subsoil has only been independently verified by Geo-Environmental within these hand pit locations. It has been assumed based on the data available that these hand pits are representative of the reduced dig works undertaken across required area and imported soils within the garden areas of Plots 18-23.

Geo-Environmental can only verify the installation of a cover system at the locations and depths inspected at the time of inspections. Geo-Environmental accepts no liability for areas that have not been directly overseen or inspected or works that have subsequently been undertaken on the site following our inspection visit(s) that may in any way alter or affect the validation works inspected and reported herein.

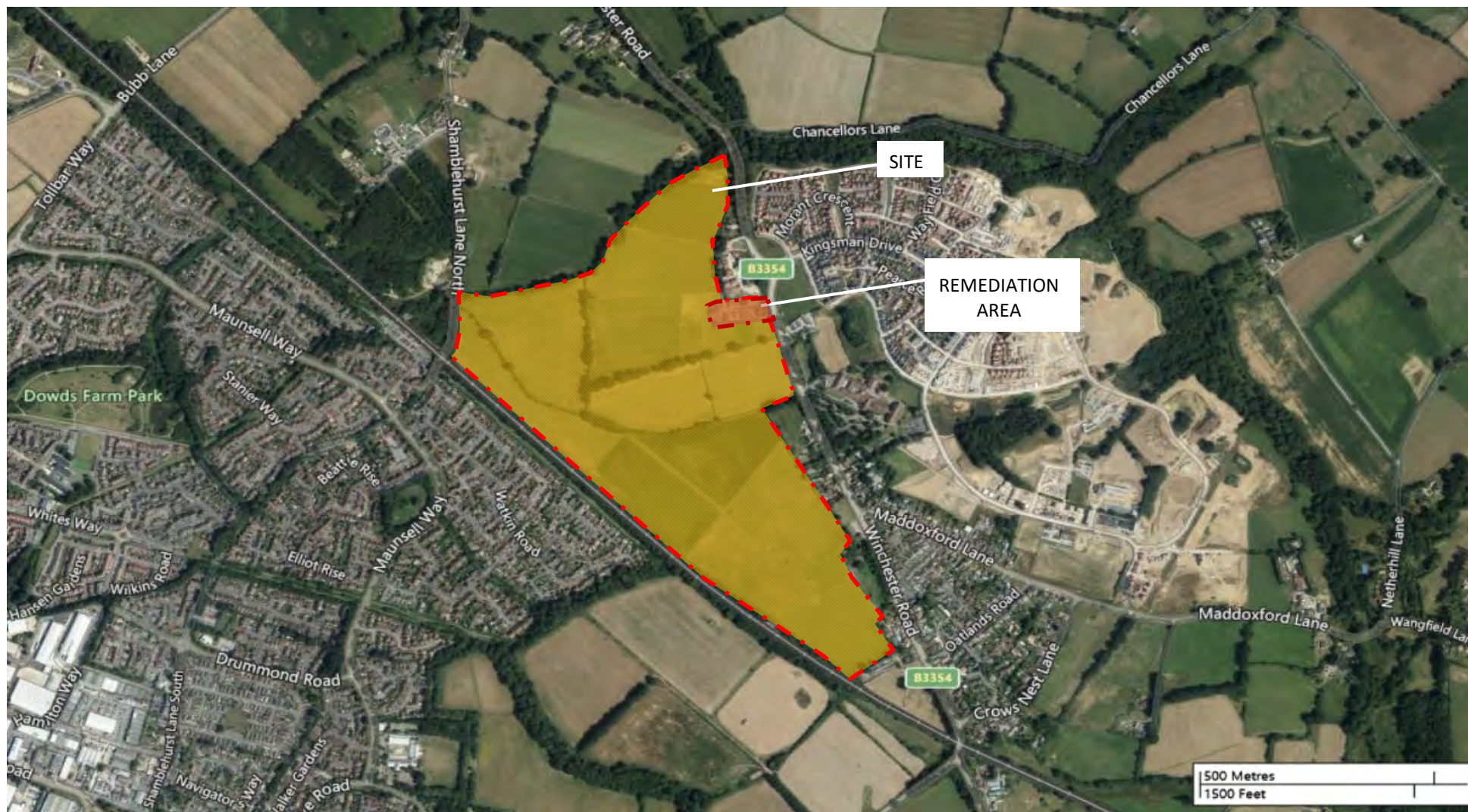
The report relates to the validation of the shallow garden soils placed within Plots 18-23. Validation with respect the remaining Plots and any other remedial measures will be presented under separate cover, or updated report, in due course.

This report remains the property of Geo-Environmental and the Client has no rights to, or reliance upon this document or supporting documents until such time as payment has been received in full for all invoices for works undertaken in connection with this report.

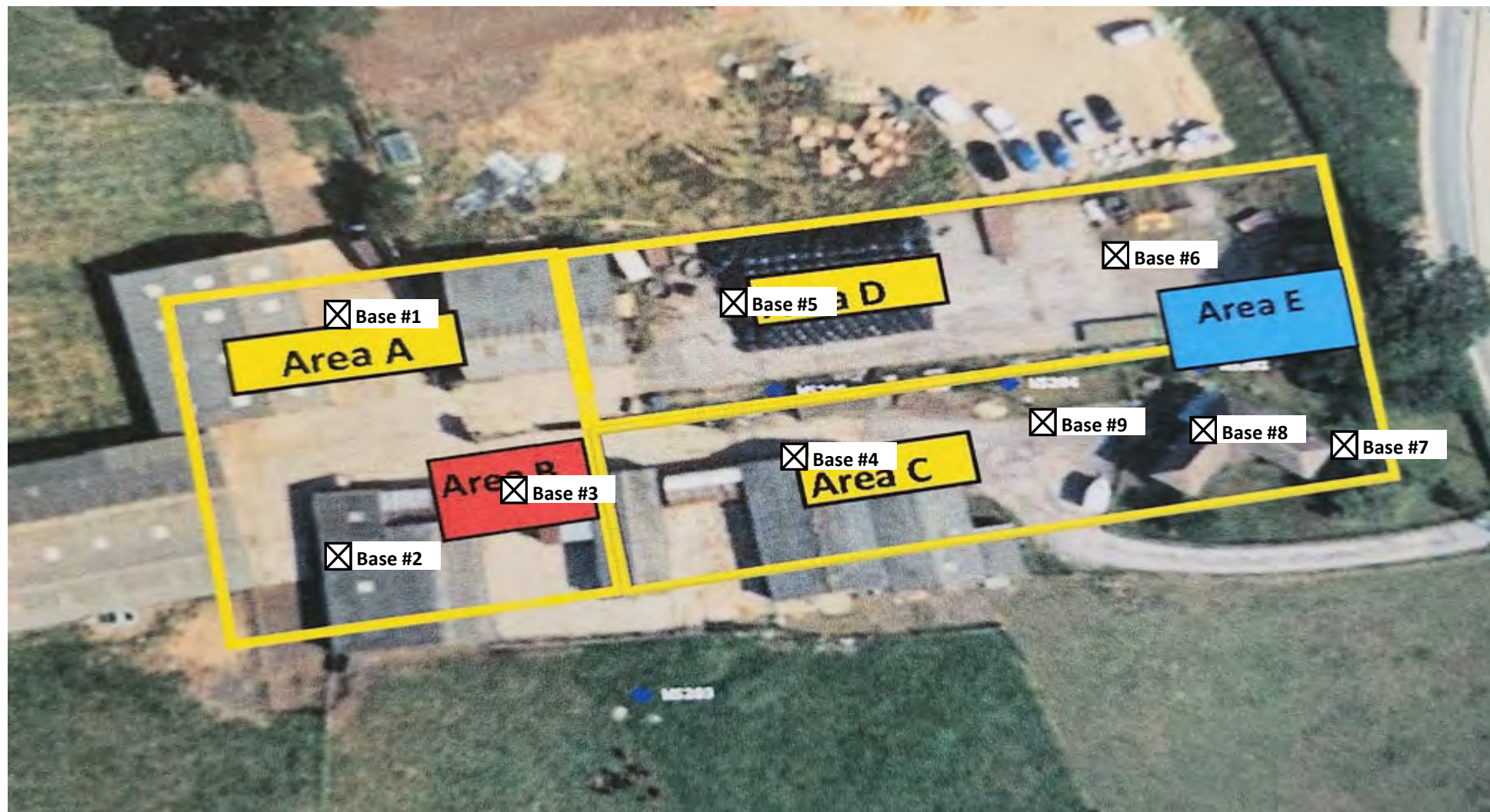


FIGURES





Project:	Boorley Gardens, Winchester Road, Hedge End			Title	Site Location Plan	
Client:	Bellway Homes & Miller Homes			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:	GE20346	Revision:	0			
Drawn:	SA	Date:	28/09/2023			
Figure:	1	Scale:	Not To Scale			



Project:	Boorley Gardens, Park Farm Area			Title	Location of Validation Samples	
Client:	Bellway Homes & Miller Homes			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:	GE20346	Revision:	0			
Drawn:	FG	Date:	26/08/2023			
Figure:	3	Scale:	Not To Scale			

APPENDIX A

Statom Remediation Validation Report



Statom Remediation Validation Report

Boorely Gardens, Winchester Road,
Southampton, SO32 2BX



STATOM GROUP
REMEDICATION • GROUNDWORKS • STRUCTURES

Table of Contents

Introduction	03
Background	03
Works completed	04
Summary	05
APPENDIX A: Site location & site setting plan	06
APPENDIX B: Site Photographs	10
APPENDIX C: Chemical Testing Results	43
APPENDIX D: Waste Transfer Notes & Hazardous Waste Consignment Notes	53
APPENDIX E: Waste Carrier Licenses and Permits	475
APPENDIX F: Alert Pro & Dust Frisbee Data	534
APPENDIX G: ITP Sign Off Sheets	584
APPENDIX H: Survey Plans	591

Factual Letter Report for the completed remediation works at Park Farm of Boorley Gardens, Southampton.

Introduction

Statom Group Ltd. (hereafter referred as 'SGL') were appointed by Jackson Rowe (the client) to carry out the remediation at a project for Park Farm at Boorely Gardens, Winchester Road, Southampton, SO32 2BX. Following the instruction from the client the works commenced on 31st July 2023 and completed within 4 weeks, ending by 31st August 2023.

This letter report covers the factual record of works completed by Statom including the procedures, equipment, and the requirement for remediation works according to the environmental supporting documents listed below.

Supporting documents	Issued date
Remediation Strategy and Verification Plan (GE20346/RSVPv4/MAR23)	March 2023
Ground Appraisal Report (GE20584/GARv2/MAR23)	March 2023
JR1-2262 Park Farm remediation DRAFT rev 3	April 2023

Background

Ground Appraisal Report by Geo-Environmental Services Ltd. (hereafter referred as 'GESL') (GE20584/GARv2/MAR23) affirmed hydrocarbon contaminations during their intrusive site investigations. Asbestos fragments were also recorded after demolition of farmyards and farmhouse. Therefore, to remove the risk to human health and the environment the land needed to be remediated. The proposed development includes residential units comprising private gardens, landscaping, and public open spaces with parking facilities. Following the site investigations, GESL were appointed to produce a Remediation Strategy and Verification Plan (GE20346/RSVPv4/MAR23) for the site. The proposed remedial works required by SGL were carried out in an area known as Parcel 1D within the greater Boorley Development. Parcel 1D has an area of approximately 2.5 ha located at National Grid Reference 450346, 115099. Appendix A Figure 1 illustrates the site location plan. SGL remedial works included excavating the made ground and soft landscaping across the site down to virgin ground (depths ranged from between 100-550 mm) and disposal offsite of the arisings following the appropriate waste classification. A detailed description of the works completed by SGL has been provided below.

Works Completed

- SGL Review of the site investigation prior to commencement of works.
- Upon the identification of key potential environmental aspects and impacts, Construction Environmental Management Plan (CEMP) was developed to propose appropriate environmental measures and mitigation measures.
- Site set up was completed (boundary fencing & signage, welfare & storage areas etc.) as shown in Appendix A Figure 2.
- Remedial works were carried out in 5 Areas/phases within Parcel 1D as illustrated in Appendix A Figure 3.
- Made ground in each area was scraped to the virgin ground which was between 150 mm and 400 mm.
- Excavated soil of each area was then stockpiled within the same phase to prevent any potential cross contaminations as shown in Appendix A Figure 3.
- Soil samples were taken by a geo-environmental engineer from these individual stockpiles and sent to an UKAS Accredited Laboratory. Results obtained are attached in Appendix C.
- Samples were scheduled for a range of determinants to aid with waste characterisation and WAC testing was scheduled on some of the representative materials to aid with disposal.
- All the excavated soil were disposed offsite using 8-wheel tippers provided by a licensed waste carriers and their Waste Carrier Licenses are shown in Appendix E.
- From the testing some of the material in Area A was identified to contain visible chrysotile asbestos fragments. This area was dampened down with water suppression and real time air monitoring set up. The material was then carefully segregated out and disposed of site to Dunton Technologies Waste Treatment Facility using an 8-wheel tipper lorry. Hazardous Waste Consignment Notes were issued during this process as shown in Appendix D. All hazardous soils removal from this area occurred on the 9th August 2023.
- Excavated soil arisings in other areas were accepted under the 17.05.04 EWC code to be disposed offsite by TJ Transports Haulage and Waste Transfer Notes (WTNs) were issued for every load removed during this process as shown in Appendix D.
- Dust monitoring was carried out using dust frisbee gauges throughout the duration of the project with reports being produced by a laboratory on a weekly basis from 4 dust frisbee locations along the site boundary as shown in Appendix A Figure 2. Dust frisbee bottle samples were tested for both dust analysis and asbestos ID.
- Real-time asbestos monitoring was also conducted during works using Alert Pro 1000. Daily reports were produced indicating the amounts of airborne fibres in the surrounding air during the monitored period. No alarms or warnings were raised by

Alert Pro 1000 which meant it was safe to carry out the works in the site. Alert Pro 1000 and dust monitoring result reports are attached in Appendix F.

- Handheld noise monitors were used daily along the site boundaries to monitor noise levels during the working day and during site activities.
- Once the made ground had been removed off site and the formation was at the natural geology, GESL were informed so they could carry out a visual assessment of each individual area and tick a sign off sheet (Appendix G)
- Inspection Test Plans (ITPs) were also completed for each area at the end of works and sign off sheets were completed by the client following the data review and approval. Sign off sheets and ITPs for area A, B, C, D, and E are attached in Appendix G.
- Surveys at the site were completed at the start of the works prior to excavation and then again at the end of the project to show the difference present the finished levels upon completion. These survey drawings can be found within Appendix H.

Summary

SGL have successfully completed the remediation requirements set out within the GESL and Jackson Rowe reports within programme, enabling the site to be handed back over to the client ready for the next phase of development. The risk to human health of workers and future occupiers of the site along with contamination risks posed to the surrounding environment has been greatly reduced following the remedial works carried out by Statom Group.

If you have any questions regarding the works completed by Statom or the information contained within this report, please do not hesitate to get in contact.

Yours Sincerely

Ishara Shiromi

Graduate Remediation Engineer

ishara.shiromi@statom.co.uk

Approved by

Michael Gillman

Group Environmental Manager

michael.gillman@statom.co.uk

APPENDIX A

Site location & site setting plan



Figure 1: Site location plan



Figure 2: Location of different installations within the site plan



Figure 3: Soil and tarmac sampling locations within different areas

Appendix B

Site Photographs

Statom Group Limited

Statom House, 795 London Road, Grays, Essex, RM20 3LH

Tel: 01708 222 777

www.statom.co.uk

Registered in England and Wales

Company No: 8785228 VAT 177634867

ST176 Park Farm QA - ITP photo Library of Pre-Site Photos Areas A-E



ST176 Park Farm QA - ITP photo Library of Pre-Site Photos Areas A-E



ST176 Park Farm QA - ITP photo Library of Pre-Site Photos Areas A-E



ST176 Park Farm QA - ITP photo Library of Pre-Site Photos Areas A-E



ST176 Park Farm QA - ITP photo Library of Pre-Site Photos Areas A-E



ST176 Park Farm QA - ITP photo Library of Pre-Site Photos Areas A-E



ST176 Park Farm QA - ITP photo Library of Area A RLD back to Virgin ground



ST176 Park Farm QA - ITP photo Library of Area A RLD back to Virgin ground



ST176 Park Farm QA - ITP photo Library of Area A RLD back to Virgin ground



ST176 Park Farm QA - ITP photo Library of Area A RLD back to Virgin ground



ST176 Park Farm QA - ITP photo Library of Area A RLD back to Virgin ground



ST176 Park Farm QA - ITP photo Library of Area A RLD back to Virgin ground



ST176 Park Farm QA - ITP photo Library of Area A RLD back to Virgin ground



ST176 Park Farm QA - ITP photo Library of Area A RLD back to Virgin ground



ST176 Park Farm QA – ITP of the Asbestos removal from Area B



ST176 Park Farm QA – ITP of the Asbestos removal from Area B



ST176 Park Farm QA – ITP of the Asbestos removal from Area B





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm QA - ITP photo Library of Area C RLD back to Virgin ground





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm QA - ITP photo Library of Area C RLD back to Virgin ground





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm QA - ITP photo Library of Area C RLD back to Virgin ground





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm QA - ITP photo Library of Area C RLD back to Virgin ground





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm QA - ITP photo Library of Area D RLD back to Virgin ground





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm QA - ITP photo Library of Area D RLD back to Virgin ground





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm QA - ITP photo Library of Area D RLD back to Virgin ground





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm QA - ITP photo Library of Area D RLD back to Virgin ground





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm QA - ITP photo Library of Area E remove Tarmac Entrance back to Virgin ground.





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

**ST176 Park Farm QA - ITP photo Library of Area E remove Tarmac Entrance
back to Virgin ground.**





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

**ST176 Park Farm QA - ITP photo Library of Area E remove Tarmac Entrance
back to Virgin ground.**





STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

**ST176 Park Farm QA - ITP photo Library of Area E remove Tarmac Entrance
back to Virgin ground.**



ST176 Park Farm QA - ITP photo Library of Soil Samples taken for testing.

ST176 Boorley Gardens Area 1 D Soil and Tarmac samples locations



ST176-SSL-Rev-01

02/08/2023

STATOM Group Ltd

ST176 Park Farm QA - ITP photo Library of Soil Samples taken for testing.



ST176 Park Farm QA - ITP photo Library of Soil Samples taken for testing.



Appendix C

Chemical Testing Results

Statom Group Limited

Statom House, 795 London Road, Grays, Essex, RM20 3LH

Tel: 01708 222 777

www.statom.co.uk

Registered in England and Wales

Company No: 8785228 VAT 177634867



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618

cs@elab-uk.co.uk
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 23-49330

Issue: 1

Date of Issue: 14/08/2023

Contact: Michael Gillman

Customer Details: Statom Group Ltd
Statom House
795 London Road
Grays
EssexRM20 3LH

Quotation No: Q23-03838

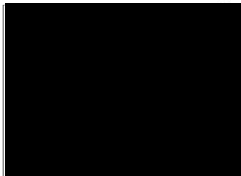
Order No: 176-60185 LR

Customer Reference: Not Supplied

Date Received: 02/08/2023

Date Approved: 14/08/2023

Details: Boorelv Green

Approved by: 

Graham Knight, Lab Manager

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

This report may only be reproduced in full



Sample Summary

Report No.: 23-49330, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
333203	1	31/07/2023	02/08/2023	Sandy silty loam	
333204	2	31/07/2023	02/08/2023	Sandy silty loam	
333205	3	31/07/2023	02/08/2023	Silty loam	
333206	4	31/07/2023	02/08/2023	Silty loam	
333207	5	31/07/2023	02/08/2023	Sandy silty loam	
333208	6	31/07/2023	02/08/2023	Tarmac	c

Results Summary

Report No.: 23-49330, issue number 1

ELAB Reference				333203	333204	333205	333206	333207	333208
Customer Reference									
Sample ID									
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				1	2	3	4	5	6
Sample Depth (m)									
Sampling Date				31/07/2023	31/07/2023	31/07/2023	31/07/2023	31/07/2023	31/07/2023
Determinand	Codes	Units	LOD						
Soil sample preparation parameters									
Moisture Content	N	%	0.1	10.8	7.8	11.3	15.2	13.2	0.6
Material removed	N	%	0.1	9.6	8.4	18.2	39.5	16.6	< 0.1
Description of Inert material removed	N		0	Stones	Stones	Stones	Stones	Stones	All Tar
Metals									
Arsenic	M	mg/kg	0.5	37.7	23.3	14.6	10.2	7.9	^ 8.1
Cadmium	M	mg/kg	0.2	1.7	1.5	1.5	0.9	0.6	^ 0.9
Chromium	M	mg/kg	1	30.1	27.1	28.8	25.5	20.2	^ 12.8
Copper	M	mg/kg	4	48.7	23.9	21.5	49.5	14.4	^ 14.5
Lead	M	mg/kg	1	105	68.8	110	140	72.2	^ 28.9
Mercury	M	mg/kg	0.1	0.2	< 0.1	0.1	0.1	0.1	^ < 0.1
Nickel	M	mg/kg	1	18.3	14.1	15.7	13.5	6.8	^ 11.3
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	^ < 1.0
Zinc	M	mg/kg	4.5	191	150	120	199	59.9	^ 86.2
Miscellaneous									
pH	M	pH units	0.1	10.0	9.1	8.4	8.7	8.1	^ 9.0
Total Organic Carbon	N	%	0.01	2.8	0.62	n/t	n/t	n/t	n/t
Polyaromatic hydrocarbons									
Total (of 17) PAHs	N	mg/kg	2	15	< 2	n/t	n/t	n/t	n/t
Naphthalene GCMS	N	mg/kg	0.01	0.03	< 0.01	0.07	< 0.01	0.01	c 0.02
Acenaphthylene GCMS	N	mg/kg	0.01	0.03	< 0.01	0.03	0.02	< 0.01	c 0.06
Acenaphthene GCMS	N	mg/kg	0.01	0.03	< 0.01	0.09	< 0.01	< 0.01	c 0.10
Fluorene GCMS	N	mg/kg	0.01	0.02	< 0.01	0.08	0.02	< 0.01	c 0.15
Phenanthrene GCMS	N	mg/kg	0.01	0.21	0.07	0.49	0.22	0.04	c 1.87
Anthracene GCMS	N	mg/kg	0.01	0.09	0.04	0.23	0.08	0.02	c 0.55
Fluoranthene GCMS	N	mg/kg	0.01	0.66	0.25	0.92	0.44	0.09	c 4.96
Pyrene GCMS	N	mg/kg	0.01	0.60	0.26	0.76	0.38	0.08	c 4.03
Benzo(a)anthracene GCMS	N	mg/kg	0.01	0.36	0.13	0.55	0.15	0.03	c 2.07
Chrysene GCMS	N	mg/kg	0.01	0.59	0.22	0.91	0.23	0.08	c 2.80
Benzo(b)fluoranthene GCMS	N	mg/kg	0.01	0.93	0.22	1.18	0.21	0.05	c 2.23
Benzo(k)fluoranthene GCMS	N	mg/kg	0.01	0.86	0.27	0.99	0.25	0.06	c 1.96
Benzo(a)pyrene GCMS	N	mg/kg	0.01	1.07	0.30	1.21	0.21	0.06	c 2.51
Indeno(1,2,3-cd)pyrene GCMS	N	mg/kg	0.01	1.00	0.20	0.83	0.12	0.04	c 1.43
Dibenzo(a,h)anthracene GCMS	N	mg/kg	0.01	0.27	0.05	0.26	0.04	0.01	c 0.34
Benzo(g,h,i)perylene GCMS	N	mg/kg	0.01	1.27	0.27	0.90	0.17	0.05	c 1.66
Total PAH(16) GCMS	N	mg/kg	0.04	8.02	2.31	9.49	2.56	0.62	c 26.7

Results Summary

Report No.: 23-49330, issue number 1

ELAB Reference				333203	333204	333205	333206	333207	333208
Customer Reference									
Sample ID									
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				1	2	3	4	5	6
Sample Depth (m)									
Sampling Date				31/07/2023	31/07/2023	31/07/2023	31/07/2023	31/07/2023	31/07/2023
Determinand	Codes	Units	LOD						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	c^ < 10.0
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	c^ < 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	c^ < 10.0
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	c^ < 10.0
MTBE	U	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	c < 10.0
Total BTEX	U	mg/kg	0.01	< 0.01	< 0.01	n/t	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic (HS_1D_MS)	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	c < 0.01
>C6-C8 Aliphatic (HS_1D_MS)	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	c < 0.01
>C8-C10 Aliphatic (EH_CU_1D_AL)	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	c < 1.0
>C10-C12 Aliphatic (EH_CU_1D_AL)	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	c < 1.0
>C12-C16 Aliphatic (EH_CU_1D_AL)	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	c 1.3
>C16-C21 Aliphatic (EH_CU_1D_AL)	N	mg/kg	1	2.7	< 1.0	3.3	1.1	< 1.0	c 76.1
>C21-C35 Aliphatic (EH_CU_1D_AL)	N	mg/kg	1	82.0	28.1	40.4	22.8	3.6	c 4100
>C35-C40 Aliphatic (EH_CU_1D_AL)	N	mg/kg	1	54.2	17.0	16.9	8.2	2.1	c 1190
Total (>C5-C40) Aliphatic (HS_1D_MS+EH_CU_1D_AL)	N	mg/kg	1	139	45.1	60.6	31.0	5.7	c 5370
>C5-C7 Aromatic (HS_1D_MS)	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	c < 0.01
>C7-C8 Aromatic (HS_1D_MS)	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	c < 0.01
>C8-C10 Aromatic (EH_CU_1D_AR)	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	c < 1.0
>C10-C12 Aromatic (EH_CU_1D_AR)	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	c < 1.0
>C12-C16 Aromatic (EH_CU_1D_AR)	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	c 1.8
>C16-C21 Aromatic (EH_CU_1D_AR)	N	mg/kg	1	2.7	1.1	3.7	< 1.0	< 1.0	c 40.9
>C21-C35 Aromatic (EH_CU_1D_AR)	N	mg/kg	1	219	73.1	79.4	23.3	7.7	c 1100
>C35-C40 Aromatic (EH_CU_1D_AR)	N	mg/kg	1	188	50.4	44.9	13.9	5.4	c 663
Total (>C5-C40) Aromatic (HS_1D_MS+EH_CU_1D_AR)	N	mg/kg	1	409	125	128	37.1	13.1	c 1810
Total (>C5-C40) Ali/Aro (HS_1D_MS+EH_CU_1D_Total)	N	mg/kg	1	548	170	189	68.1	18.8	c 7180
Total Petroleum Hydrocarbons									
Mineral Oil w Florisil (EH_CU_1D_Total)	N	mg/kg	5	95	44	n/t	n/t	n/t	n/t
PCB (ICES 7 congeners)									
Total PCBs (7 congeners)	N	mg/kg	0.03	< 0.03	< 0.03	n/t	n/t	n/t	n/t

Results Summary

Report No.: 23-49330, issue number 1

WAC Analysis

Elab Ref:	333204					Landfill Waste Acceptance Criteria Limits*		
Sample Date:	31/07/2023					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	2							
Depth (m)								
Site:	Boorely Green							
Determinand		Code	Units					
Total Organic Carbon		N	%		0.62	3	5	6
Loss on Ignition		M	%			--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		N	mg/kg		< 0.03	1	--	--
TPH Total WAC (EH_CU_1D_Total)		N	mg/kg		44	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			9.1	--	>6	--
Acid Neutralisation Capacity		N	mol/kg			--	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	0.020	0.20	0.5	2	25
Barium		N	0.037	0.37	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	9	86.90	1000	20000	50000
Total Dissolved Solids		N	78	780.00	4000	60000	100000
Phenol Index		N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon		N		85.00	500	800	1000

Leach Test Information

pH		N	8.4				
Conductivity (uS/cm)		N	116				
Dry mass of test portion (g)			102.000				
Dry Matter (%)			94				
Moisture (%)			6				
Eluent Volume (ml)			986				

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

* Stated limits are for guidance only, and not for conformity assessment.

Results Summary

Report No.: 23-49330, issue number 1

WAC Analysis

Elab Ref:	333203					Landfill Waste Acceptance Criteria Limits*		
Sample Date:	31/07/2023					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	1							
Depth (m)								
Site:	Boorely Green							
Determinand		Code	Units					
Total Organic Carbon		N	%		2.80	3	5	6
Loss on Ignition		M	%			--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		N	mg/kg		< 0.03	1	--	--
TPH Total WAC (EH_CU_1D_Total)		N	mg/kg		95	500	--	--
Total (of 17) PAHs		N	mg/kg		15.0	100	--	--
pH		M			10.0	--	>6	--
Acid Neutralisation Capacity		N	mol/kg			--	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	0.012	0.12	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	21	213.00	1000	20000	50000
Total Dissolved Solids		N	100	999.00	4000	60000	100000
Phenol Index		N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon		N		82.00	500	800	1000

Leach Test Information

pH		N	8.0				
Conductivity (uS/cm)		N	149				
Dry mass of test portion (g)			101.000				
Dry Matter (%)			90				
Moisture (%)			12				
Eluent Volume (ml)			979				

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

* Stated limits are for guidance only, and not for conformity assessment.



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

Tel: +44 (0)1424 718618, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

Results Summary

Report No.: 23-49330, issue number 1

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 (%)
333203		1	Brown Sandy Soil, Stones	No asbestos detected	n/t	n/t	n/t	n/t
333204		2	Brown Sandy Soil, Stones, Tar, Concrete	No asbestos detected	n/t	n/t	n/t	n/t
333205		3	Brown Sandy Soil, Stones, Brick	No asbestos detected	n/t	n/t	n/t	n/t
333206		4	Brown Sandy Soil, Stones, Brick, Concrete	Amosite (Fibre Bundles)	n/t	n/t	n/t	n/t
333207		5	Brown Sandy Soil, Stones,	No asbestos detected	n/t	n/t	n/t	n/t
333208		6	Stones, tar	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 23-49330, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
PAH (GC-MS)	N	As submitted sample	03/08/2023		GC-MS
pH	M	Air dried sample	04/08/2023	113	Electromeric
Low range Aliphatic hydrocarbons soil	N	As submitted sample	04/08/2023	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	04/08/2023	181	GC-MS
Aliphatic hydrocarbons in soil	N	As submitted sample	03/08/2023	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	07/08/2023	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	07/08/2023	214	GC-FID
Asbestos identification	U	Air dried sample	03/08/2023	281	Microscopy
Aqua regia extractable metals	M	Air dried sample	04/08/2023	300	ICPMS
Leachate					
Arsenic	N		14/08/2023	301	ICPMS
Cadmium	N		14/08/2023	301	ICPMS
Chromium	N		14/08/2023	301	ICPMS
Lead	N		14/08/2023	301	ICPMS
Nickel	N		14/08/2023	301	ICPMS
Copper	N		14/08/2023	301	ICPMS
Zinc	N		14/08/2023	301	ICPMS
Mercury	N		14/08/2023	301	ICPMS
Selenium	N		14/08/2023	301	ICPMS
Antimony	N		14/08/2023	301	ICPMS
Barium	N		14/08/2023	301	ICPMS
Molybdenum	N		14/08/2023	301	ICPMS
pH Value	N		14/08/2023	113	Electrometric
Electrical Conductivity	N		14/08/2023	136	Probe
Dissolved Organic Carbon	N		14/08/2023	102	TOC analyser
Chloride	N		14/08/2023	270	Ion Chromatography
Fluoride	N		14/08/2023	270	Ion Chromatography
Sulphate	N		14/08/2023	270	Ion Chromatography
Total Dissolved Solids	N		14/08/2023	144	Gravimetric
Phenol index	N		14/08/2023	121	HPLC
WAC Solids analysis	N				
Total Organic Carbon	N	Air dried sample	04/08/2023	210	IR
Total BTEX	M	As submitted sample	04/08/2023	181	GCMS
Mineral Oil (EH_CU_1D_Total)	N	As submitted sample	03/08/2023	117	GCFID
Total PCBs (7 congeners)	N	Air dried sample	04/08/2023	120	GCMS
Total (of 17) PAHs	N	As submitted sample	04/08/2023	133	GCFID

Tests marked N are not UKAS accredited

Report Information

Report No.: 23-49330, issue number 1

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"
LOD	LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination. Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed. ELAB are unable to provide an interpretation or opinion on the content of this report. The results relate only to the sample received. PCB congener results may include any coeluting PCBs Uncertainty of measurement for the determinands tested are available upon request Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

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

TPH Classification - HWOL Acronym System

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

Appendix E

Waste Carrier Licenses and Permits

Statom Group Limited

Statom House, 795 London Road, Grays, Essex, RM20 3LH

Tel: 01708 222 777

www.statom.co.uk

Registered in England and Wales

Company No: 8785228 VAT 177634867



Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

T J Transport Limited

Butser Hill Quarry

London Road

Buriton

East Hampshire

GU31 5SP

Permit number

EPR/KB3305CU

Butser Hill Quarry

Permit number EPR/KB3305CU

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

The use of suitable imported inert waste materials for the restoration of the site to create an area of land that will form an extension to the adjacent Queen Elizabeth Country Park (QECF). The site will be restored in a series of five phases where secondary aggregate recycling, chalk extraction and restoration by clean inert waste will take place simultaneously.

The restoration of the site will require approximately 1,149,000 tonnes of imported inert waste and 31,000 tonnes of topsoil. The site will accept up to 300,000 tonnes per annum (tpa).

The existing physical treatment activity associated with this site will be consolidated with the deposit for recovery activity into a single permit.

If you need to deploy mobile plant under a mobile plant permit at a site that is subject to a site based permit to enable you to complete the recovery activity, there will be inconsistencies between the requirements of the two permits and, in this situation, those of the site based permit prevail. Therefore you must be able to deliver the desired recovery activity through use of this permit alone, without relying upon the subsequent use of a separate mobile plant permit.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application EPR/KB3305CU/A001	Duly made 02/11/22	Application for a deposit for recovery activity permit.
Additional information received	16/01/23	Waste Acceptance Procedure, Hydrogeological Risk Assessment, Stability Risk Assessment and Dust Emissions Management Plan.
Additional information received	24/03/23	Waste Acceptance Procedure, Hydrogeological Risk Assessment and Stability Risk Assessment.
Additional information received	06/04/23	Hydrogeological Risk Assessment cross-section drawing.
Permit determined EPR/KB3305CU	16/06/23	Permit issued to T J Transport Limited.

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/KB3305CU

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

T J Transport Limited ("the operator"),

whose registered office is

**Charity Farm
127 Wickham Road
Fareham
Hampshire
PO17 5BP**

company registration number 02889704

to operate waste operations at

**Butser Hill Quarry
London Road
Buriton
East Hampshire
GU31 5SP**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Claire Roberts	16/06/2023

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Avoidance, recovery and disposal of wastes produced by the activities

- 1.2.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.2.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1, table S1.1 (the 'activities').

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ('plan') specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Waste acceptance

- 2.5.1 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2, table S2.1;
 - (b) it has been identified as a suitable waste in the approved waste recovery plan;
 - (c) its chemical, physical and biological characteristics make it suitable for its intended use on the site; and
 - (d) it fulfils the approved waste acceptance criteria; and
 - (e) all the approved waste acceptance procedures have been completed; and
 - (f) it conforms to the description in the documentation supplied by the producer and holder; and
 - (g) It is not waste consisting solely or mainly of dusts, powders or loose fibres; and
 - (h) It is not hazardous wastes; and
 - (i) It is not waste in liquid form.
- 2.5.2 The operator shall:
- (a) visually inspect without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the site and waste at the point of deposit; and
 - (b) be satisfied that the waste conforms to the requirements of condition 2.5.1.
- 2.5.3 The total quantity of waste that shall be deposited under the permit shall be limited by the final levels shown on the final levels contour plan referenced in schedule 1 table S1.2.

2.6 Site Engineering

- 2.6.1 No construction of site engineering in the area for waste deposit shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.6.2 The construction of site engineering in the area for waste deposit shall take place only in accordance with the approved construction proposals unless:
- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or all the approved waste acceptance procedures have been completed; or

- (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.6.3 The operator shall submit a CQA Validation Report to the Environment Agency within 4 weeks following the construction of the area for deposit.
- 2.6.4 No waste shall be recovered in the area for waste deposit until the operator has submitted a CQA Validation Report and the Environment Agency has confirmed that it is satisfied with the CQA Validation Report.
- 2.6.5 No construction of site infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.6.6 The construction of the site infrastructure shall take place only in accordance with the approved construction proposals unless:
 - (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
 - (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.6.7 The operator shall submit a CQA Validation Report within 4 weeks following the construction of the site infrastructure.
- 2.6.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.6.1 and 2.6.5 do not apply and the relevant site infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.
- 2.6.9 For the purposes of conditions 2.6.1, 2.6.4 and 2.6.5, the Environment Agency shall be deemed to be satisfied where it has not, within the period of 4 weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:
 - (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.
- 2.6.10 Where the Environment Agency has required further information under condition 2.6.9(b), the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:
 - (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.

3 Emissions and monitoring

3.1 Emissions of substances not controlled by emission limits

- 3.1.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.1.2 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.2 Noise and vibration

- 3.2.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the

operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.3 Monitoring

3.3.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

- (a) Groundwater specified in table S3.1; and
- (b) Ground gas specified in table S3.2.

3.3.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.3.3 The operator shall undertake a topographical survey of the site referenced to ordnance datum that shall be used to produce a plan of a scale adequate to show the surveyed features of the site:

- (a) prior to commencement of the recovery activity; and
- (b) on completion of the recovery activity to show final waste levels.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made or, in the case of the following records, until permit surrender:
 - (i) off-site environmental effects;
 - (ii) matters which affect the condition of the land and groundwater;
 - (iii) waste types and quantities;
 - (iv) the results of groundwater monitoring; and
 - (v) the results of ground gas monitoring.

4.1.2 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery, origin and the identity of the carrier and producer of any

waste that is received for recovery. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

- 4.1.3 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 Within one month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.2 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall submit the topographical survey plans required by condition 3.3.3 (a) and (b) to the Environment Agency within one month of the completion of the survey.

4.3 Notifications

- 4.3.1 In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
- (a) inform the Environment Agency,
 - (b) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (c) take the measures necessary to prevent further possible incidents or accidents;
- 4.3.2 In the event of a breach of any permit condition the operator must immediately—
- (a) inform the Environment Agency, and
 - (b) take the measures necessary to ensure that compliance is restored within the shortest possible time.
- 4.3.3 In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.4 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.5 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.6 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.7 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.8 The operator shall notify the Environment Agency in writing:

- (a) at least 14 days before the commencement of the recovery activity;
- (b) within 14 days of completion of the recovery activity.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made 'immediately', in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities	
Description of activities for waste operations	Limits of activities
R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Secure storage of wastes listed in Table S2.1 for the purpose of recovery. Storage of wastes listed in Table S2.1 shall be limited to three years.
R5: Recycling/reclamation of other inorganic compounds	Use of waste types specified in Table S2.1 for the purposes of construction work and/or restoration, reclamation or improvement of land. The total quantity of waste used shall not exceed the amount needed to complete the recovery operation to the final levels in the approved Waste Recovery Plan. The waste types accepted shall be limited to the waste types specified in Table S2.1, which are included in the approved Waste Recovery Plan. Waste types 17 05 04 and 01 04 09 only (suitable clay or till) shall be used in the construction of the attenuation layer. The activities shall be carried out in accordance with the approved Waste Recovery Plan.
R10: Land treatment resulting in benefit to agriculture or ecological improvement	Use of waste to create a final growth layer. Topsoils and peat (included for waste types 17 05 04 and 20 02 02) shall be used in R10 activities only. The use of these waste types shall be limited to the final 300mm of the scheme and shall be used to provide a growing medium only.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	Approved Waste Recovery Plan document (reference: 416.00492.00050, Version 1, April 2020) in response to section 1c of Part B4 of the application form.	26/03/21
Application	Hydrogeological Risk Assessment document (reference: 416.00492.00050/HRA, Version 3, March 2023).	24/03/23
Application	Stability Risk Assessment (reference: 416.00492.00050, Version 1, August 2021).	24/03/23
Application	Final levels contour plan (Final Restoration Scheme Illustrative Phase 5, Drawing 013, Revision 02, March 2021).	26/03/21
Application	Waste acceptance criteria (Waste Acceptance Procedure, reference 416.00492.00050, Version 1 March 2023).	24/03/23

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	Approved Dust Emissions Management Plan (reference: 416.00492.00050, Version 1, August 2021).	16/01/23
Application	Agreement email, dated 06/06/23, to Environment Agency letter of advisories for Construction Quality Assurance Plan, dated 03/05/23.	06/06/23

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	The operator shall prepare a written report which shall include: • A full review of groundwater quality data for the substances and boreholes detailed in table S3.1; • The proposed amendments for borehole limits, specifically with regards to the groundwater control and compliance limits at New DG BH, shall be derived from a suitable number of monitoring rounds, to demonstrate the seasonal variations. Up hydraulic gradient quality data can also be included in the report; and • The electronic data showing derivation of amended limits. The Operator shall submit the report to the Environment Agency for the Environment Agency's written approval.	09/12/23

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Permitted waste types and quantities for use of waste in deposit for recovery	
Maximum quantity	The total quantity of waste accepted at the site shall be less than 300,000 tonnes per year. The total quantity of waste to be accepted at the site shall not exceed 654,333 m ³
Waste code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those containing dangerous substances
01 04 09	waste sand and clays
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	minerals (for example sand, stones) from the treatment of waste aggregates that are otherwise naturally occurring minerals - excludes fines from treatment of any non-hazardous waste or gypsum from recovered plasterboard.
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones

Schedule 3 – Emissions and monitoring

Table S3.1 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
BH01, BH04 and new DG BH (down gradient)	Sulphate	75mg/l	Spot Sample	Quarterly	In accordance with; BS ISO 5667-11:2009, BS 6068-6.11:2009
	Nickel	0.005mg/l			
	Lead	0.004mg/l			
	Arsenic (III) and (V)	0.005mg/l			
	Benzene	0.001mg/l			
BH01, BH02, BH03, BH04 and new DG BH	Groundwater level (mAOD), Electrical conductivity, Chloride, Ammoniacal nitrogen, pH	No limit	Spot Sample	Quarterly	In accordance with; BS ISO 5667-11:2009, BS 6068-6.11:2009
	Total alkalinity Magnesium, Potassium, Calcium, Sodium, Chromium, Copper, Iron, Zinc, Manganese, Selenium, Cyanide	No limit	Spot Sample	Annually	
	Mercury, BTEX, Benzo(a)pyrene, PCBs, PAH's and Mineral Oil	No limit	Spot Sample	Annual for first 6 years then every 2 years	
BH02 and BH03	Sulphate, Lead and Nickel	No limit	Spot Sample	Annually	In accordance with; BS ISO 5667-11:2009, BS 6068-6.11:2009
	Arsenic and Benzene	No limit	Spot Sample	Annual for first six years then every two years	

Table S3.2 Ground gas - monitoring requirements				
Location or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
All in-waste boreholes identified on Environmental Monitoring Plan, Drawing 07	Methane, carbon dioxide, oxygen	Monthly	-	-

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data		
Parameter	Reporting period	Period ends
Groundwater monitoring Parameters as required by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Ground gas monitoring Parameters as required by schedule 3, table S3.2	Every 3 months	31 March, 30 June, 30 September, 31 December

Table S4.2 Reporting forms		
Media/parameter	Reporting format	Date of form
Groundwater	Form Groundwater 1 or other form as agreed in writing by the Environment Agency	16/06/23
Ground gas	Form Gas 1 or other form as agreed in writing by the Environment Agency	16/06/23
Topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	-

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any incident or accident which significantly affects or may significantly affect the environment	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

‘accident’ means an accident that may result in pollution.

‘Annex I’ means Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

‘Annex II’ means Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

‘application’ means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

‘authorised officer’ means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

‘Construction Proposals’ means written information, at a level of detail appropriate to the complexity and pollution risk, on the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the site or new phase of the site.

‘CQA Validation Report’ means the final ‘as built’ construction and engineering details of the area of the site for deposit or of the Site Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;
- ‘As-built’ plans and sections of the works;
- Copies of the site engineer’s daily records;
- Records of any problems or non-compliances and the solution applied;
- Any other site specific information considered relevant to proving the integrity of the engineering of the site or new Phase of the site or Site Infrastructure;
- Validation by a qualified person that all of the construction has been carried out in accordance with the Construction Proposals.

‘emissions of substances not controlled by emission limits’ means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

‘groundwater’ means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

‘List of Wastes’ means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

‘inert waste’ means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity

of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater

‘No impact’ means that the change made to the construction process will not affect the agreed design criteria, specification or performance in a way that has a negative effect.

‘quarter’ means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

‘R’ means a recovery operation provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

‘Site infrastructure’ means any specified element of the:

- groundwater monitoring boreholes;
- ground gas monitoring boreholes;

within the site.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

‘Waste Framework Directive’ or ‘WFD’ means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

‘year’ means calendar year ending 31 December.

When the following terms appear in the waste code list in Schedule 2, table S2.1, for that table, they have the meaning given below:

“hazardous substance” means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008.

“heavy metal” means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances.

“PCBs” means

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight.

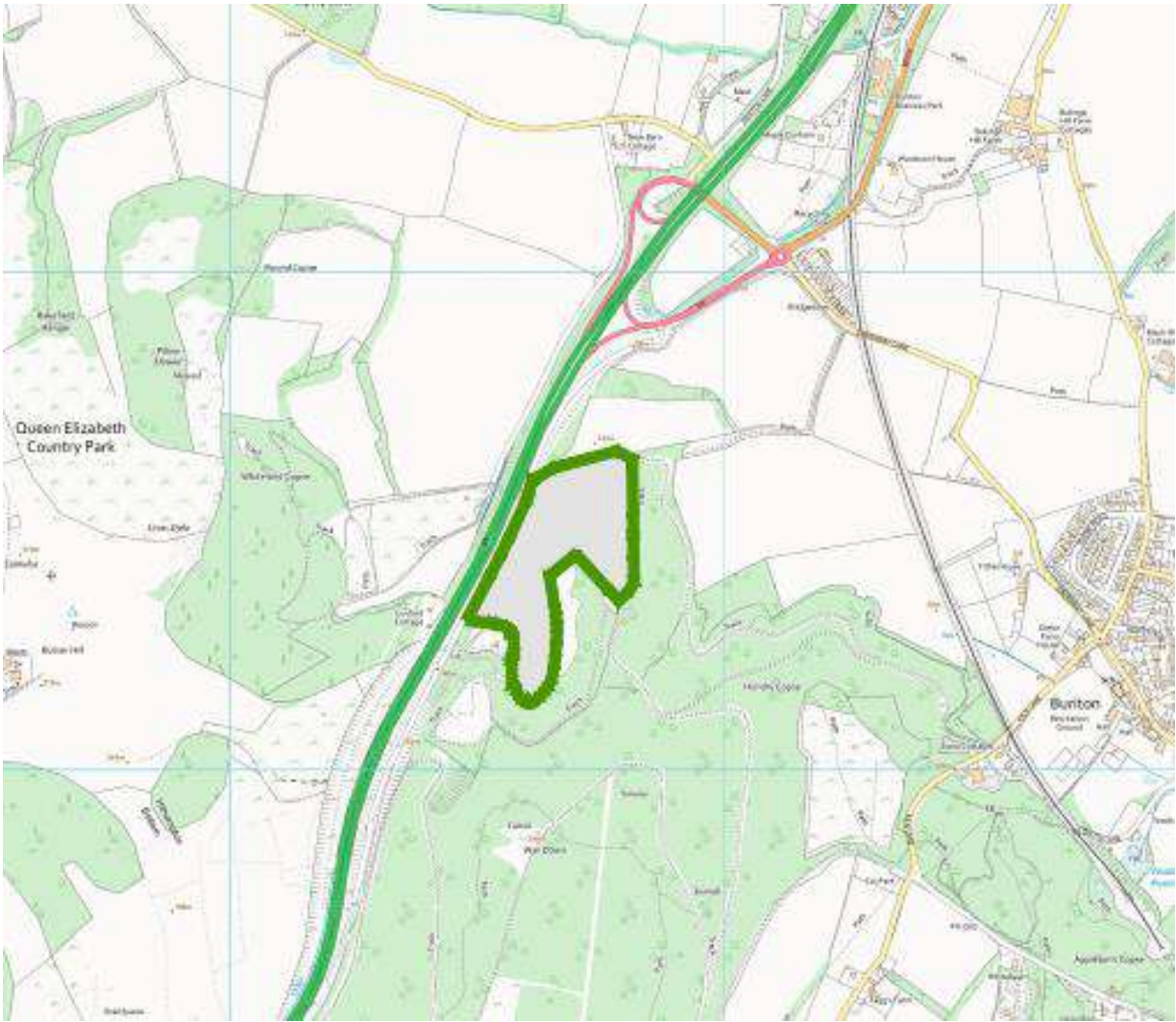
“transition metals” means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances.

“stabilisation” means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste.

“solidification” means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste.

“partly stabilised wastes” means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

Schedule 7 – Site plan





©Crown Copyright. All rights reserved. Environment Agency, 100024198, 2023.

END OF PERMIT

Permit

The Environmental Permitting (England & Wales) Regulations 2010

Mr Graham Moyse

Down Barn Farm Industrial Park
Boarhunt Road
Fareham
Hampshire
PO17 6AJ

Permit number
EPR/MB3037AX

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit

Permit number

EPR/MB3037AX/A001

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

Graham Moyse ("the operator"),

of

**Greenhill Cottage,
Spurlings Road,
Fareham,
Hampshire,
PO17 6AA**

to operate the *waste operations* described in standard rules **SR2010No12** at

**Down Barn Farm Industrial Park
Boarhunt Road
Fareham
Hampshire
PO17 6AJ**

to the extent authorised by and subject to the conditions of this permit.

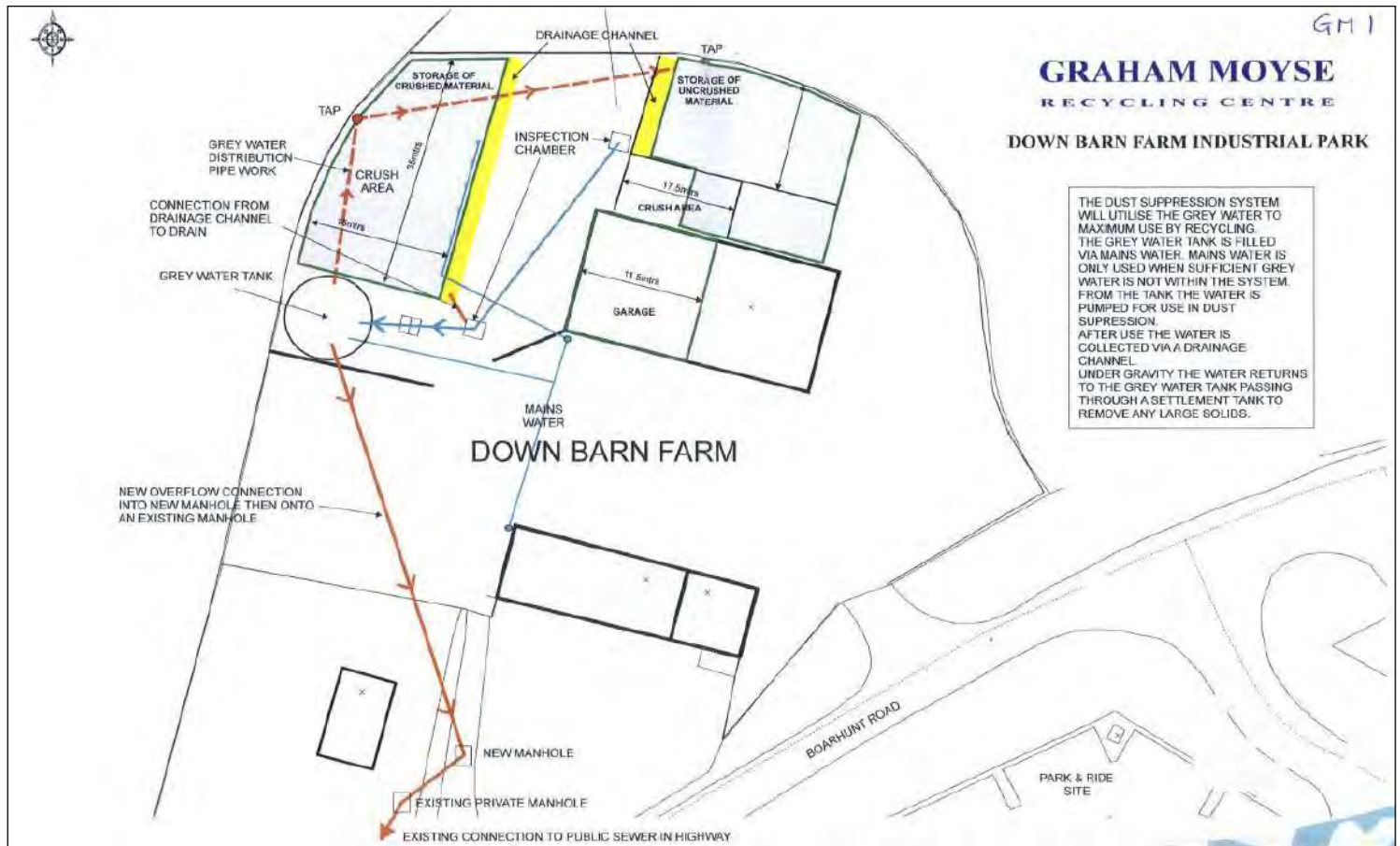
Under regulation 27(2) of the Regulations, standard rules **SR2010No12** are conditions of this permit.

Name	Date
Katie Harwood	05/12/2012

Authorised on behalf of the Environment Agency

Schedule 1 - Site plan

This is the plan referred to in the standard rules SR2010No12



“©Crown Copyright. All rights reserved. Environment Agency, 100026380, 2012.”

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

T J Transport Limited
Forest Lodge Inert Landfill
Fawley Road
Hythe
Southampton
S045 3NJ

Permit number

EPR/FB3502MK

Forest Lodge Inert Landfill

Permit number EPR/FB3502MK

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

This permit is for the deposition of 540,000 tonnes of Inert Waste at an average rate of 60,000 tonnes per annum. The deposition will follow the removal of 468,000 tonnes of soft sand, sharp sand and gravel. The infilling will be only primarily inert soils and stones, ceramic and bricks and concrete and will last a period of 10 years to ensure the restoration of the quarry. The site will be returned to agricultural use in fitting with its historic use as primarily cattle grazing before quarrying operations commenced.

The closest sensitive receptor is the Buttsash residential area located to the west of the site with the nearest properties 25m from the Fawley road. Other receptors include the Hythe to Calshot Marshes to the east and to the West of the site the New Forest SSSI, at the nearest distances of 1km and 355m respectively. Around 10m from the North East of the site is an ancient woodland and local wildlife site.

The bedrock geology of the site is Becton Sands overlain by superficial river terrace deposits classed as Secondary A aquifers with medium permeability. There are no direct discharges associated with permit activities.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application EPR/FB3502MK/A001	Duly made 27/07/17	Application for Inert Landfill
Additional information received	05/02/2018	Schedule 5 No.1 relating to: • ESSD & Hydrogeological Risk Assessment • Stability Risk Assessment • Landfill Gas Risk Assessment • Noise and Dust Management Plans
Additional information received	11/03/2018	Request for information further to Schedule 5 No.1 relating to: • Inert WAC • Leachate Heads • In-waste Boreholes
Additional information received	18/04/2018	Schedule 5 No.2 relating to: • Surface Water Management • Noise Management Plan
Additional information received	08/06/2018	Request for information further to Schedule 5 No.2 relating to: • Surface Water Management • Noise Management Plan
Permit determined EPR/FB3502MK/A001	11/10/18	Permit issued to T J Transport Limited.

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/FB3502MK

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

T J Transport Limited ("the operator"),

whose registered office is

**Rubis House 15 Friarn Street
Bridgwater
Somerset
TA6 3LH**

company registration number 02889704

to operate waste operations at

**Forest Lodge Inert Landfill
Fawley Road
Hythe
Southampton
SO45 3NJ**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Samantha Haddock	11/10/2018

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Finance

- 1.2.1 The financial provision for meeting the obligations under this permit set out in the agreement made between the operator and the Environment Agency dated **11/10/2018** shall be maintained by the operator throughout the subsistence of this permit and the operator shall produce evidence of such provision whenever required by the Environment Agency.
- 1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:
- (a) the costs of setting up and operating the landfill;
 - (b) the costs of the financial provision required by condition 1.2.1; and
 - (c) the estimated costs for the closure and aftercare of the landfill.

1.3 Avoidance, recovery and disposal of wastes produced by the activities

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
 - (b) review and record at least every four years whether changes to those measures should be made; and
 - (c) take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1, table S1.1 (the “activities”).

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2, or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Landfill Engineering

- 2.5.1 (a) No construction of any new cell or development area shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- (b) The operator shall review the construction proposals every 12 months.
- 2.5.2 The construction of a new cell or development area shall take place only in accordance with the approved construction proposals unless:
- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
- (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.5.3 The operator shall prepare a CQA Validation Report to cover every six month period of construction of the development area. The operator shall submit the CQA validation report to the Environment Agency within 4 weeks following construction of the development area.
- 2.5.4 No disposal of waste shall take place in a new cell or development area until the operator has submitted a CQA Validation Report and the Environment Agency has confirmed that it is satisfied with the CQA Validation Report.
- 2.5.5 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.5.6 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:
- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or

- (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.5.7 The operator shall submit a CQA Validation Report within 4 weeks of the completion of the landfill infrastructure.
- 2.5.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.5.1 and 2.5.5 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.
- 2.5.9 For the purposes of conditions 2.5.1, 2.5.4 and 2.5.5 the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:
 - (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.
- 2.5.10 Where the Environment Agency has required further information under condition 2.5. 8(b), the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:
 - (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.

2.6 Waste acceptance

- 2.6.1 Wastes shall only be accepted for disposal if:
 - (a) they are listed in schedule 2, table S2.1; and
 - (b) they are inert waste; and
 - (c) they are not liquid waste (including waste waters but excluding sludge); and
 - (d) all the relevant waste acceptance procedures have been completed; and
 - (e) they fulfil the relevant waste acceptance criteria; and
 - (f) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria; and
 - (g) they are wastes which have been treated, except for wastes for which treatment is not technically feasible.
- 2.6.2 The operator shall:
 - (a) visually inspect without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill and waste at the point of deposit; and
 - (b) be satisfied that the waste conforms to the requirements of condition 2.6.1.
- 2.6.3 Where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.
- 2.6.4 The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.
- 2.6.5 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing DRAWING 011.
- 2.6.6 The quantity of waste that is deposited or recovered in the landfill in any year shall not exceed the limits in schedule 1, table S1.4.
- 2.6.7 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin of any waste that is received for disposal or restoration and of the identity of the producer, or in the case of municipal waste and

multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

2.7 Closure and aftercare

2.7.1 The operator shall maintain a closure and aftercare management plan.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 The limits in schedule 3 shall not be exceeded.

3.1.2 Where a substance is specified in schedule 3, but no limit is set for it, the concentration of such substance in emissions from the site shall be no greater than the background concentration.

3.1.3 The operator shall prevent the input of any hazardous substances from the activities into groundwater.

3.1.4 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:

- (a) between nine and six months prior to the sixth anniversary of the granting of the permit; and
- (b) between nine and six months prior to every subsequent six years after the sixth anniversary of the granting of the permit.

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.3 Noise and vibration

3.3.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4 Monitoring

3.4.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring and any other actions specified in the following tables in schedule 3 to this permit:

- (a) Groundwater specified in tables S3.1 and S3.3;

- (b) Landfill gas specified in table S3.2;
- 3.4.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.4.3 A topographical survey of the site referenced to ordnance datum shall be carried out and shall be used to produce a plan of a scale adequate to show the surveyed features of the site:
 - (a) annually; and
 - (b) prior to the disposal of waste in any new cell or new development area of the landfill; and
 - (c) following closure of the landfill or part of the landfill.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
 - (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) the results of groundwater monitoring;
 - (ii) landfill gas monitoring;
 - (iii) waste types and quantities.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 A report or reports on the performance of the activities over the previous year ('the annual report') shall be submitted to the Environment Agency by 31st January each year or such other date as may be agreed in writing by the Agency. The report(s) shall include as a minimum:
 - (a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this activity and any agreed amendments thereto. The review will include written descriptions of the improvements made to operational performance during the year, action plans developed and planned improvements for the coming year;
 - (b) the topographical surveys required by condition 3.4.3 other than those submitted as part of a CQA validation report;
 - (c) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;

- (d) an assessment of the settlement behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;
 - (e) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey; and
 - (f) a plan(s) ('the monitoring point plan – MPP') showing the locations of all monitoring points.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4, table S4.1;
 - (b) for the reporting periods specified in schedule 4, table S4.1 and using the forms specified in schedule 4, table S4.2 or other reporting format as agreed in writing with the Environment Agency; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 Within one month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.
- 4.2.5 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
 - (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
 - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and

- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

4.3.4 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities	
Description of specified activity and WFD Annex I and II operations	Limits of activities
D1: Deposit into or on to land	The deposit of inert waste into or onto land specified in Table S2.1 for disposal. Waste shall be stored for no longer than 1 year prior to disposal. The quantity of inert waste deposited in the landfill in any year shall not exceed the limits in table S1.4. The total quantity of inert waste deposited in the landfill is 540,000 tonnes.
R5: Recycling/reclamation of other inorganic compounds	Recovery of waste in landfill engineering in accordance with condition 2.5

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	Forest Lodge Inert Landfill Conceptual Site Model, Environmental Setting and Site Design (ESSD) Report Section 4.0 Pollution Control Measures	27/07/2017
Application	Forest Lodge Inert Landfill ENVIRONMENTAL PERMIT BOUNDARY AND PHASING PLAN Drawing 002. Forest Lodge Inert Landfill	27/07/2017

	ENVIRONMENTAL MONITORING Drawing 007	
Application	TJ Transport Limited Forest Lodge Inert Landfill Environmental Permit (EP) Application: Waste Acceptance Procedure	27/07/2018
Response to Schedule 5 Notice dated 21/12/17 “TJ TRANSPORT LIMITED – FOREST LODGE INERT LANDFILL, ENVIRONMENTAL PERMIT APPLICATION – SCHEDULE 5 NOTICE RESPONSE” Response to Schedule 5 Notice dated 21/12/2017	Response to Question 10. Document title “Forest Lodge Landfill Dust Management Plan” Dated Feb 2018	05/03/2018
	Response to Question 9. Document title “Forest Lodge Landfill Noise Management Plan” Dated Feb 2018	08/06/2018
	STABILITY RISK ASSESSMENT Question 1 Table 2-7 Geotechnical Design Parameters, and chemical composition and leaching behaviour	05/02/2018
Response to email dated 08/05/2018 “TJ TRANSPORT LIMITED – FOREST LODGE INERT LANDFILL, ENVIRONMENTAL PERMIT APPLICATION – SCHEDULE 5 NOTICE RESPONSE, FURTHER INFORMATION”	Surface Water Management Plan, Document Titled “Forest Lodge Home Farm Surface Water Management Plan” Dated March 2017.	08/06/2018
Application	FOREST LODGE INERT LANDFILL – ENVIRONMENTAL PERMIT APPLICATION – RESTORATION – DRAWING 005 -	27/07/2017

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
1	The operator shall install in-waste gas monitoring points at a minimum density of 2 points per hectare after each phase of development as agreed in “TJ TRANSPORT LIMITED – FOREST	On completion of the cell

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	LODGE INERT LANDFILL, ENVIRONMENTAL PERMIT APPLICATION – SCHEDULE 5 NOTICE RESPONSE – FURTHER CLARIFICATIONS” The landfill gas monitoring boreholes shall be constructed and recorded in accordance with a Construction Quality Assurance (CQA) Plan covering all elements of the landfill gas monitoring system. The proposal shall be in accordance with Environment Agency Guidance: LFTGN03 'Management of Landfill Gas'.	

Table S1.4 Annual waste input limits	
Category	Limit Tonnes/ Year
Inert Waste for disposal	60,000

Schedule 2 – List of permitted waste

Table S2.1 Permitted waste types for disposal at landfill for inert waste The total quantity of waste accepted at the site for the above activity shall be less than 540, 000 tonnes.	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 01	wastes from mineral excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 03	wastes from physical and chemical processing of metalliferous minerals
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11**
10	Wastes from thermal processes
10 01	Waste from power station and other combustion
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 11	wastes from manufacture of glass and glass products
10 11 03	waste glass-based fibrous materials (only without organic binders)
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
15 01	packaging (including separately collected municipal packaging waste)
15 01 07	glass packaging
17	Construction and demolition wastes (excluding excavated soil from contaminated sites)
17 01	concrete, bricks, tiles and ceramics
17 01 01	Concrete ²
17 01 02	bricks ²
17 01 03	tiles and ceramics ²
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06 ²
17 02	wood, glass and plastic
17 02 02	glass
17 05	soil (excluding excavated soil from contaminated sites), stones and dredging spoil
17 05 04	Soil and stones ¹
17 09	other construction and demolition wastes

17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03***
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified excluding Trommell fines
19 12 05	glass
19 12 09	Minerals (for example sand, stones)
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 02	Glass (separately collected glass only)
20 02	garden and park wastes (excluding cemetery waste)
20 02 02	soil and stones excluding top soil and peat

1. For the purposes of waste acceptance, soil includes naturally occurring sands and clays.

2. Selected construction and demolition waste (C & D waste): with low contents of other types of materials (like metals, plastic, organics, wood, rubber, etc.). The origin of the waste must be known.

- No C&D waste from buildings, polluted with inorganic or organic dangerous substances e.g. because of production processes in the construction, soil pollution, storage and usage of pesticides or other dangerous substances, etc., unless it is made clear that the demolished building was not significantly polluted.

- No C&D waste from buildings, treated, covered or painted with materials, containing dangerous substances in significant amounts.

* These wastes will be tested if there is any suspicion of contamination.

** For example silt from dig out of mineral silt ponds

*** Comprising a mixture of concrete, bricks, tiles, ceramics, glass, soils & stones eg from uncontaminated areas

Schedule 3 – Emissions and monitoring

Table S3.1 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
GROUNDWATER MONITORING BOREHOLE LOCATION GWP02 and GWP04 (as shown in Schedule 7 Site Plan)	Arsenic	0.005mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (June 2014), <u>risk assessments for your environmental permit (www.gov.uk)</u> , or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Cadmium	0.001mg/l			
	Mercury	0.0001mg/l			
	Chloride	152mg/l			
	Nickel	0.012mg/l			
	Sulphate.	100mg/l			

Table S3.2 Landfill gas in-waste monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
All in waste gas monitoring boreholes G1-G12 (as shown in Schedule 7 Site Plan)	Methane	No limit	Quarterly	As specified in Environment Agency Guidance LFTGN03 'Guidance on the management of landfill gas' (June 2014) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: waterlogged frozen snow covered
	Carbon Dioxide	No limit		
	Oxygen	No limit		
	Relative Pressure	No limit		
	Flow	No limit		
	Meteorological Data	No limit		
One per visit	Atmospheric Pressure	No limit	Quarterly	

Table S3.3 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	Parameter	Monitoring frequency	Monitoring standard or method
GWP01, GWPO2, GWPO4 and GWPO5 (as shown in Schedule 7 Site Plan)	Water Level,	Monthly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (June 2014), <u>risk assessments for your environmental permit (www.gov.uk)</u> , or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Temperature, Ph, Electrical Conductivity, Ammoniacal Nitrogen, Chloride, Arsenic, Cadmium Mercury, Nickel, Sulphate TOC and TON	Quarterly	
	Total Alkalinity, Magnesium,, Calcium, Sodium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Manganese, Potassium	Annually	
	Hazardous substances detected in leachate	Annually	
	Base of monitoring point (mAoD)	Annually	

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data		
Parameter	Reporting period	Period ends
Emission to groundwater As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in monitoring boreholes As specified by schedule 3, table S3.2	Every 3 months	31 March, 30 June, 30 September, 31 December
Other groundwater monitoring As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December

* - where the reporting period is 12 months, you may submit this information as part of the 'annual report' required by condition 4.2.2.

Table S4.2 Reporting Forms		
Media/parameter	Reporting Format	Date of Form
Groundwater	Form Groundwater 1, or other reporting format to be agreed in writing with the Environment Agency	11/10/2018
Landfill gas	Form LFG 1, or other reporting format to be agreed in writing with the Environment Agency	11/10/2018
Waste Return	E-waste Return Form	-
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	11/10/2018

Schedule 5 – Notification

This page outlines the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any incident or accident which significantly affects or may significantly affect the environment	
To be notified within 24 hours of detection	
Date and Time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B to be supplied as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“Accident” means an accident that may result in pollution.

“Annually” means once every year.

“Application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“Authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“Background concentration” means such concentration of that substance as is present in:

- For emissions to surface water, the surface water quality up-gradient of the site; or
- For emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge; or
- For emissions of landfill gas, the ground or air outside the site and not attributable to the site.

“Construction Proposals” means written information, at a level of detail appropriate to the complexity and pollution risk, on the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the Landfill Infrastructure.

“CQA Validation Report” means the final “as built” construction and engineering details of the Landfill Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;
- “As-built” plans and sections of the works;
- Copies of the site engineer’s daily records;
- Records of any problems or non-compliances and the solution applied;
- Any other site specific information considered relevant to proving the integrity of the Landfill Infrastructure;
- Validation by a qualified person that all of the construction has been carried out in accordance with the Construction Proposals.

“Emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“Emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations 2016, SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“Exceeded” means that a value is above a permitted limit, or where a range of values or a minimum value is set as a permitted limit it means a value outside that range or below the minimum value, whichever is applicable.

“Groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2016, SI 2016 No.1154, schedule 22 and listed in our risk assessment guidance.

“Inert waste” means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.

“Landfill infrastructure” means any specified element of the:

- Artificially established geological barrier;
- surface water drainage systems;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“Liquids” means any liquid other than leachate.

“MPP” Monitoring point plan, required to specify routine monitoring locations.

“No impact” means that the change made to the construction process will not affect the agreed design criteria, specification or performance in a way that has a negative effect.

“Previous year” means the 12 month period preceding the month the annual report is submitted in.

“Quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“Relevant waste acceptance criteria” means the waste acceptance criteria and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

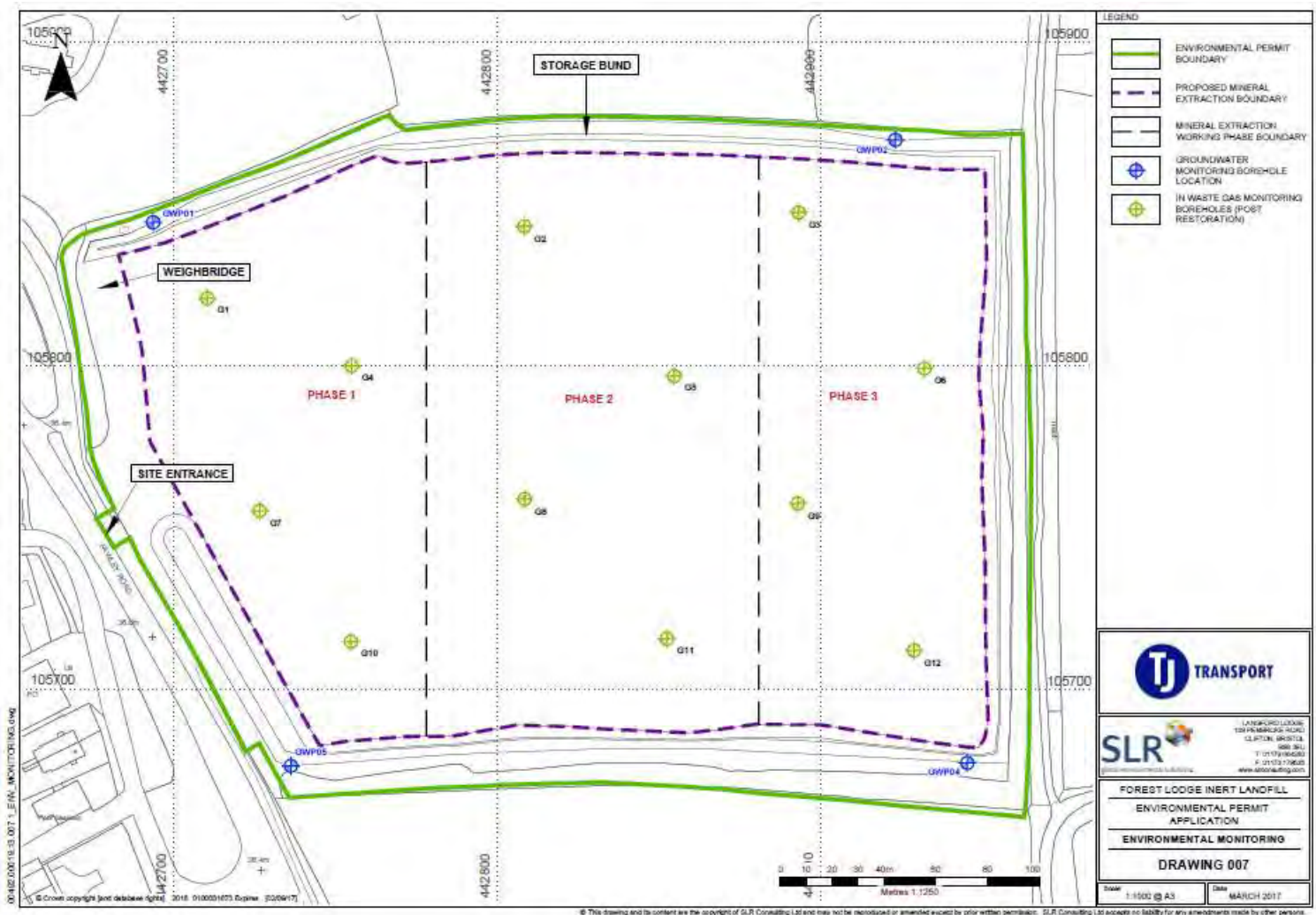
“Relevant waste acceptance procedures” means the procedure for the acceptance of waste at landfills and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“Review of the Hydrogeological Risk Assessment” means a written review of the hydrogeological risk assessment included in the Application, together with any other parts of the Application that addressed the requirements of the EP Regulations. The review shall assess whether the activities of disposal or tipping for the purpose of disposal of waste authorised by the permit continue to meet the requirements of the EP Regulations.

“Waste code” – See “List of Wastes”.

“WFD” means Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste [and repealing certain Directives] – the Waste Framework Directive.

Schedule 7 – Site plan



END OF PERMIT

Standard rules SR2010No12

Treatment of waste to produce soil, soil substitutes and aggregate

Introductory note

This introductory note does not form part of these standard rules.

When referred to in an environmental permit, these standard rules will allow the operator to store waste at a specified location and treat it to produce soil, soil substitutes and aggregate. Permitted wastes do not include hazardous wastes. The total quantity of waste that can be stored and subsequently treated at the site under these standard rules shall be no more than 75,000 tonnes per year. These standard rules do not permit the burning of any wastes, either in the open, inside buildings or in any form of incinerator.

The permitted activities shall not be carried out within 500 metres of a European Site¹, Ramsar site or a Site of Special Scientific Interest (SSSI) nor within a specified Air Quality Management Area (AQMA)². The permitted activities shall not be within:

- 10 metres of any watercourse;
- 50 metres from any spring or well, or from any borehole not used to supply water for domestic or food production purposes; and
- 50 metres from any well, spring or from any borehole used for the supply of water for human consumption. This must include private water supplies.
- 250metres within the presence of Great Crested Newts, where it is linked to the breeding ponds of the newts by good habitat;
- 50 metres of a site that has relevant species or habitats protected under the Biodiversity Action Plan that the Environment Agency considers at risk to this activity.:.
 - 50 metres of a National Nature Reserve (NNR), Local Nature Reserves(LNR), Local Wildlife Site (LWS), Ancient woodland or Scheduled Ancient Monument.

These standard rules do not allow any point source emission into surface waters or groundwater. However, under the emissions of substances not controlled by emission limits rule:

- Liquids may be discharged into a foul sewer subject to a consent issued by the local water company.

¹ A candidate or Special Area of Conservation (cSAC or SAC) and proposed or Special Protection Area (pSPA or SPA) in England and Wales.

² An Air Quality Management Area within the meaning of the Environment Act 1995 which has been designated due to concerns about particulate matter in the form of PM10.

- Liquids may be taken off-site in a tanker for disposal or recovery.
- Clean surface water from roofs, or from areas of the site that are not being used in connection with storing and treating waste, may be discharged directly to surface waters, or to groundwater by seepage through the soil via a soakaway.

End of introductory note

Rules

1 – Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with rule 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in these standard rules shall have convenient access to a copy of them kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Avoidance, recovery and disposal of wastes produced by the activities

- 1.2.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 – Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the operations specified in table 2.1 below (“the activities”).

Table 2.1 Activities	
Description of activities	Limits of activities
R13: Storage of wastes pending the operations numbered R3 and R5. R3: recycling or reclamation of organic substances which are not used as solvents. R5: Recycling or reclamation of other inorganic materials.	Treatment of wastes listed in table 2.3 consisting only of sorting, separation, screening, crushing and blending of waste for recovery as a soil, soil substitute or aggregate. Secure storage of wastes listed in table 2.3 pending treatment. Storage of wastes listed in table 2.4 shall not exceed 10,000 tonnes in total at any one time. All other wastes stored shall not exceed 40,000 tonnes in total at any one time. No more than 75,000 tonnes of waste shall be treated per year. Treatment of slags and ashes for disposal shall not exceed 50 tonnes per day, or if for a mix of recovery and disposal shall not exceed 75 tonnes per day.

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan attached to the permit.

2.2.2 The activities shall not be carried out within:

- (a) 500 metres of a European Site or Site of Special Scientific Interest (SSSI);
- (b) 10 metres of any watercourse;
- (c) 50 metres of any spring or well, or any borehole not used to supply water for domestic or food production purposes;
- (d) a specified AQMA.
- (e) 50 metres from any well, spring or from any borehole used for the supply of water for human consumption. This must include private water supplies.
- (f) 250metres within the presence of Great Crested Newts where it is linked to the breeding ponds of the newts by good habitat;
- (g) 50 metres of a site that has species or habitats protected under the Biodiversity Action Plan that the Environment Agency considers at risk to this activity;.
- (h) 50 metres of a National Nature Reserve (NNR), Local Nature Reserves(LNR), Local Wildlife Site (LWS), Ancient woodland or Scheduled Ancient Monument.

2.3 Waste acceptance

2.3.1 Waste shall only be accepted if:

- (a) it is of a type listed in table 2.3 of these standard rules;
- (b) it conforms to the description in the documentation supplied by the producer and holder;

- (c) its chemical, physical and biological characteristics make it suitable for its intended treatment;
- (d) any excavated soil from potentially contaminated sites has been shown by prior chemical analysis and assessment to be suitable for the intended use without significant risk of pollution; and
- (e) it is visually inspected on arrival and before it enters the treatment process to ensure that it complies with these standard rules.

2.3.2. Any waste that does not comply with 2.3.1 shall be rejected and shall be;

- (a) removed from the site; or
- (b) moved to a designated quarantine area pending removal.

2.3.3 Records demonstrating compliance with rule 2.3 (including analysis and assessment of any excavated soil from potentially contaminated sites) shall be maintained.

Table 2.3 Waste types	
Exclusions Wastes having any of the following characteristics shall not be accepted: • Consisting solely or mainly of dusts, powders or loose fibres • Hazardous wastes • Wastes in liquid form	
Waste Code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 02	waste from preparation and processing of meat, fish and other foods of animal origin
02 02 02	shellfish shells from which the soft tissue or flesh has been removed only
03	WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
10	WASTES FROM THERMAL PROCESSES
10 01	waste from power stations and other combustion plants
10 01 01	bottom ash and slag only
10 01 02	pulverised fuel ash only
10 01 05	gypsum (solid) only
10 01 07	gypsum (sludge) only
10 01 15	bottom ash and slag only from co-incineration other than those mentioned in 10 01 14
10 11	wastes from manufacture of glass and glass products
10 11 12	clean glass other than those mentioned in 10 11 11
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products(after thermal processing)
10 13	wastes from manufacture of cement, lime and plaster products and articles and products made from them

10 13 14	waste concrete only
15	WASTE PACKAGING
15 01	packaging
15 01 07	clean glass only
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	wood, glass and plastic
17 02 02	clean glass only
17 03	bituminous mixtures, coal tar and tarred products
17 03 02	road base and road planings (other than those containing coal tar) only
17 05	soil (including excavated soil from contaminated sites) stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
17 08	gypsum based construction material
17 08 02	gypsum only other than that mentioned in 17 08 01
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION / INDUSTRIAL WASTE
19 05	wastes from aerobic treatment of solid waste
19 05 03	compost from source segregated biodegradable waste only
19 08	wastes from waste water treatment plants not otherwise specified
19 08 02	washed sewage grit (waste from desanding) free from sewage contamination only
19 08 99	stone filter media if free from sewage contamination only
19 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 02	sludges from water clarification
19 12	wastes from the mechanical treatment of wastes
19 12 05	clean glass only
19 12 09	minerals (for example sand, stones)
19 12 12	treated bottom ash including IBA and slag other than that containing dangerous substances only
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions
20 01 02	clean glass only
20 02	garden and park wastes
20 02 02	soil and stones

2.4 Operating techniques

2.4.1 The activities shall be operated using the techniques and in the manner described in Table 2.4 below.

Table 2.4 Operating techniques

Table 2.4 Operating techniques		
When located within groundwater Source Protection Zones 1 or 2 the specified wastes below shall be stored and treated on an impermeable surface with a sealed drainage system.		
When located outside groundwater Source Protection Zones 1 or 2 all permitted wastes shall be stored and treated on hard-standing or on an impermeable surface with sealed drainage system.		
Waste Code	Description	
03 01 01	waste bark and cork	
03 03 01	waste bark and wood	
10 01 01	bottom ash and slag only	
10 01 05	gypsum (solid) only	
10 01 07	gypsum (sludge) only	
10 01 15	bottom ash and slag only from co-incineration other than those mentioned in 10 01 14	
17 05 06	dredging spoil other than those mentioned in 17 05 05	
17 08 02	gypsum only other than that mentioned in 17 08 01	
19 05 03	compost from source segregated biodegradable waste only	
19 09 02	sludges from water clarification	
19 12 12	treated bottom ash including IBA and slag other than that containing dangerous substances only	
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01	
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03	

3 – Emissions and monitoring

3.1 Emissions of substances not controlled by emission limits

- 3.1.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this rule if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.1.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.1.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container

3.2 Odour

- 3.2.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable, to minimise, the odour.
- 3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.3 Noise and vibration

3.3.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan, to prevent or where that is not practicable, to minimise, the noise and vibration.

3.3.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 – Information

4.1 Records

4.1.1 All records required to be made by these standard rules shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible or are capable of retrieval; and
- (d) be retained, unless otherwise agreed by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by these standard rules, unless otherwise agreed in writing by the Environment Agency

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by these standard rules to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 Within one month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

4.3.1 The Environment Agency shall be notified without delay following the detection of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
 - (b) the breach of a limit specified in these standard rules; or
 - (c) any significant adverse environmental effects.
- 4.3.2 Written confirmation of actual or potential pollution incidents and breaches of emission limits shall be submitted within 24 hours.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters except where such disclosure is prohibited by Stock Exchange rules:
- a) Where the operator is a registered company:
 - any change in the operator's trading name, registered name or registered office address; and
 - any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
 - b) Where the operator is a corporate body other than a registered company:
 - any change in the operator's name or address; and
 - any steps taken with a view to the dissolution of the operator.
 - c) In any other case:
 - the death of any of the named operators (where the operator consists of more than one named individual);
 - any change in the operator's name(s) or address(es); and
 - any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case them being in a partnership, dissolving the partnership.

4.4 Interpretation

- 4.4.1 In these standard rules the expressions listed below shall have the meaning given.
- 4.4.2 In these standard rules references to reports and notifications mean written reports and notifications, except when reference is being made to notification being made "without delay", in which case it may be provided by telephone.
- "accident"* means an accident that may result in pollution.
- "AQMA"* means an air quality management area within the meaning of the Environment Act 1995 which has been designated due to concerns about particulate matter in the form of PM10.
- "authorised officer"* means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in Section 108(4) of that Act.
- "dangerous substances"* means any substance that has been or will be classified as dangerous in Directive 67/548/EEC and its subsequent amendments.
- "domestic purposes"* has the same meaning as in section 218 of the Water Industry Act 1991.
- "emissions of substances not controlled by emission limits"* means emissions of substances to air, water or land from the activities, either from emission points specified in these standard rules or from other localised or diffuse sources, which are not controlled by an emission limit.

“European Site” means a European site within the meaning of Regulation 8 of the Conservation of Habitats and Species Regulations 2017.

“food production purposes” means the manufacturing, processing, preserving or marketing purposes with respect to food or drink for which water supplied to food production premises may be used, and for the purposes of this definition *“food production purposes”* means premises used for the purposes of a business of preparing food or drink for consumption otherwise than on the premises.

“good habitat” means rough (especially tussocky) grassland, scrub and woodland

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended)

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface, and should be read in conjunction with the term *“sealed drainage system”* (below).

“hardstanding” is a compacted solid surface capable of withstanding the operation and the loading / unloading of wastes.

“IBA” means incinerator bottom ash derived from the incineration or pyrolysis of waste.

“pollution” means emissions as a result of human activity which may—

- (a) be harmful to human health or the quality of the environment,
- (b) cause offence to a human sense,
- (c) result in damage to material property, or
- (d) impair or interfere with amenities and other legitimate uses of the environment.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“R” means a recovery operation provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on Waste.

“sealed drainage system” in relation to an impermeable surface, means a drainage system with impermeable components which does not leak and which will ensure that:

- (a) no liquid will run off the surface otherwise than via the system;
- (b) except where they may lawfully be discharged to foul sewer, all liquids entering the system are collected in a sealed sump.

“secure storage” means storage where waste cannot escape and members of the public do not have access to it.

“SSSI” means Site of Special Scientific Interest within the meaning of the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk. ‘List of Wastes’ means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“year” means calendar year commencing on 1st January.

End of standard rules

Certificate of Registration under the Waste (England and Wales) Regulations 2011

Regulation authority

Name



Address

National Customer Contact Centre
99 Parkway Avenue
Sheffield
S9 4WF

Telephone number

03708 506506

The Environment Agency certify that the following information is entered in the register which they maintain under regulation 28 of the Waste (England and Wales) Regulations 2011.

Carriers details

Name of registered carrier

T J TRANSPORT LTD.

Registered as

An upper tier waste carrier, broker and dealer

Registration number

CBDU133054

Address of place of business

T J TRANSPORT LTD
CHARITY FARM
WICKHAM ROAD
FAREHAM
PO17 5BP

Telephone number

01329226446

Date of registration

5 September 2022

Expiry date of

registration (unless
revoked)

22 September 2025

Making changes to your registration

Your registration will last 3 years and will need to be renewed after this period. If any of your details change, you must notify us within 28 days of the change.

Appendix F

Alert Pro Reports & Dust Frisbee Data

Statom Group Limited

Statom House, 795 London Road, Grays, Essex, RM20 3LH

Tel: 01708 222 777

www.statom.co.uk

Registered in England and Wales

Company No: 8785228 VAT 177634867



Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/1/2023, 2:16:44 PM to 8/1/2023, 4:40:00 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature



Name

Ishara Shiromi

Date

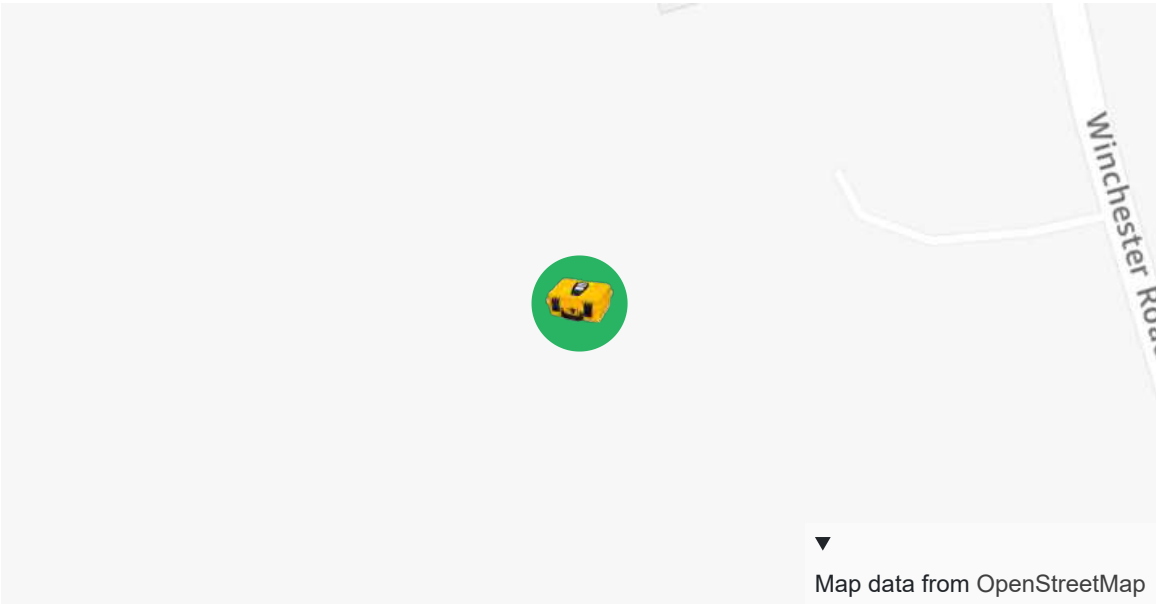
02/08/2023

Summary

Serial	100117
Session Start	8/1/2023, 2:16:44 PM
Session End	8/1/2023, 4:40:00 PM
Session Count	1
Total Fibres	3
Total Particles	1607
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

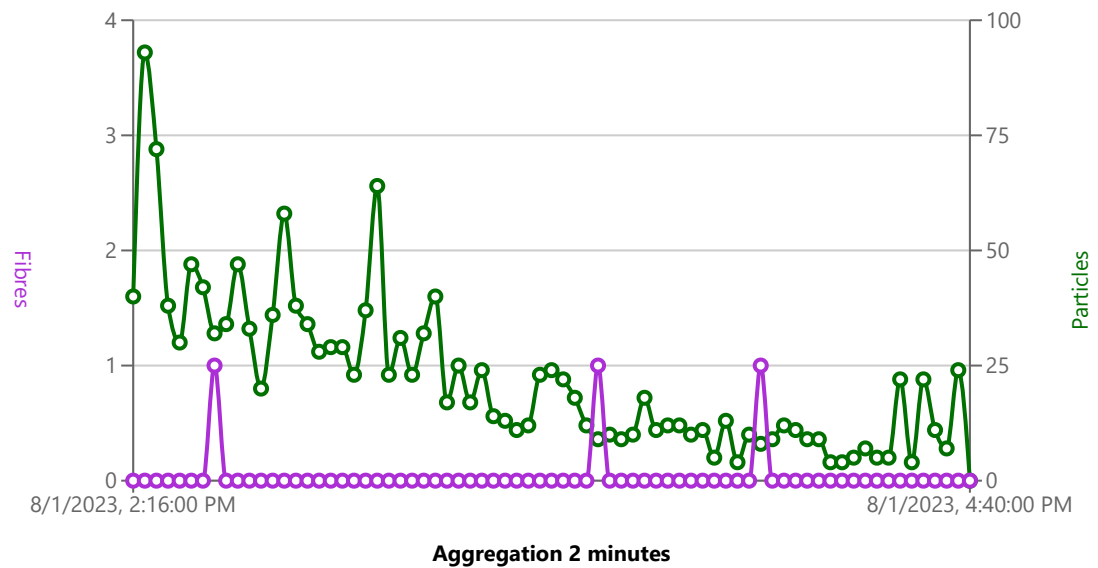


Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/1/2023, 2:16:44 PM	8/1/2023, 4:40:00 PM	3	1607	0	0

Sampling Line Charts

Session 64871 8/1/2023, 2:16:44 PM - 8/1/2023, 4:40:00 PM





Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/3/2023, 9:35:34 AM to 8/3/2023, 4:17:46 PM 2 sessions were recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature 

Name Ishara Shiromi

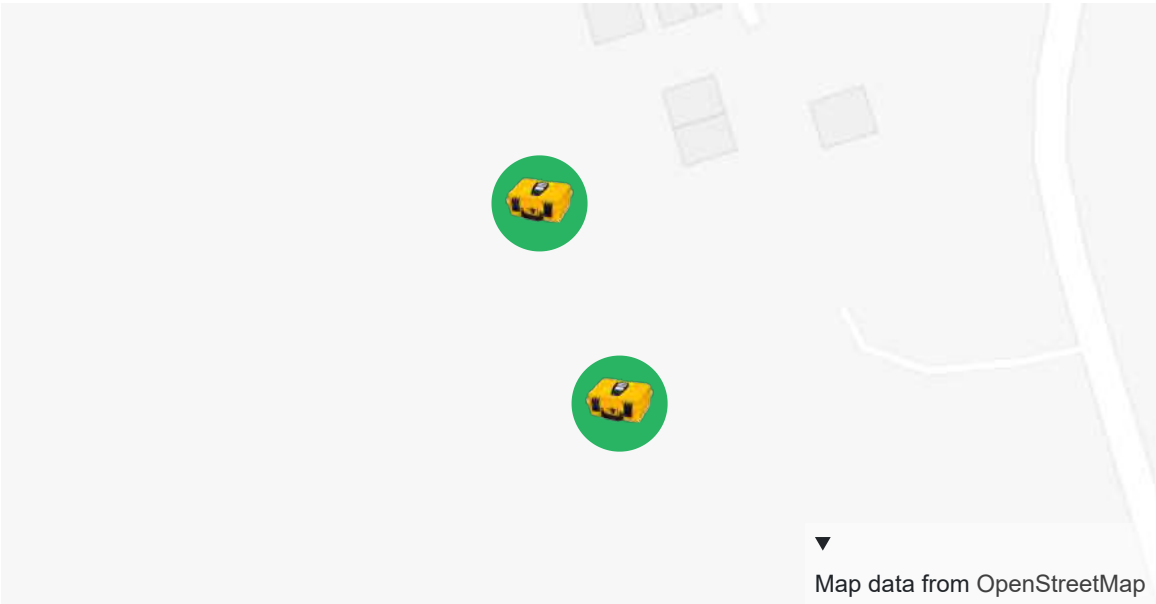
Date 03/08/2023

Summary

Serial	100117
Session Start	8/3/2023, 9:35:34 AM
Session End	8/3/2023, 4:17:46 PM
Session Count	2
Total Fibres	20
Total Particles	3892
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

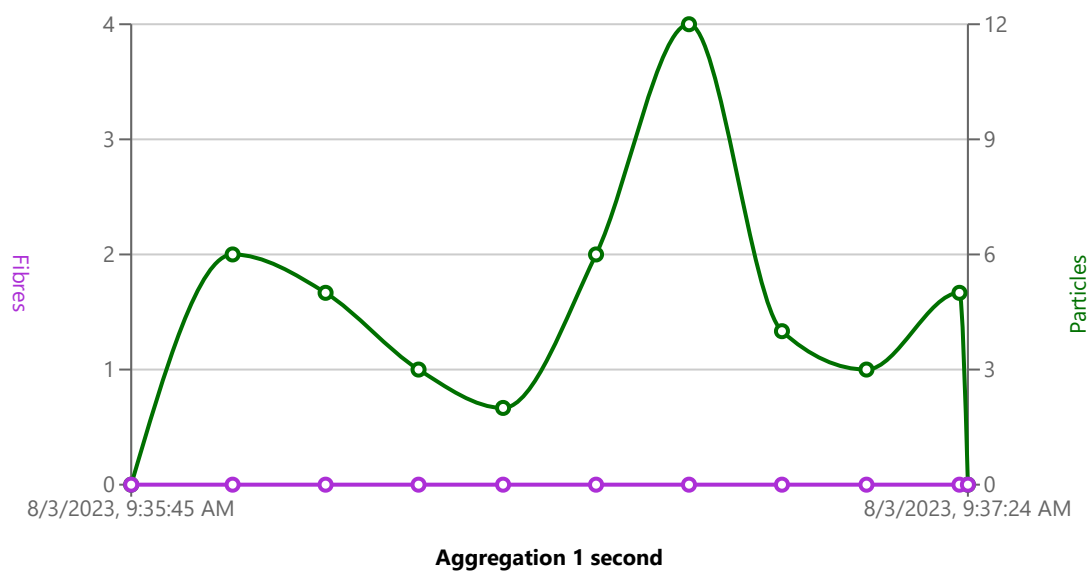


Sampling Breakdown (Limited to 100 Rows)

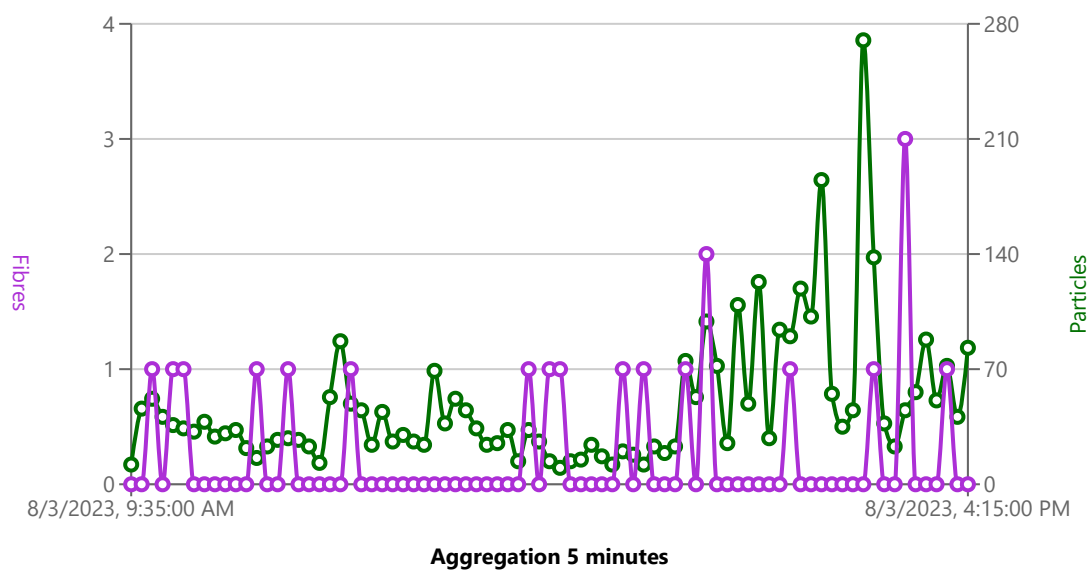
Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/3/2023, 9:35:34 AM	8/3/2023, 9:37:24 AM	0	46	0	0
100117	8/3/2023, 9:38:21 AM	8/3/2023, 4:17:46 PM	20	3846	0	0

Sampling Line Charts

Session 65074 8/3/2023, 9:35:34 AM - 8/3/2023, 9:37:24 AM



Session 65075 8/3/2023, 9:38:21 AM - 8/3/2023, 4:17:46 PM





Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/4/2023, 8:05:17 AM to 8/4/2023, 10:00:54 AM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature



Name

Ishara Shiromi

Date

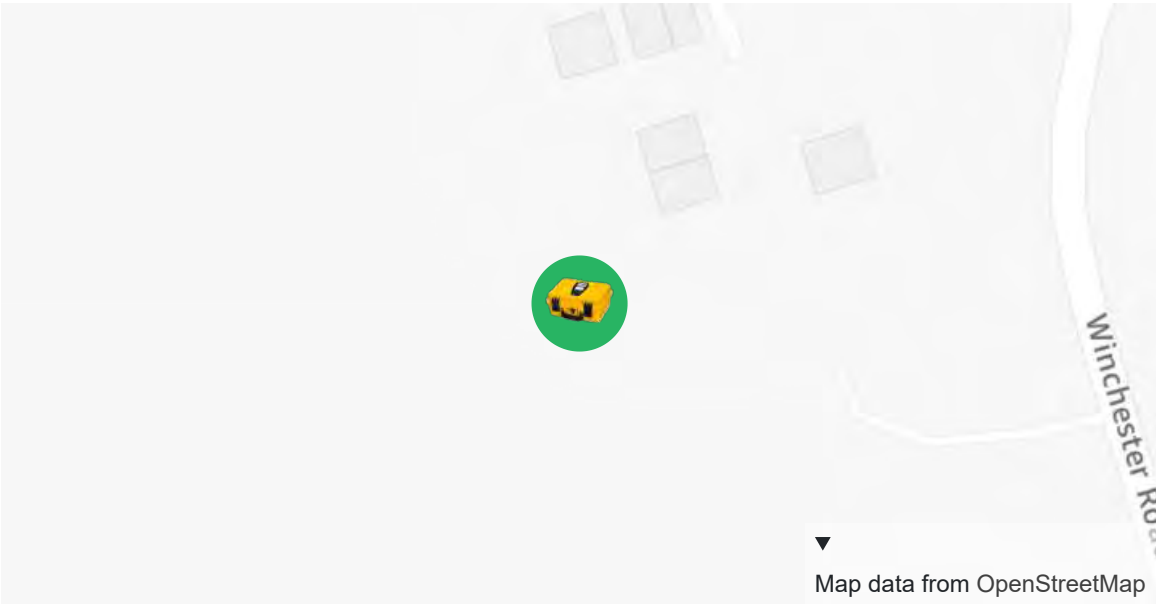
07/08/2023

Summary

Serial	100117
Session Start	8/4/2023, 8:05:17 AM
Session End	8/4/2023, 10:00:54 AM
Session Count	1
Total Fibres	5
Total Particles	1769
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

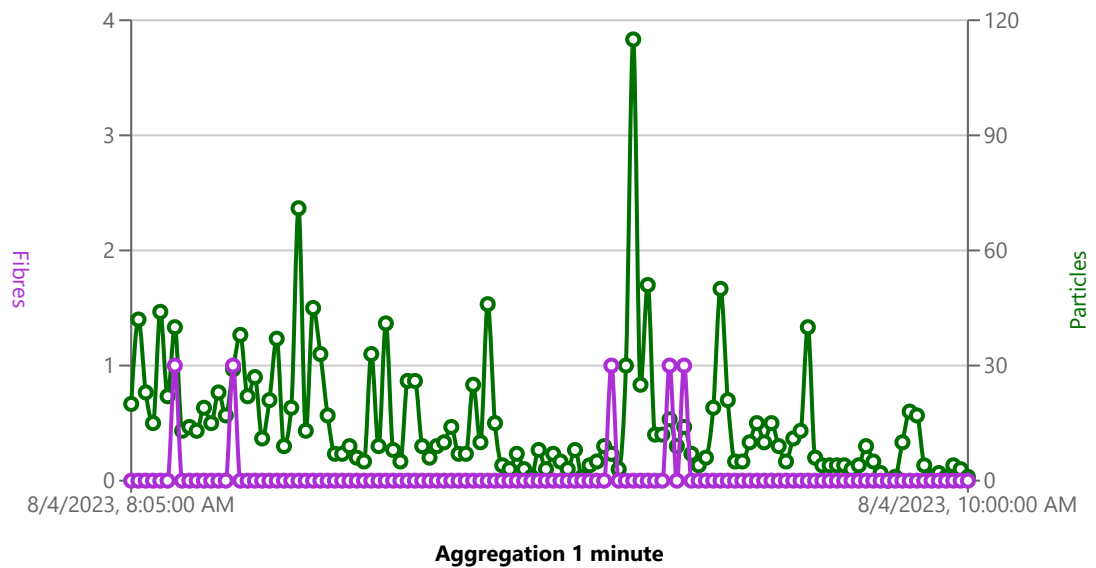


Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/4/2023, 8:05:17 AM	8/4/2023, 10:00:54 AM	5	1769	0	0

Sampling Line Charts

Session 65285 8/4/2023, 8:05:17 AM - 8/4/2023, 10:00:54 AM





Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/7/2023, 8:43:13 AM to 8/7/2023, 4:44:37 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature 

Name Ishara Shiromi

Date 08/08/2023

Summary

Serial	100117
Session Start	8/7/2023, 8:43:13 AM
Session End	8/7/2023, 4:44:37 PM
Session Count	1
Total Fibres	14
Total Particles	4525
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

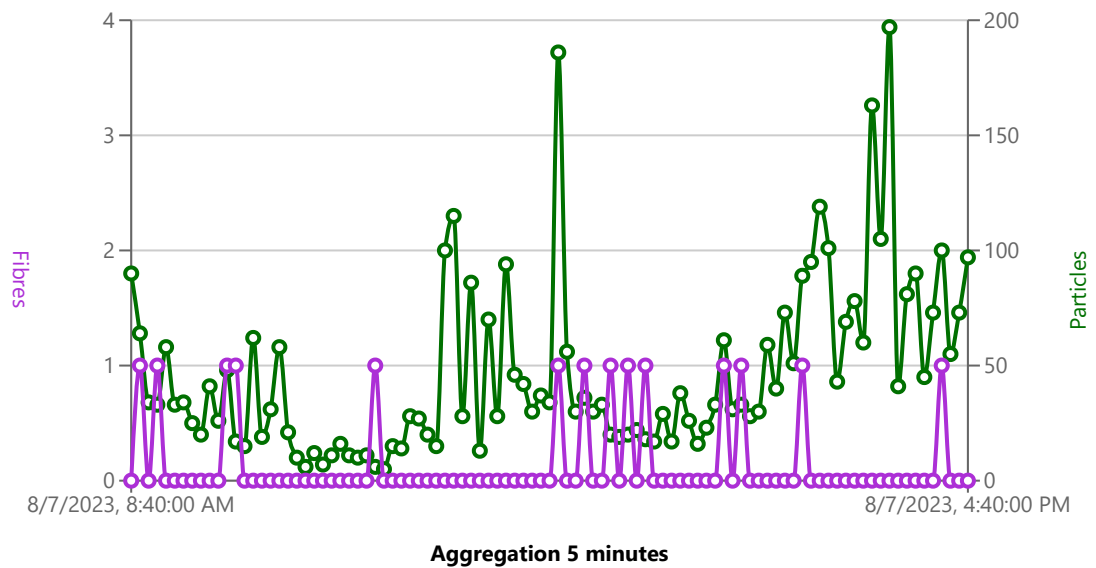


Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/7/2023, 8:43:13 AM	8/7/2023, 4:44:37 PM	14	4525	0	0

Sampling Line Charts

Session 65363 8/7/2023, 8:43:13 AM - 8/7/2023, 4:44:37 PM





Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/8/2023, 7:50:25 AM to 8/8/2023, 11:10:41 AM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature  _____

Name Ishara Shiromi

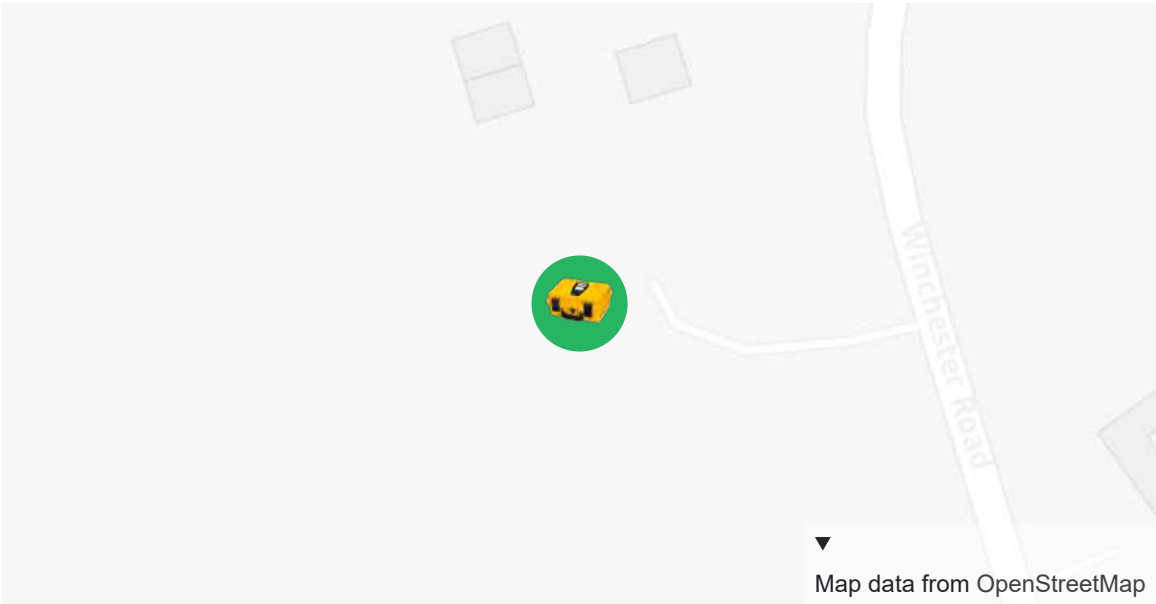
Date 10/08/2023

Summary

Serial	100117
Session Start	8/8/2023, 7:50:25 AM
Session End	8/8/2023, 11:10:41 AM
Session Count	1
Total Fibres	6
Total Particles	3048
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

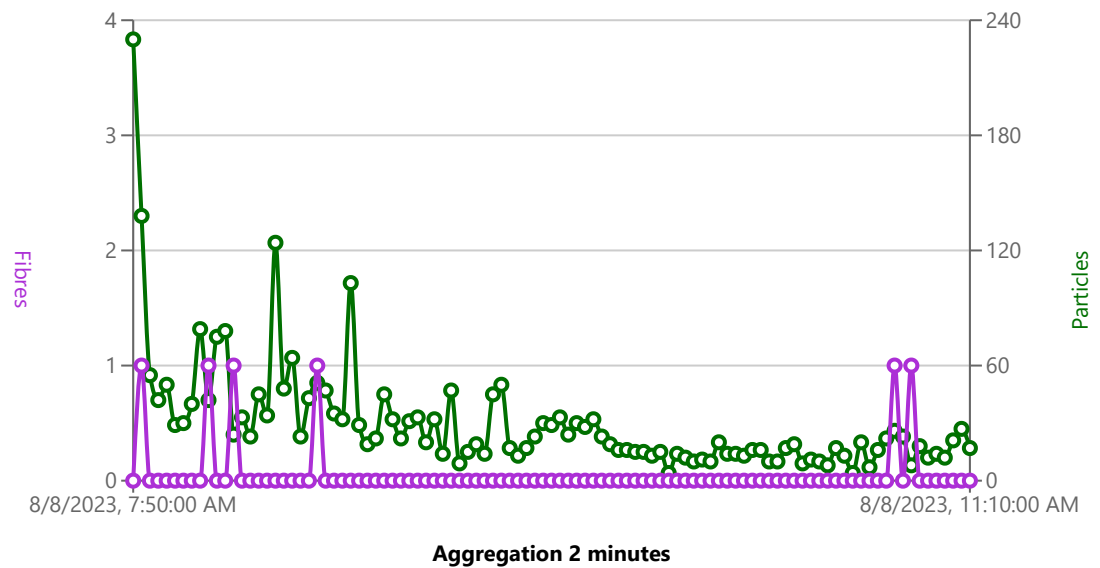


Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/8/2023, 7:50:25 AM	8/8/2023, 11:10:41 AM	6	3048	0	0

Sampling Line Charts

Session 65660 8/8/2023, 7:50:25 AM - 8/8/2023, 11:10:41 AM



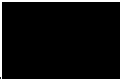


Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/9/2023, 8:09:43 AM to 8/9/2023, 4:33:22 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature 

Name Ishara Shiromi

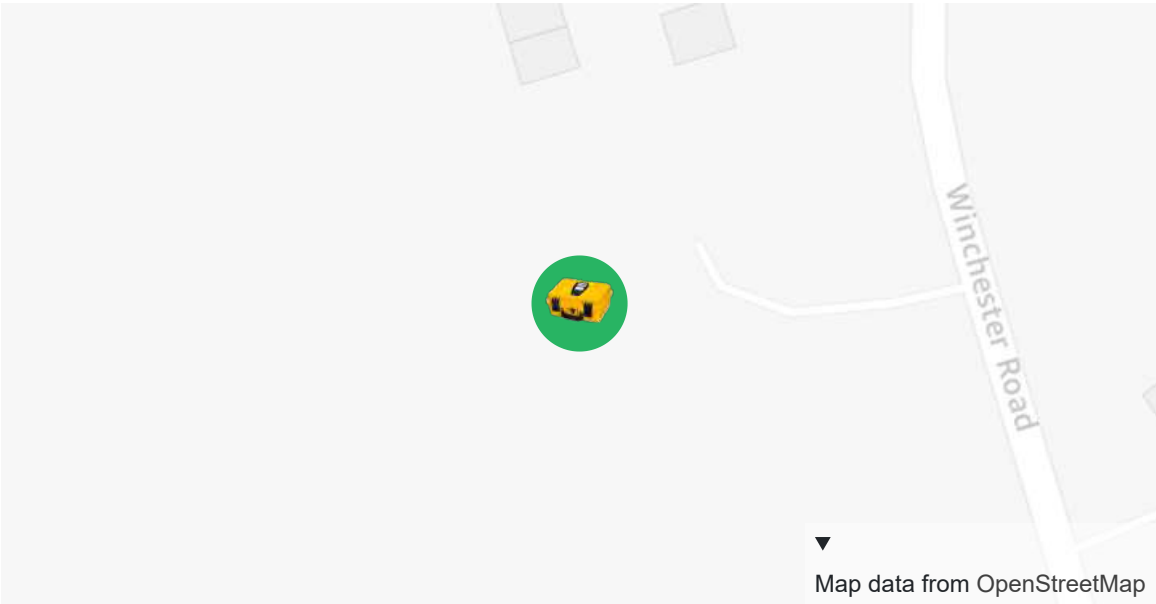
Date 10/08/2023

Summary

Serial	100117
Session Start	8/9/2023, 8:09:43 AM
Session End	8/9/2023, 4:33:22 PM
Session Count	1
Total Fibres	10
Total Particles	2589
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



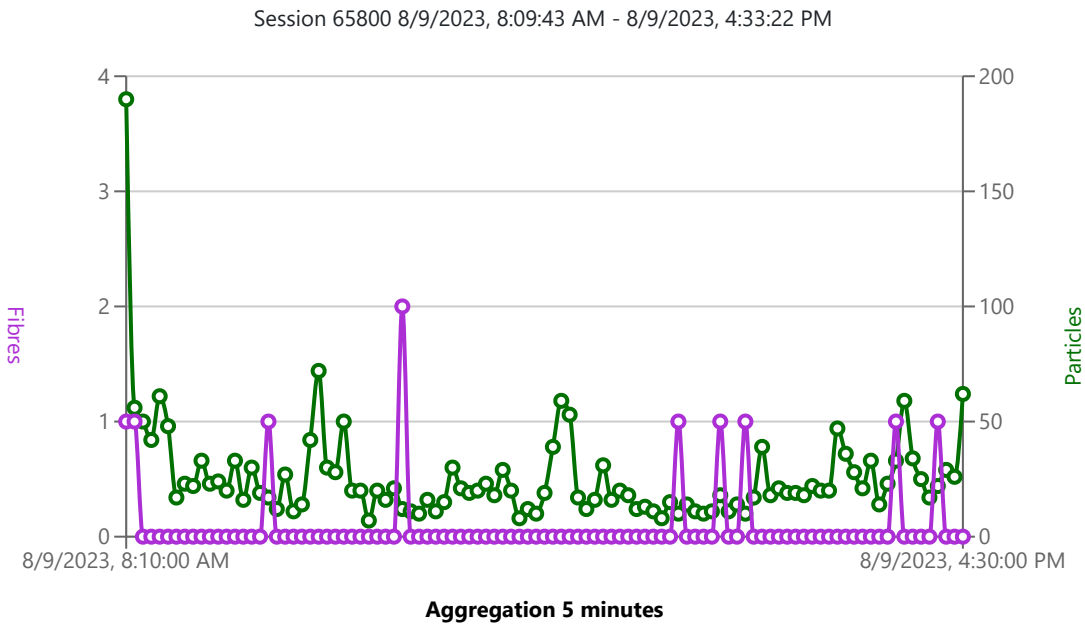
Satellite Map



Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/9/2023, 8:09:43 AM	8/9/2023, 4:33:22 PM	10	2589	0	0

Sampling Line Charts





Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/10/2023, 8:03:12 AM to 8/10/2023, 4:09:43 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature

Name

Ishara Shiromi

Date

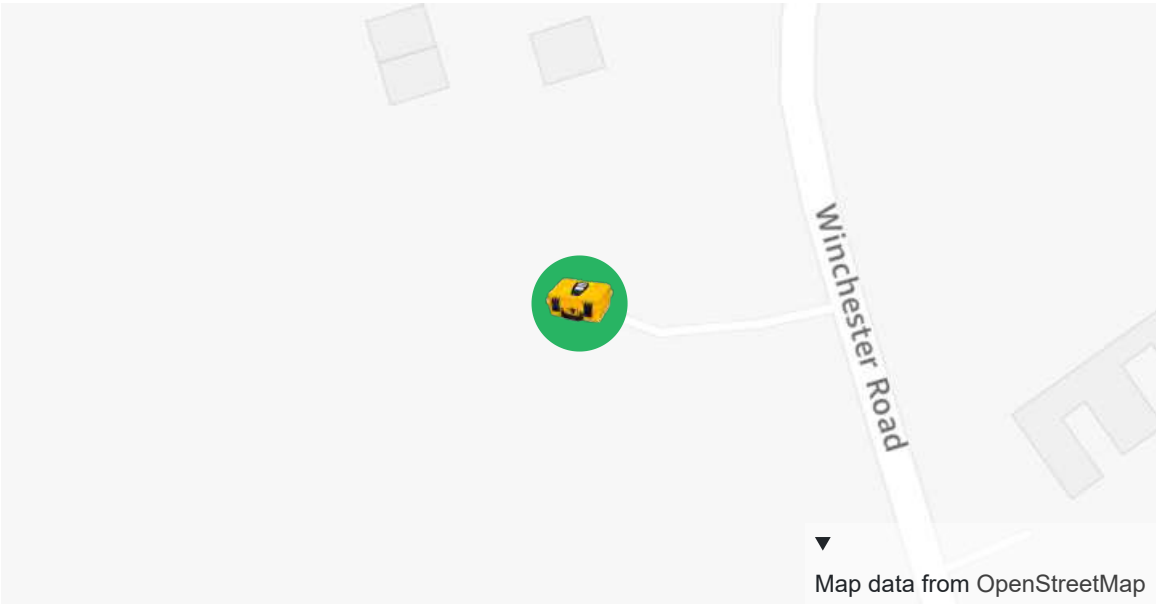
11/08/2023

Summary

Serial	100117
Session Start	8/10/2023, 8:03:12 AM
Session End	8/10/2023, 4:09:43 PM
Session Count	1
Total Fibres	10
Total Particles	3294
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



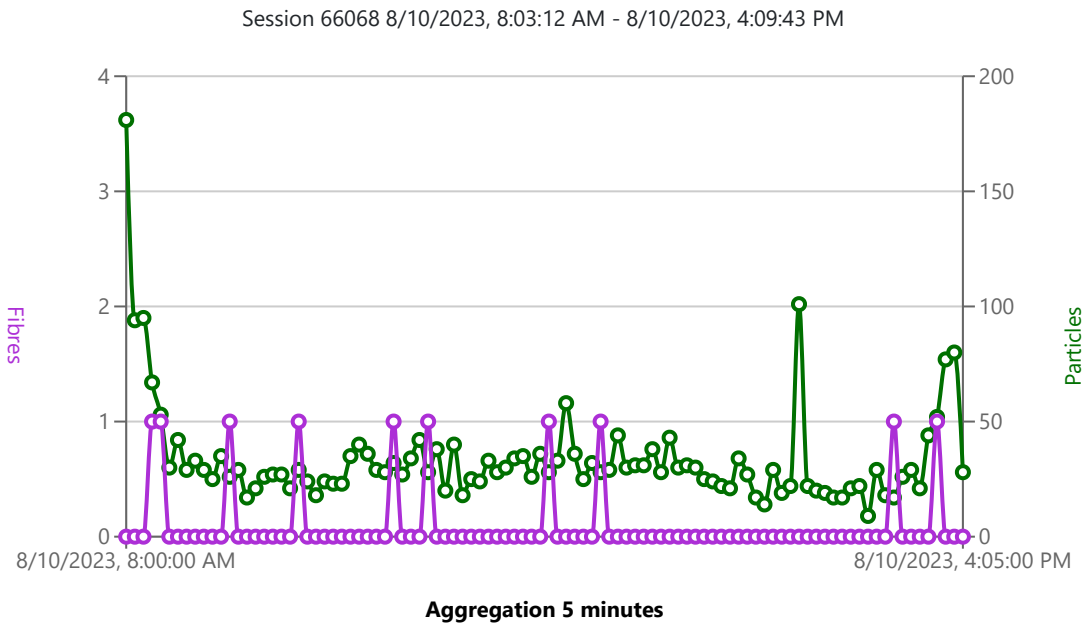
Satellite Map



Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/10/2023, 8:03:12 AM	8/10/2023, 4:09:43 PM	10	3294	0	0

Sampling Line Charts





Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/11/2023, 8:22:35 AM to 8/11/2023, 2:55:26 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature 

Name Ishara Shiromi

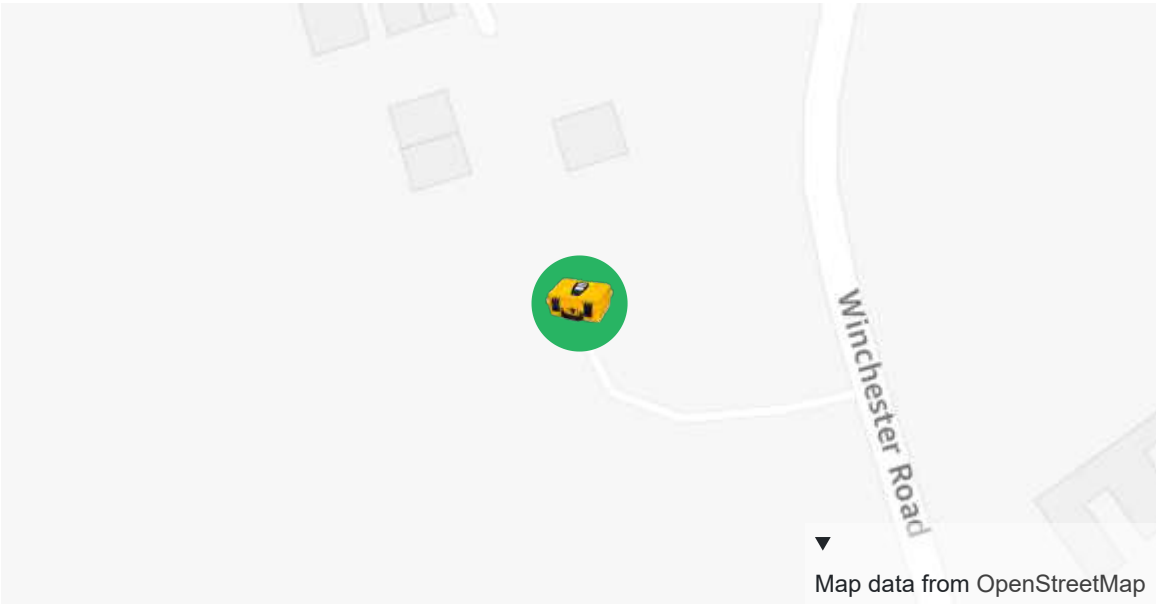
Date 14/08/2023

Summary

Serial	100117
Session Start	8/11/2023, 8:22:35 AM
Session End	8/11/2023, 2:55:26 PM
Session Count	1
Total Fibres	10
Total Particles	4759
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

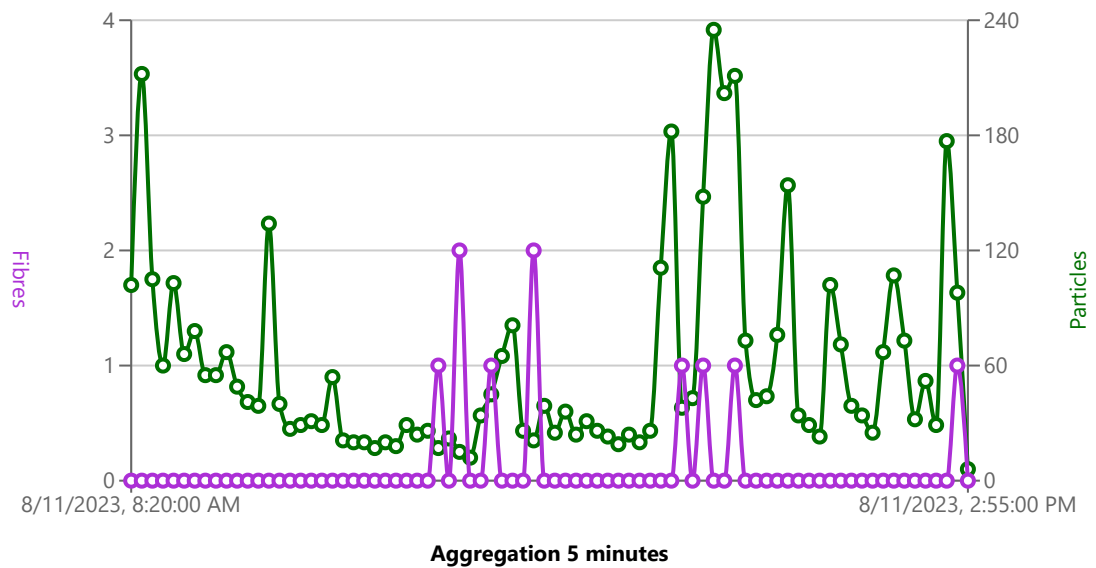


Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/11/2023, 8:22:35 AM	8/11/2023, 2:55:26 PM	10	4759	0	0

Sampling Line Charts

Session 66355 8/11/2023, 8:22:35 AM - 8/11/2023, 2:55:26 PM





Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/14/2023, 8:03:18 AM to 8/14/2023, 3:44:07 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature

NameIshara Shiromi

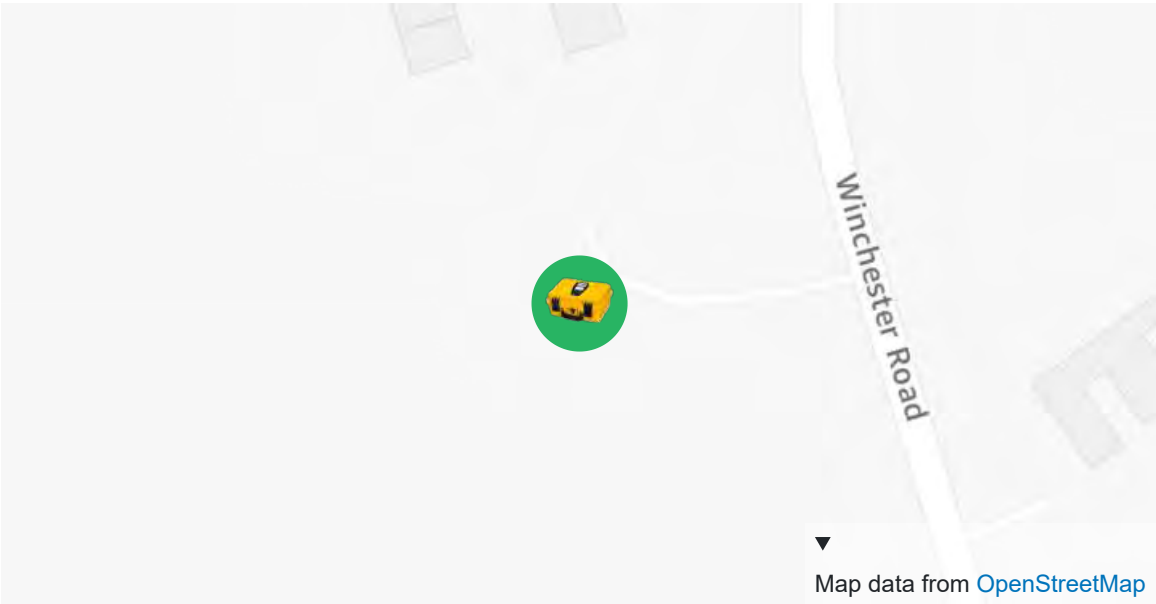
Date15/08/2023

Summary

Serial	100117
Session Start	8/14/2023, 8:03:18 AM
Session End	8/14/2023, 3:44:07 PM
Session Count	1
Total Fibres	12
Total Particles	6294
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

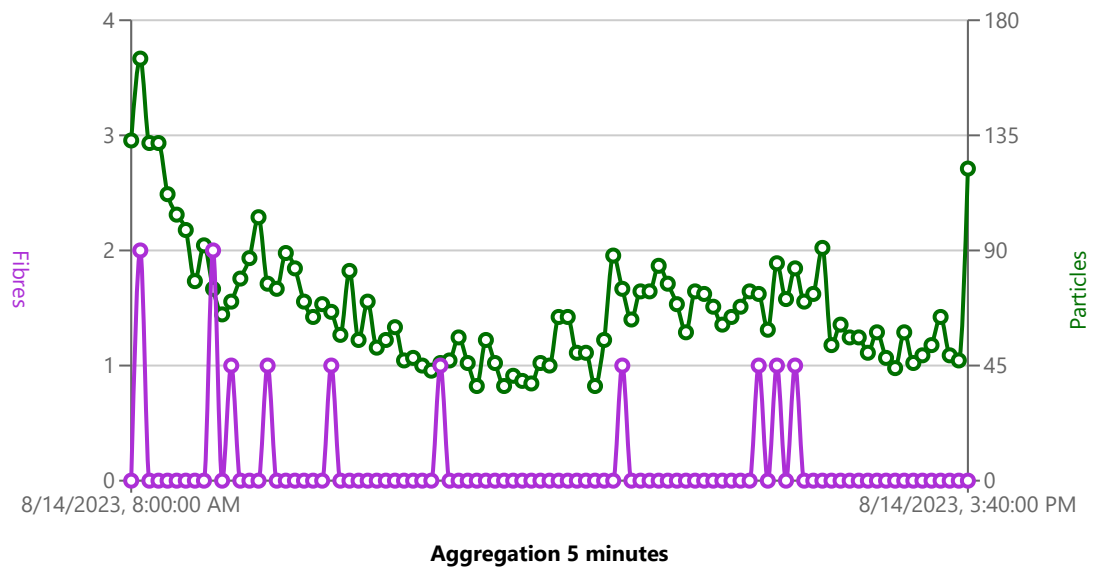


Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/14/2023, 8:03:18 AM	8/14/2023, 3:44:07 PM	12	6294	0	0

Sampling Line Charts

Session 66591 8/14/2023, 8:03:18 AM - 8/14/2023, 3:44:07 PM





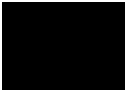
Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/15/2023, 8:03:56 AM to 8/15/2023, 4:16:44 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature



Name

Ishara Shiromi

Date

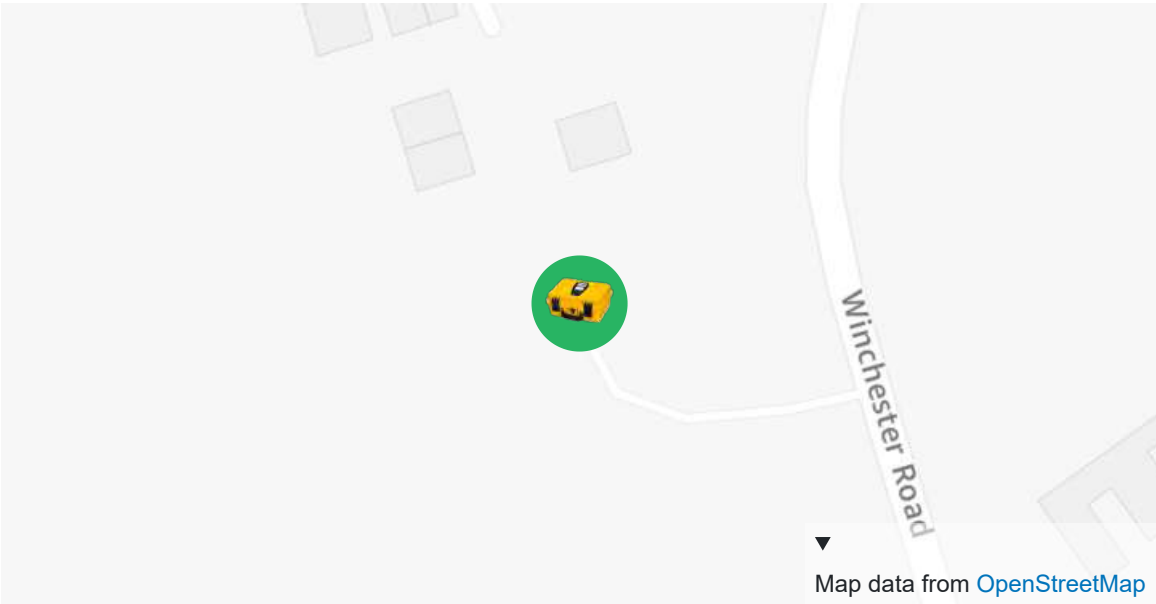
16/08/2023

Summary

Serial	100117
Session Start	8/15/2023, 8:03:56 AM
Session End	8/15/2023, 4:16:44 PM
Session Count	1
Total Fibres	17
Total Particles	3385
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

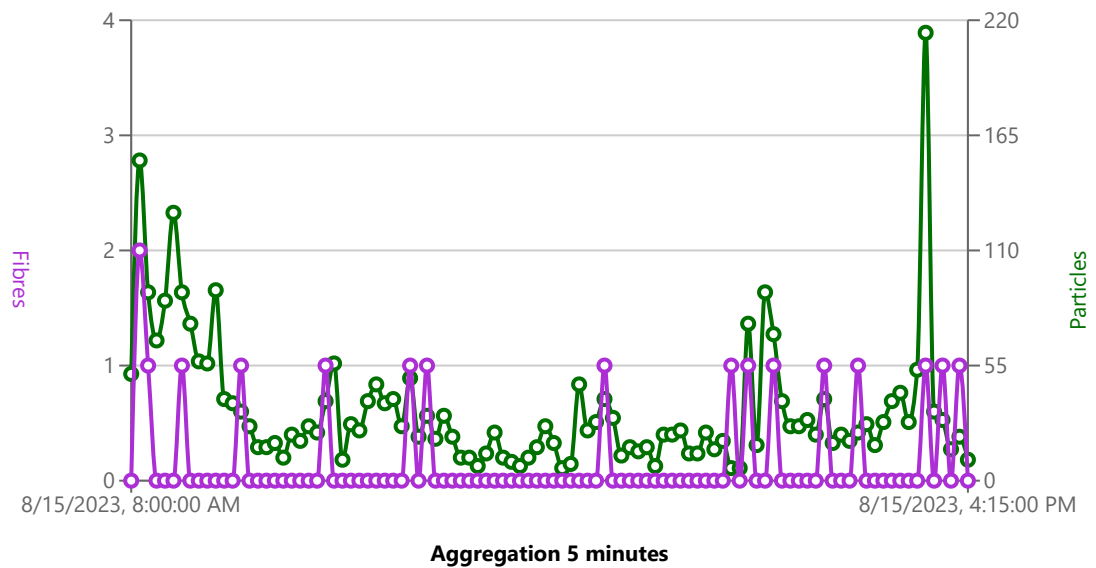


Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/15/2023, 8:03:56 AM	8/15/2023, 4:16:44 PM	17	3385	0	0

Sampling Line Charts

Session 66834 8/15/2023, 8:03:56 AM - 8/15/2023, 4:16:44 PM





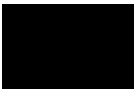
Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/16/2023, 8:01:35 AM to 8/16/2023, 4:14:27 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature



Name

Ishara Shiromi

Date

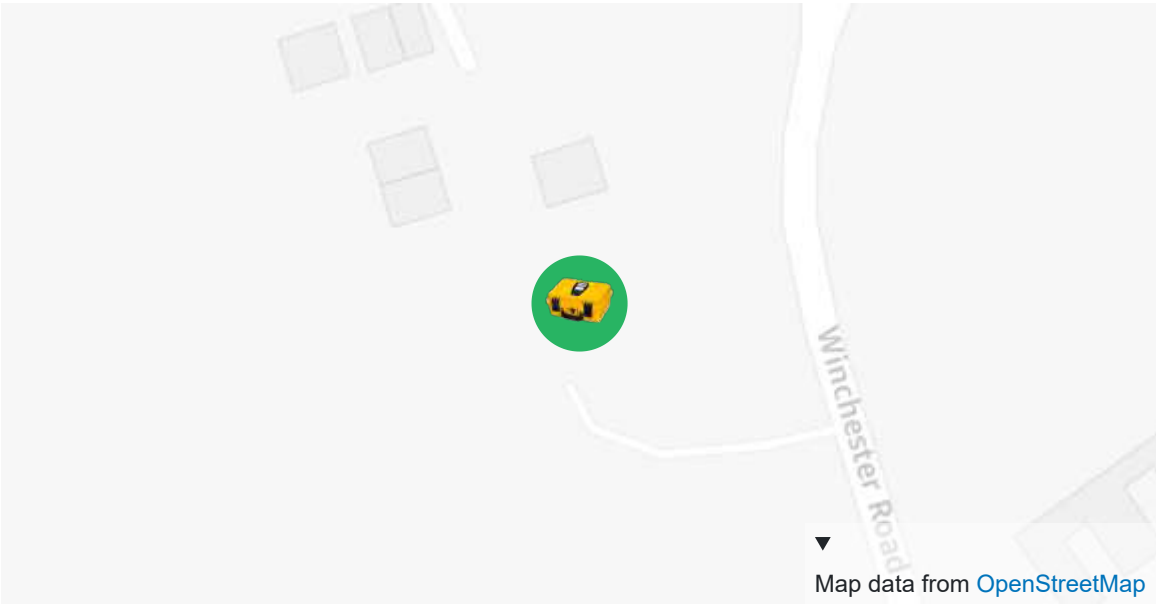
16/08/2023

Summary

Serial	100117
Session Start	8/16/2023, 8:01:35 AM
Session End	8/16/2023, 4:14:27 PM
Session Count	1
Total Fibres	26
Total Particles	5643
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

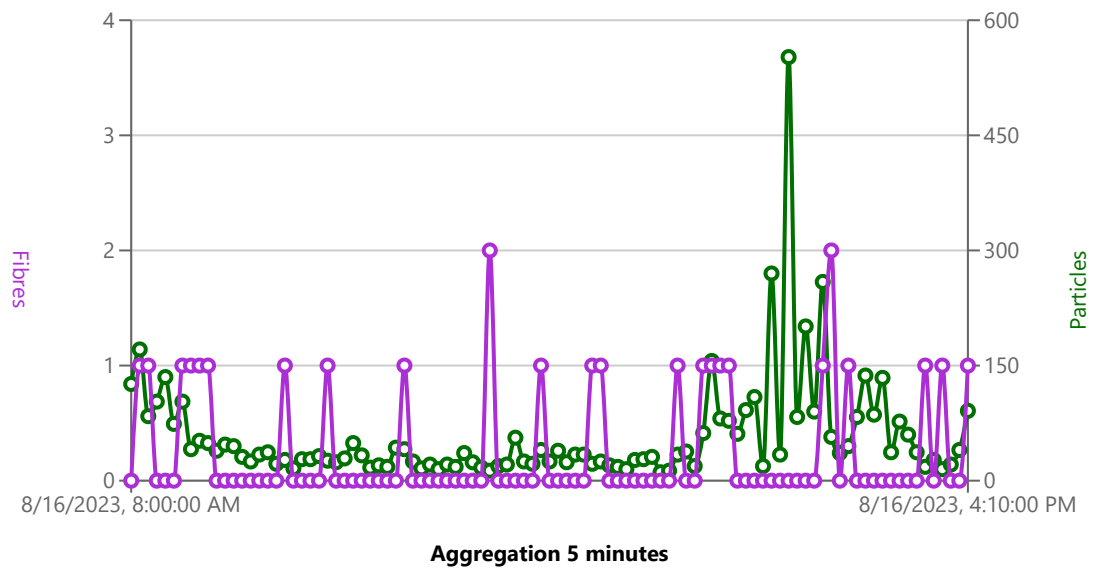


Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/16/2023, 8:01:35 AM	8/16/2023, 4:14:27 PM	26	5643	0	0

Sampling Line Charts

Session 67095 8/16/2023, 8:01:35 AM - 8/16/2023, 4:14:27 PM





Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/17/2023, 7:34:39 AM to 8/17/2023, 4:05:46 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature



Name

Ishara Shiromi

Date

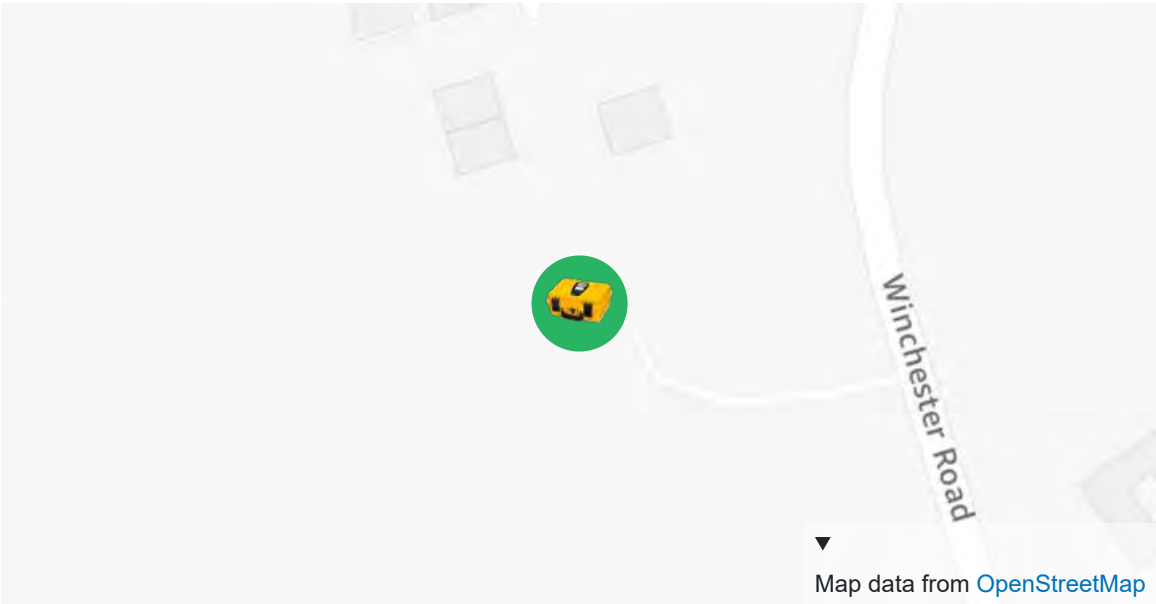
18/08/2023

Summary

Serial	100117
Session Start	8/17/2023, 7:34:39 AM
Session End	8/17/2023, 4:05:46 PM
Session Count	1
Total Fibres	17
Total Particles	10928
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



Satellite Map

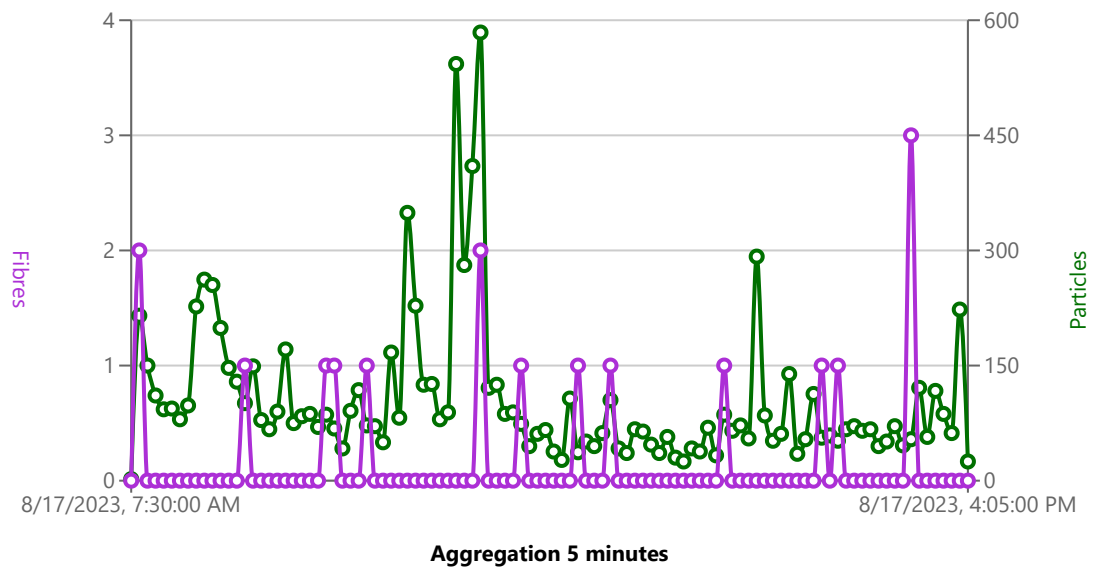


Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/17/2023, 7:34:39 AM	8/17/2023, 4:05:46 PM	17	10928	0	0

Sampling Line Charts

Session 67359 8/17/2023, 7:34:39 AM - 8/17/2023, 4:05:46 PM





Alert Technology Ltd have developed the world's first real-time asbestos detection and monitoring technology. This report has been created based on data collated by ALERT PRO CONNECTED device(s) and should not be used as a replacement for any legislatively required asbestos monitoring. The information in this report should be used to understand asbestos risk in more detail with the intention of helping users make data driven decisions to increase safety, efficiency and prioritise budgets.

Sampling Result

For the time period 8/18/2023, 7:52:57 AM to 8/18/2023, 1:37:28 PM 1 session was recorded. A total of 0 alarms and 0 warnings were seen over this period.

Signature

Signature



Name

Ishara Shiromi

Date

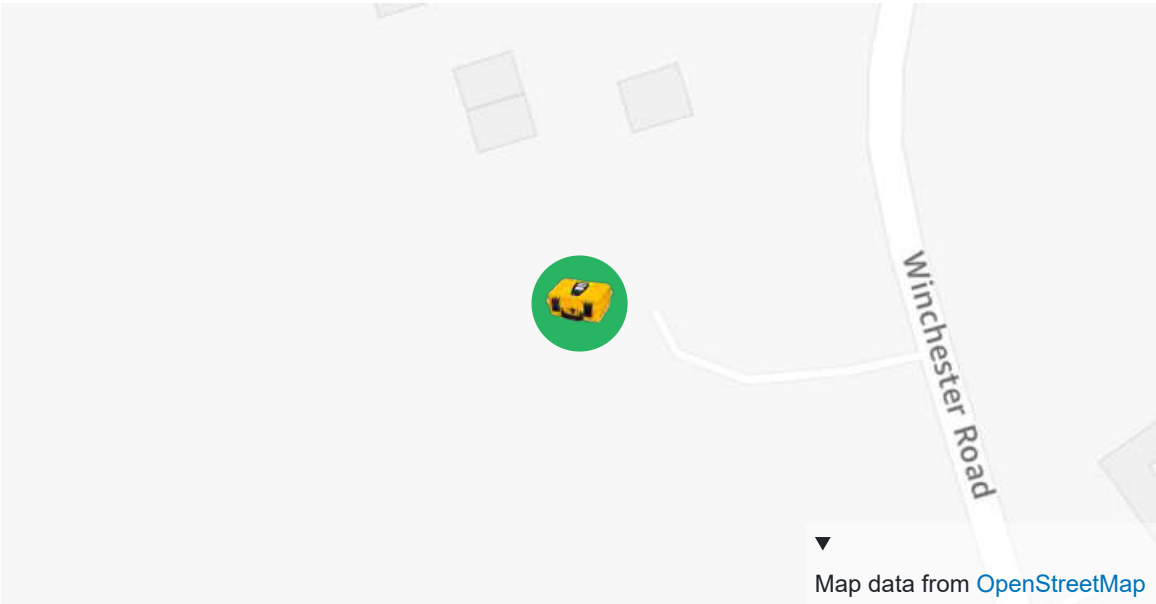
21/08/2023

Summary

Serial	100117
Session Start	8/18/2023, 7:52:57 AM
Session End	8/18/2023, 1:37:28 PM
Session Count	1
Total Fibres	12
Total Particles	3584
Total Warnings	0
Total Alarms	0
Level	CLEAR

Tags

Street Map



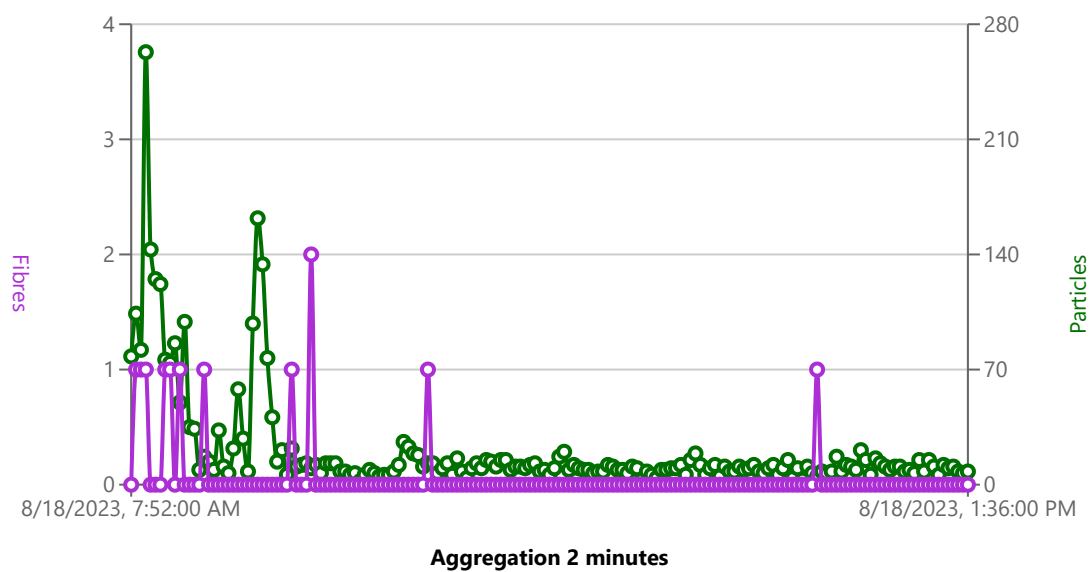
Satellite Map



Sampling Breakdown (Limited to 100 Rows)

Unit	Start	End	Fibres	Particles	Warnings	Alarms
100117	8/18/2023, 7:52:57 AM	8/18/2023, 1:37:28 PM	12	3584	0	0

Session 67626 8/18/2023, 7:52:57 AM - 8/18/2023, 1:37:28 PM





Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618

cs@elab-uk.co.uk
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 23-49605

Issue: 1

Date of Issue: 22/08/2023

Contact: Michael Gillman

Customer Details: Statom Group Ltd
Statom House
795 London Road
Grays
EssexRM20 3LH

Quotation No: Q22-03554

Order No: 176-60740 BM

Customer Reference: Not Supplied

Date Received: 17/08/2023

Date Approved: 22/08/2023

Details: Boorely Gardens

Approved by:



Graham Knight, Lab Manager

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

This report may only be reproduced in full



Sample Summary

Report No.: 23-49605, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
334922	1	14/08/2023	17/08/2023		c
334923	2	14/08/2023	17/08/2023		c
334924	3	14/08/2023	17/08/2023		c
334925	4	14/08/2023	17/08/2023		c



2683

Results Summary

Report No.: 23-49605, issue number 1

ELAB Reference	334922	334923	334924	334925
Customer Reference				
Sample ID				
Sample Type	WATER	WATER	WATER	WATER
Sample Location	1	2	3	4
Sample Depth (m)				
Sampling Date	14/08/2023	14/08/2023	14/08/2023	14/08/2023

Determinand	Codes	Units	LOD				
Frisbee Monitoring Station							
Date Monitoring Started	N	-	0	07/08/2023	07/08/2023	07/08/2023	07/08/2023
Date Monitoring Finished	N	-	0	14/08/2023	14/08/2023	14/08/2023	14/08/2023
Number of Days Exposed	N	Days	0	7	7	7	7
Total insoluble solids	N	mg	0.1	5.4	2.4	13	6.6
Total Dust Deposition	N	mg/m2/day	0.1	19	8.5	45	23



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

Tel: +44 (0)1424 718618, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

Results Summary

Report No.: 23-49605, issue number 1

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 (%)
334922		1	Filter Paper	No asbestos detected	n/t	n/t	n/t	n/t
334923		2	Filter Paper	No asbestos detected	n/t	n/t	n/t	n/t
334924		3	Filter Paper	No asbestos detected	n/t	n/t	n/t	n/t
334925		4	Filter Paper	No asbestos detected	n/t	n/t	n/t	n/t



Method Summary

Report No.: 23-49605, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Asbestos identification	U	Air dried sample	22/08/2023	281	Microscopy

Report Information

Report No.: 23-49605, issue number 1

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"
LOD	LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination. Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed. ELAB are unable to provide an interpretation or opinion on the content of this report. The results relate only to the sample received. PCB congener results may include any coeluting PCBs Uncertainty of measurement for the determinands tested are available upon request Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

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

TPH Classification - HWOL Acronym System

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



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618

cs@elab-uk.co.uk
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 23-49684

Issue: 1

Date of Issue: 31/08/2023

Contact: Michael Gillman

Customer Details: Statom Group Ltd
Statom House
795 London Road
Grays
EssexRM20 3LH

Quotation No: Q22-03554

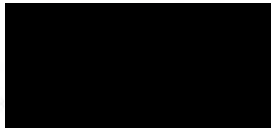
Order No: 170-59214 BM

Customer Reference: Not Supplied

Date Received: 23/08/2023

Date Approved: 31/08/2023

Details: Firs Farm

Approved by: 

Tim Reeve, Quality Officer

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

This report may only be reproduced in full



Sample Summary

Report No.: 23-49684, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
335556	1	21/08/2023	23/08/2023		
335557	2	21/08/2023	23/08/2023		



Results Summary

Report No.: 23-49684, issue number 1

ELAB Reference	335556	335557
Customer Reference		
Sample ID		
Sample Type	WATER	WATER
Sample Location	1	2
Sample Depth (m)		
Sampling Date	21/08/2023	21/08/2023

Determinand	Codes	Units	LOD		
Frisbee Monitoring Station					
Date Monitoring Started	N	-	0	14/08/2023	14/08/2023
Date Monitoring Finished	N	-	0	21/08/2023	21/08/2023
Number of Days Exposed	N	Days	0	7	7
Total insoluble solids	N	mg	0.1	0.6	0.2
Total Dust Deposition	N	mg/m2/day	0.1	2.0	0.6

Report Information

Report No.: 23-49684, issue number 1

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"
LOD	LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination. Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed. ELAB are unable to provide an interpretation or opinion on the content of this report. The results relate only to the sample received. PCB congener results may include any coeluting PCBs Uncertainty of measurement for the determinands tested are available upon request Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

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

TPH Classification - HWOL Acronym System

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

Appendix G

ITP Sign Off Sheets

Statom Group Limited

Statom House, 795 London Road, Grays, Essex, RM20 3LH

Tel: 01708 222 777

www.statom.co.uk

Registered in England and Wales

Company No: 8785228 VAT 177634867

To organise, control and document necessary inspection and testing stages throughout the works			
JOB DETAILS			
Project No.	ST176	Project Title	Boorley Gardens Park Farm Parcel 1D
Start Date	31/07/2023	End Date	25/08/2023
Area	B	Inspectors name	Bjorn Murphy MCIOB
INSPECTIONS			
ASPECT	Completed YES NO		REMARK/COMMENTS
Step 1			
Area Surveyed?	☒	☐	Site Engineer has Surveyed the area existing levels are on the attached drawing.
Photographs taken of area prior to works?	☒	☐	Photos taken and attached
Chemical samples taken for waste disposal?	☒	☐	Sample wasn't needed waste has been identified as code 170503 (Asbestos) and will be loaded straight into Haulage Vehicle and the correct waste facility
Sample location Plan Provided	☒	☐	Sample location Plan attached for reference, but no samples were taken in Area B
Step 2			
Area excavated out to natural ground?	☒	☐	Yes & photos taken
Photographs taken of sub-formation?	☒	☐	Yes, Photo Library document formed
Area inspected by Environmental Consultant & Signed off?	☒	☐	Fiona Goode from GESL came to site on 10.08.2023 area A signed off and signed off sheet attached.
Sub-formation Surveyed	☒	☐	Yes, attached Survey
Phase 3			
Waste Transfer notes provided for waste disposal?	☒	☐	Yes attached. The Asbestos area B was removed from site on the 09.08.2023
Waste Disposal Log completed?	☒	☐	yes
All documentation formed for the final report to be issued	☒	☐	Yes

Not yet received

SIGN OFF			
Statom		NAME Bjorn Murphy MCIOB	DATE 29/08/23
Client / Representative		NAME Gemma A Good	DATE 31/8/23

To organise, control and document necessary inspection and testing stages throughout the works			
JOB DETAILS			
Project No.	ST176	Project Title	Boorley Gardens Park Farm Parcel 1D
Start Date	31/07/2023	End Date	25/08/2023
Area	A	Inspectors name	Bjorn Murphy MCIOB
INSPECTIONS			
ASPECT	Completed YES NO		REMARK/COMMENTS
Step 1			
Area Surveyed?	☒	☐	Site Engineer has Surveyed the area existing levels are on the attached drawing.
Photographs taken of area prior to works?	☒	☐	Photos taken and attached
Chemical samples taken for waste disposal?	☒	☐	Samples taken and collected for testing on Tuesday 01/08/23
Sample location Plan Provided	☒	☐	Sample location Plan attached
Step 2			
Area excavated out to natural ground?	☒	☐	Yes & photos taken
Photographs taken of sub-formation?	☒	☐	Yes, Photo Library document formed
Area inspected by Environmental Consultant & Signed off?	☒	☐	Fiona Goode from GESL came to site on 10.08.2023 area A signed off and signed off sheet attached.
Sub-formation Surveyed	☒	☐	Yes, Attached Survey
Phase 3			
Waste Transfer notes provided for waste disposal?	☒	☐	Yes <i>Not yet received</i>
Waste Disposal Log completed?	☒	☐	Yes <i>— " —</i>
All documentation formed for the final report to be issued	☒	☐	Yes <i>— " —</i>

SIGN OFF			
Statom		NAME <i>Bjorn Murphy MCIOB</i>	DATE
Client / Representative		NAME <i>Gemma A Good</i>	DATE <i>31/8/23</i>



To organise, control and document necessary inspection and testing stages throughout the works

JOB DETAILS

Project No.	ST176	Project Title	Boorley Gardens Park Farm Parcel 1D
Start Date	31/07/2023	End Date	24/08/2023
Area	C	Inspectors name	Bjorn Murphy MCIOB

INSPECTIONS

ASPECT	Completed		REMARK/COMMENTS
	YES	NO	

Step 1

Area Surveyed?	☒	☐	Site Engineer has Surveyed the area existing levels are on the attached drawing.
Photographs taken of area prior to works?	☒	☐	Photos taken and attached
Chemical samples taken for waste disposal?	☒	☐	Samples taken and collected for testing on Tuesday 01/08/23
Sample location Plan Provided	☒	☐	Sample location Plan attached

Step 2

Area excavated out to natural ground?	☒	☐	Yes & photos taken
Photographs taken of sub-formation?	☒	☐	Yes, Photo Library document formed
Area inspected by Environmental Consultant & Signed off?	☐	☐	Fiona Goode from GESL came to site on 10.08.2023 area A signed off and signed off sheet attached.
Sub-formation Surveyed	☐	☐	Yes, Attached Survey

Phase 3

Waste Transfer notes provided for waste disposal?	☐	☐	Yes NOT YET RECEIVED
Waste Disposal Log completed?	☐	☐	Yes " "
All documentation formed for the final report to be issued	☐	☐	Yes " "

SIGN OFF

Statom		NAME Bjorn Murphy MCIOB	DATE 29/08/23
Client / Representative		NAME G. GOOD	DATE 31/8/23



To organise, control and document necessary inspection and testing stages throughout the works

JOB DETAILS

Project No.	ST176	Project Title	Boorley Gardens Park Farm Parcel 1D
Start Date	31/07/2023	End Date	25/08/2023
Area	D	Inspectors name	Bjorn Murphy MCI0B

INSPECTIONS

ASPECT	Completed		REMARK/COMMENTS
	YES	NO	
Step 1			
Area Surveyed?	☒	☐	Site Engineer has Surveyed the area existing levels are on the attached drawing.
Photographs taken of area prior to works?	☒	☐	Photos taken and attached
Chemical samples taken for waste disposal?	☒	☐	Samples taken and collected for testing on Tuesday 01/08/23
Sample location Plan Provided	☒	☐	Sample location Plan attached
Step 2			
Area excavated out to natural ground?	☒	☐	Yes & photos taken
Photographs taken of sub-formation?	☒	☐	Yes, Photo Library document formed
Area inspected by Environmental Consultant & Signed off?	☒	☐	Fiona Goode from GESL came to site on 10.08.2023 area A signed off and signed off sheet attached.
Sub-formation Surveyed	☒	☐	Yes, Attached Survey
Phase 3			
Waste Transfer notes provided for waste disposal?	☒	☐	Yes NOT YET RECEIVED
Waste Disposal Log completed?	☒	☐	Yes
All documentation formed for the final report to be issued	☒	☐	Yes

SIGN OFF

Statom		NAME	Bjorn Murphy MCI0B	DATE	28/08/23
Client / Representative	SIGN	NAME		DATE	

To organise, control and document necessary inspection and testing stages throughout the works

JOB DETAILS

Project No.	ST176	Project Title	Boorley Gardens Park Farm Parcel 1D
Start Date	31/07/2023	End Date	25/08/2023
Area	E	Inspectors name	Bjorn Murphy MCIOB

INSPECTIONS

ASPECT	Completed		REMARK/COMMENTS
	YES	NO	

Step 1

Area Surveyed?	☒	☐	Site Engineer has Surveyed the area existing levels are on the attached drawing.
Photographs taken of area prior to works?	☒	☐	Photos taken and attached
Chemical samples taken for waste disposal?	☒	☐	Samples taken and collected for testing on Tuesday 01/08/23
Sample location Plan Provided	☒	☐	Sample location Plan attached

Step 2

Area excavated out to natural ground?	☒	☐	Yes & photos taken
Photographs taken of sub-formation?	☒	☐	Yes, Photo Library document formed
Area inspected by Environmental Consultant & Signed off?	☒	☐	GESL came and inspected on 24/08/2023 and was happy to remove the Tarmac layer back to the tram layer which is sitting on the existing Natural ground.
Sub-formation Surveyed	☒	☐	Yes, Attached Survey

Phase 3

Waste Transfer notes provided for waste disposal?	☒	☐	Yes <i>NOT YET RECEIVED</i>
Waste Disposal Log completed?	☒	☐	Yes <i>———</i>
All documentation formed for the final report to be issued	☒	☐	Yes <i>———</i>

SIGN OFF

Statom		NAME Bjorn Murphy MCIOB	DATE 29/08/23
Client / Representative	SIGN	NAME	DATE



STATOM GROUP

REMEDIATION • GROUNDWORKS • STRUCTURES

ST176 Park Farm Boorley Gardens Parcel 1D Environmental Consultant Area QA Sign off.



Area A	Area B	Area C	Area D	Area E
Yes/ No FG	Yes/ No FG	Yes/ No FG	Yes/ No FG	Yes/ No FG

SIGN OFF			
Statom		NAME Bryan Murphy	DATE 10-08-23
Environmental Consultant	SIGN	NAME Fiona Goode	DATE 10/08/23

Appendix H

Survey Plans

Statom Group Limited

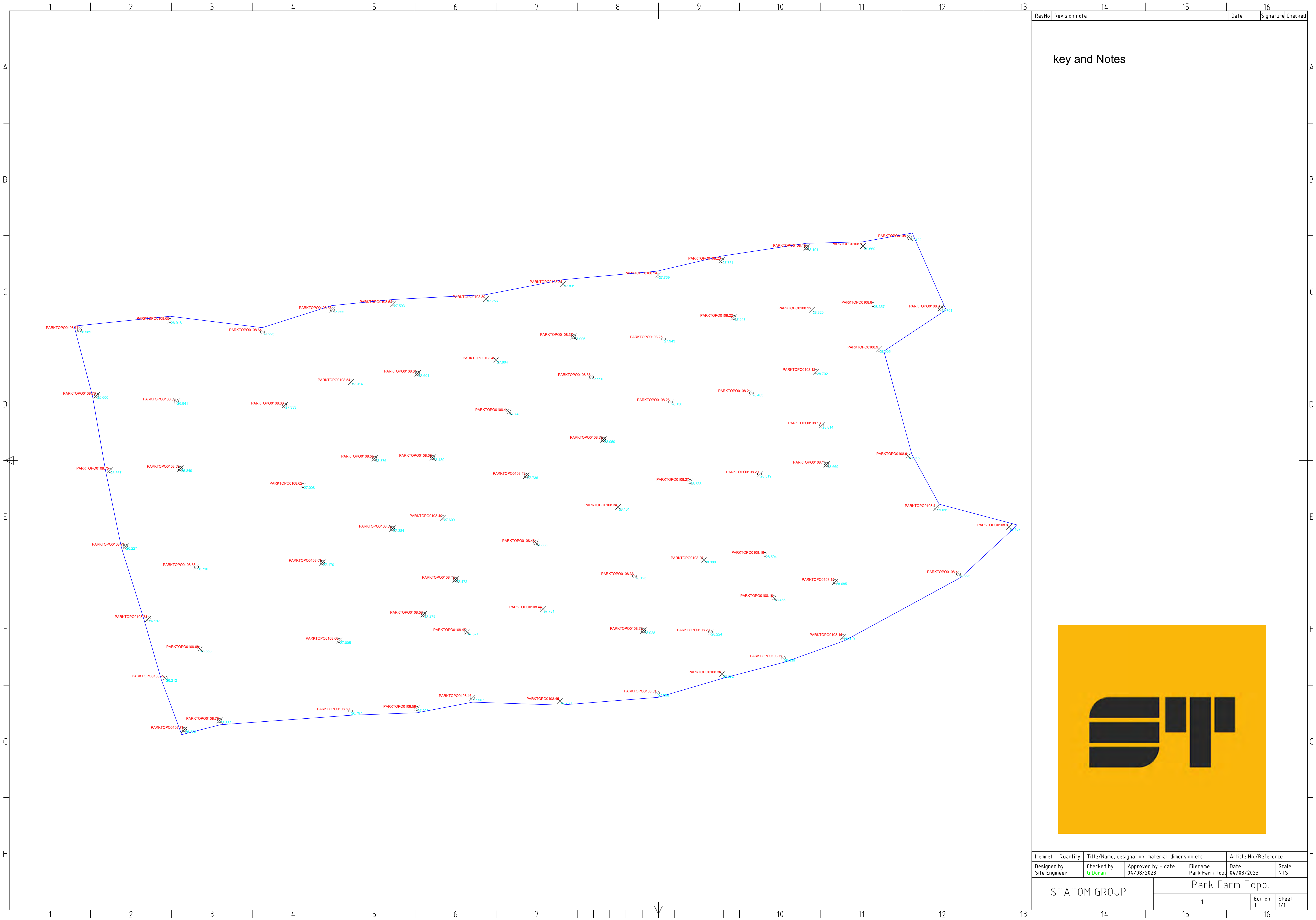
Statom House, 795 London Road, Grays, Essex, RM20 3LH

Tel: 01708 222 777

www.statom.co.uk

Registered in England and Wales

Company No: 8785228 VAT 177634867



key and Notes



Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by Site Engineer	Checked by G.Doran	Approved by - date 04/08/2023	Filename Park Farm Topo	Date 04/08/2023	Scale NTS	
STATOM GROUP			Park Farm Topo.			
			1	Edition 1	Sheet 1/1	

Appendix B

Site Diary Inspection Records of Reduced Dig and Shallow Garden Soils



Project No. GE20346

Project Name Boorley Gardens

Client Jackson Rowe

Engineers

 Fiona Goode

Location Boorley Green

Date 10/08/2023

1 record

Date & Time	10/08/2023, 10:19
Location	50° 56' 0.768" N 1° 17' 6.059" W
Remarks	Reduced Dig
Weather	Sunny, slight breeze, dry

19 records

Photograph



Description	Reduced dig Area A
-------------	--------------------

Photograph



Description Reduced Dig Area A

Photograph



Description Reduced Dig Area A

Photograph



Description Reduced Dig Area A

Photograph



Description Reduced Dig Area A

Photograph



Description Reduced dig Area A

Photograph



Description Reduced dig Area A

Photograph

Site Diary	Photograph(s)		
		Description	Reduced Dig Area A
		Photograph	
			
	Photograph(s)	Description	Reduced Dig Area A
		Photograph	
			
		Description	Sign
		Photograph	



Description Reduced dig Area C

Photograph



Description Reduced dig Area C

Photograph



Description Area C tank

Photograph



Description

Photograph



Description

Reduced dig Area D

Photograph



Description

Reduced dig Area D

Photograph



Description Reduced dig Area D

Photograph



Description Statom area plan for waste samples

Photograph



Description Statom remediation areas

Time 0 records

Project No. GE20346

Project Name Boorley Gardens

Client Jackson Rowe

Engineers

 Fiona Goode

Location Boorley Green

Date 24/08/2023

1 record

Date & Time 24/08/2023, 10:47

Location 50° 55' 59.467" N 1° 17' 3.84" W

Remarks Inspection of reduced dig completed across the site

Weather Sunny, breezy, dry

11 records

Photograph



Description Area C reduced dig

Photograph



Description Area C reduced dig

Photograph



Description Area C reduced dig

Photograph



Description Area C reduced dig

Photograph

Site Diary

Photograph(s)



Description

Area A

Photograph



Description

Area A

Photograph



Description

Area A

Photograph



Description

Area A

Photograph



Description

Area A

Photograph



Description

Area C

Photograph



Description

Area plan

Time

0 records

ID GE22457

Project Name Boorley Gardens

Client Bellway Homes (Wessex)

Engineers

 Fiona Goode

Project Manager

 Shaun Armitage

Location Boorley Green

Date 24/06/2024

Details of Hole

4 records

Hole ID	HP01
Plot No./Position	Plot 18
Date of Hole	24/06/2024, 11:54
Hole Type	HP
Final Depth	0.60

Ground Conditions

2 records

Top Depth	Base Depth	General description of stratum
0	0.2	Dark brown slightly gravelly slightly sandy CLAY with frequent roots and rootlets
0.2	0.6	Firm dark brown slightly gravelly slightly sandy CLAY with occasional rootlets

Samples

2 records

Top Depth	Base Depth	Sample type	Sample reference
0.15		ES	1
0.6		ES	2

Pass/Fail (X) Pass
() Fail

Remarks

Photo of Spoil



Photo of hole with tape in place



Photographs

1 record

Photograph



Description	Plot 18
-------------	---------

Hole ID	HP02
Plot No./Position	Plot 19
Date of Hole	24/06/2024, 12:08
Hole Type	HP
Final Depth	0.40

Ground Conditions

2 records

Top Depth	Base Depth	General description of stratum
0	0.2	Dark brown slightly sandy slightly gravelly CLAY with frequent rootlets
0.2	0.4	Firm orange and grey mottled slightly sandy CLAY with occasional rootlets

Samples

2 records

Top Depth	Base Depth	Sample type	Sample reference
0.1		ES	1
0.4		ES	2

Pass/Fail

(X) Pass
() Fail

Remarks

Photo of Spoil



Photo of hole with tape in place



Photographs

1 record

Photograph



Description

Plot 19

Hole ID HP03

Plot No./Position Plot 20

Date of Hole 24/06/2024, 12:25

Hole Type HP

Final Depth 0.45

Ground Conditions

2 records

Top Depth	Base Depth	General description of stratum
0	0.2	Dark brown slightly sandy slightly gravelly CLAY with frequent rootlets
0.2	0.45	Firm brown orange and grey mottled slightly sandy CLAY with occasional rootlets

Samples

2 records

Top Depth	Base Depth	Sample type	Sample reference
0.15		ES	1
0.45		ES	2

Pass/Fail (X) Pass
() Fail

Remarks

Photo of Spoil



Photo of hole with tape in place



Photographs

1 record

Photograph



Description Plot 20

Hole ID HP04

Plot No./Position Plot 21

Date of Hole 24/06/2024, 12:36

Hole Type HP

Final Depth 0.43

Ground Conditions

2 records

Top Depth	Base Depth	General description of stratum
0	0.20	Dark brown slightly sandy slightly gravelly CLAY with frequent rootlets
0.20	0.43	Firm brown orange and grey slightly sandy CLAY with occasional rootlets

Samples

2 records

Top Depth	Base Depth	Sample type	Sample reference
0.1		ES	1
0.4		ES	2

Pass/Fail (X) Pass
() Fail

Remarks

Photo of Spoil



Photo of hole with tape in place



Photographs

5 records

Photograph



Description Plot 21

Photograph



Description Plots 22-23 to be completed

Photograph



Description T/S 1

Photograph



Description	T/S 2
-------------	-------

Photograph



Description	Plots 22- 23 in progress
-------------	--------------------------

Approved By

 Shaun Armitage	
--	---

ID GE22457

Project Name Boorley Gardens

Client Bellway

Engineers

 Gavin Roberts

Project Manager

 Shaun Armitage

Location Plots 22 and 23

Date 08/07/2024

Details of Hole

2 records

Hole ID	Plot 22
Plot No./Position	Plot 22
Date of Hole	08/07/2024, 11:26
Hole Type	HP
Final Depth	0.6

Ground Conditions

2 records

Top Depth	Base Depth	General description of stratum
0	0.2	Brown slightly clayey silty SAND with some fine flint gravel and rootlets
0.2	0.6	Brown slightly sandy CLAY with some fm flint gravel

Pass/Fail (X) Pass
() Fail

Remarks

Photo of Spoil



Photo of hole with tape in place



Hole ID	Plot23
Plot No./Position	Plot23
Date of Hole	08/07/2024, 11:38
Hole Type	HP
Final Depth	0.7

Ground Conditions

2 records

<i>Top Depth</i>	<i>Base Depth</i>	<i>General description of stratum</i>
0	0.25	Brown slightly clayey silty SAND with rare fm flint gravel and rootlets
0.25	0.7	Light brown, orange brown and blue grey mottled sandy CALY with occasional c flint gravel

Pass/Fail	(X) Pass () Fail
-----------	----------------------

Remarks

Photo of Spoil



Photo of hole with tape in place



Photographs

1 record

Photograph



Description

Plot 23

Approved By



Shaun Armitage



APPENDIX C

Independent Geochemical Laboratory Test Results





Fiona Goode
Geo-Environmental Services Ltd
Unit 7, Danworth Farm
Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL

t: 01273 832972

e: fiona.goode@gesl.net

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 23-50578

Project / Site name:	Boorley Gardens	Samples received on:	11/08/2023
Your job number:	GE20584	Samples instructed on / Analysis started on:	11/08/2023
Your order number:	PO 6676	Analysis completed by:	18/08/2023
Report Issue Number:	1	Report issued on:	18/08/2023
Samples Analysed:	6 soil samples		

Signed: _____

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-50578
Project / Site name: Boorley Gardens
Your Order No: PO 6676

Lab Sample Number				2779015	2779016	2779017	2779018	2779019
Sample Reference				Base #1	Base #2	Base #3	Base #4	Base #5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				11/08/2023	11/08/2023	11/08/2023	11/08/2023	11/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.7	11	15	9.4	13
Total mass of sample received	kg	0.001	NONE	1.4	1.5	1.3	1.4	1.3

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	SSZ	SSZ	SSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6	5.3	7.4	7.2	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	310	190	460	56	89
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.157	0.0971	0.229	0.0282	0.0447
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	157	97.1	229	28.2	44.7
Sulphide	mg/kg	1	MCERTS	< 1.0	3.4	< 1.0	1.6	2.6
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	81	24	17	5.7	8.4
Elemental Sulphur	mg/kg	5	MCERTS	29	< 5.0	10	11	17
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.9	1.2	0.6	0.7	0.8

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	-------	-------	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.05	0.07	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.06	0.06	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
-----------------------------	-------	-----	-----------	--------	--------	--------	--------	--------

Analytical Report Number: 23-50578
Project / Site name: Boorley Gardens
Your Order No: PO 6676

Lab Sample Number	2779015	2779016	2779017	2779018	2779019
Sample Reference	Base #1	Base #2	Base #3	Base #4	Base #5
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	11/08/2023	11/08/2023	11/08/2023	11/08/2023	11/08/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.2	8.1	7	5	6.2
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.29	0.35	0.18	0.28	0.57
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.3	0.4	0.7	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	18	7.6	14	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	7.9	8.1	7.6	6.8
Lead (aqua regia extractable)	mg/kg	1	MCERTS	20	42	17	32	15
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	4.9	4.6	2.2	3.4	5.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	30	15	22	37
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	30	31	200	25	28

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS 1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 _{HS 1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 _{EH CU 1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH CU 1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH CU 1D_AL}	mg/kg	8	MCERTS	9	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS 1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 _{HS 1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 _{HS 1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 _{EH CU 1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH CU 1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH CU 1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH CU 1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-50578
Project / Site name: Boorley Gardens
Your Order No: PO 6676

Lab Sample Number	2779020			
Sample Reference	Base #6			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	11/08/2023			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	15
Total mass of sample received	kg	0.001	NONE	1.2

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	140
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0711
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	71.1
Sulphide	mg/kg	1	MCERTS	1.7
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	18
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.6

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
----------------------------	-------	---	--------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.14
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.48
Pyrene	mg/kg	0.05	MCERTS	0.45
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.27
Chrysene	mg/kg	0.05	MCERTS	0.4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.53
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.23
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.37
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.22
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.24

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	3.33
-----------------------------	-------	-----	-----------	------

Analytical Report Number: 23-50578
Project / Site name: Boorley Gardens
Your Order No: PO 6676

Lab Sample Number	2779020			
Sample Reference	Base #6			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	11/08/2023			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.6
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.48
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	40
Lead (aqua regia extractable)	mg/kg	1	MCERTS	57
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9.8
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	29
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS 1D_AL}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D_AL}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 _{HS 1D_AL}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 _{EH CU 1D_AL}	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH CU 1D_AL}	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D_AL}	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH CU 1D_AL}	mg/kg	8	MCERTS	8.4
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS 1D_AR}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 _{HS 1D_AR}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 _{HS 1D_AR}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 _{EH CU 1D_AR}	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH CU 1D_AR}	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH CU 1D_AR}	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH CU 1D_AR}	mg/kg	10	MCERTS	23
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	27

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-50578

Project / Site name: Boorley Gardens

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2779015	Base #1	None Supplied	None Supplied	Brown clay and sand with gravel.
2779016	Base #2	None Supplied	None Supplied	Brown clay and sand with gravel.
2779017	Base #3	None Supplied	None Supplied	Brown clay and sand with gravel.
2779018	Base #4	None Supplied	None Supplied	Brown clay and sand with gravel.
2779019	Base #5	None Supplied	None Supplied	Brown clay and sand with gravel.
2779020	Base #6	None Supplied	None Supplied	Brown clay and sand with gravel.

Analytical Report Number : 23-50578
Project / Site name: Boorley Gardens

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

Analytical Report Number : 23-50578
Project / Site name: Boorley Gardens

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total



Fiona Goode
Geo-Environmental Services Ltd
Unit 7, Danworth Farm
Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL

t: 01273 832972

e: fiona.goode@gesl.net

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 23-53136

Project / Site name:	Boorley Gardens	Samples received on:	25/08/2023
Your job number:	GE20346	Samples instructed on / Analysis started on:	25/08/2023
Your order number:	PO 6723	Analysis completed by:	04/09/2023
Report Issue Number:	1	Report issued on:	04/09/2023
Samples Analysed:	3 soil samples		

Signed: 

Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-53136
Project / Site name: Boorley Gardens
Your Order No: PO 6723

Lab Sample Number				2792750	2792751	2792752
Sample Reference				BASE #7	BASE #8	BASE #9
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				25/08/2023	25/08/2023	25/08/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.3	7	7.4
Total mass of sample received	kg	0.001	NONE	1.3	1.2	1.1

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSO	DSO	DSO

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.1	7.4	6.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	22	110	32
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0111	0.0568	0.0158
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	11.1	56.8	15.8
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	3.1	21	6.7
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.8	0.6	0.5

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80
-----------------------------	-------	-----	-----------	--------	--------	--------

Analytical Report Number: 23-53136
Project / Site name: Boorley Gardens
Your Order No: PO 6723

Lab Sample Number	2792750	2792751	2792752
Sample Reference	BASE #7	BASE #8	BASE #9
Sample Number	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied
Date Sampled	25/08/2023	25/08/2023	25/08/2023
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.4	4.7	5.3
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.3	0.27	0.65
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	< 0.2	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	13	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	48	6.5	8.3
Lead (aqua regia extractable)	mg/kg	1	MCERTS	24	30	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	3.6	3.1	7.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	26	20	43
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	30	15	43

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS 1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 _{HS 1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 _{EH CU 1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH CU 1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH CU 1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS 1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS 1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 _{HS 1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 _{HS 1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 _{EH CU 1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH CU 1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH CU 1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH CU 1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS 1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-53136

Project / Site name: Boorley Gardens

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2792750	BASE #7	None Supplied	None Supplied	Brown clay and sand with gravel and vegetation.
2792751	BASE #8	None Supplied	None Supplied	Brown clay and sand with gravel.
2792752	BASE #9	None Supplied	None Supplied	Brown clay and sand with gravel.

Analytical Report Number : 23-53136
Project / Site name: Boorley Gardens

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

Analytical Report Number : 23-53136
Project / Site name: Boorley Gardens

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Geo-Environmental Services Ltd
Unit 7, Danworth Farm
Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL

t: 01273 832972

e: fiona.goode@gesl.net
shaun.armitage@gesl.net

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 24-027122

Project / Site name:	Boorley Gardens	Samples received on:	25/06/2024
Your job number:	GE22457	Samples instructed on / Analysis started on:	25/06/2024
Your order number:	PO-7563	Analysis completed by:	02/07/2024
Report Issue Number:	1	Report issued on:	02/07/2024
Samples Analysed:	6 soil samples		

Signed: 

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-027122
Project / Site name: Boorley Gardens
Your Order No: PO-7563

Lab Sample Number	238337	238338	238339	238340	238341
Sample Reference	HP01	HP02	HP03	HP03	HP04
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.60	0.10	0.15	0.45	0.40
Date Sampled	24/06/2024	24/06/2024	24/06/2024	24/06/2024	24/06/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	12	12	15	12
Total mass of sample received	kg	0.1	NONE	1.4	1.5	1.4	1.2	1.3

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	SSZ	SSZ	SSZ

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	6.6	6.4	6.2	7.1	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2400	260	370	430	900
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	95	63	81	190	510
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	47.4	31.5	40.4	96	255
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	21	13	17	19	24
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	5.3	< 5.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.6	1.6	1.6	1.5	1

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	-------	-------	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.15	0.29	0.15	0.12	0.23
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.06	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.15	0.29	0.13	0.22	0.37
Pyrene	mg/kg	0.05	MCERTS	0.13	0.22	0.12	0.18	0.34
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.07	0.1	0.06	0.1	0.14
Chrysene	mg/kg	0.05	MCERTS	0.08	0.11	0.06	0.09	0.18
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.08	0.09
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.09	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	1.07	< 0.80	0.89	1.35
-----------------------------	-------	-----	-----------	--------	------	--------	------	------

Analytical Report Number: 24-027122
Project / Site name: Boorley Gardens
Your Order No: PO-7563

Lab Sample Number	238337	238338	238339	238340	238341
Sample Reference	HP01	HP02	HP03	HP03	HP04
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.60	0.10	0.15	0.45	0.40
Date Sampled	24/06/2024	24/06/2024	24/06/2024	24/06/2024	24/06/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	8.6	9.6	8	7.3
Barium (aqua regia extractable)	mg/kg	1	MCERTS	37	28	34	35	35
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.56	0.48	0.51	0.49	0.33
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	< 0.2	< 0.2	< 0.2	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	22	23	23	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	13	16	15	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	41	40	45	39	21
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.7	5.8	6.1	6.4	7
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	42	36	37	35	23
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	45	39	43	44	68

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	11
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	11

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-027122
Project / Site name: Boorley Gardens
Your Order No: PO-7563

Lab Sample Number	238342			
Sample Reference	T/S2			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	24/06/2024			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.1	NONE	1.3

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	6.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	360
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	33
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	16.4
Sulphide	mg/kg	1	MCERTS	6.9
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	14
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.6

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
----------------------------	-------	---	--------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.09
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.1
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.06
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80
-----------------------------	-------	-----	-----------	--------

Analytical Report Number: 24-027122
Project / Site name: Boorley Gardens
Your Order No: PO-7563

Lab Sample Number				238342
Sample Reference				T/S2
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				24/06/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.9
Barium (aqua regia extractable)	mg/kg	1	MCERTS	51
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.47
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	17
Lead (aqua regia extractable)	mg/kg	1	MCERTS	38
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	5.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	33
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	40

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.02	NONE	< 0.020
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	NONE	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.05	NONE	< 0.050
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10

VOCS

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-027122

Project / Site name: Boorley Gardens

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
238337	HP01	None Supplied	0.6	Brown loam and clay with gravel and vegetation
238338	HP02	None Supplied	0.1	Brown loam and sand with gravel and vegetation
238339	HP03	None Supplied	0.15	Brown loam and sand with gravel and vegetation
238340	HP03	None Supplied	0.45	Brown loam and clay with gravel and vegetation
238341	HP04	None Supplied	0.4	Brown clay and loam with gravel and vegetation
238342	T/S2	None Supplied	None Supplied	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-027122

Project / Site name: Boorley Gardens

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021B	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088	D/W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS

Analytical Report Number : 24-027122
Project / Site name: Boorley Gardens

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

Geo-Environmental Services Ltd
Unit 7, Danworth Farm
Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL

t: 01273 832972

e: fiona.goode@gesl.net
shaun.armitage@gesl.net

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 24-027123

Project / Site name:	Boorley Gardens	Samples received on:	25.06.2024
Your job number:	GE22457	Samples instructed on / Analysis started on:	25.06.2024
Your order number:	PO-7563	Analysis completed by:	03.07.2024
Report Issue Number:	1	Report issued on:	03.07.2024
Samples Analysed:	1 soil sample		

Signed: _____

Rafał Szczepańczyk
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

i2 Analytical
7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Certificate of Analysis									
BS 3882:2015 Specification For Topsoil									
	Fail BS 3882				client				
Report No:	24-027123			Geo-Environmental Services Ltd					
Location	Boorley Gardens								
Lab Reference (Sample Number)	238336								
Sampling Date	24/06/2024								
Sample ID	HP01								
Depth (m)	0.15			Compliant with range (Y/N)					
		unit	Result	Multi-P	Acid	Calc	Low-F	Low-F(a)	Low-F(c)
Soil texture	<2mm fraction	%m/m	SANDY LOAM	Y	Y	Y	Y	Y	Y
Maximum coarse fragment content:	>2mm	%m/m	4.90	Y	Y	Y	Y	Y	Y
	>20mm	%m/m	0.00	Y	Y	Y	Y	Y	Y
	>50mm	%m/m	0.00	Y	Y	Y	Y	Y	Y
Mass loss on ignition		%	4.00						
	Clay 5-20%		Y	Y	Y	Y	Y	Y	Y
	Clay 20-35%		-	-	-	-	-	-	-
Soil pH:		pH	6.90	Y	N	N	Y	N	N
Carbonate:		%m/m	2.90	-	-	Y	-	-	Y
Available plant nutrients	Nitrogen	%m/m	0.18	Y	Y	Y	-	-	-
	Extractable Phosphate (as P)	mg/l	44.00	Y	Y	Y	N	N	N
	Extractable Potassium	mg/l	109.00	N	N	N	-	-	-
	Extractable Magnesium	mg/l	85.00	Y	Y	Y	-	-	-
Carbon: Nitrogen Ratio:		:1	13.20	Y	Y	Y	Y	Y	Y
Conductivity		us/cm	1800.00	Y	-	-	-	-	-
Phytotoxic contaminants:	** Total Zinc	mg/kg	36.00	Y	Y	Y	Y	Y	Y
	** Total Copper	mg/kg	13.00	Y	Y	Y	Y	Y	Y
	** Total Nickel	mg/kg	5.90	Y	Y	Y	Y	Y	Y
Visible contaminants:	>2mm	%m/m	0.00	Y	Y	Y	Y	Y	Y
	Plastics	%m/m	0.00	Y	Y	Y	Y	Y	Y
	Sharps	no. in 1 kg	0.00	Y	Y	Y	Y	Y	Y
Compliance:				Fail	Fail	Fail	Fail	Fail	Fail
Results are expressed on a dry weight basis, after correction for moisture content where applicable Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation									

** = MCERTS accredited

Analytical Report Number : 24-027123

Project / Site name: Boorley Gardens

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
238336	HP01	None Supplied	0.15	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-027123
Project / Site name: Boorley Gardens

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Coarse Fragment and Contaminant Analysis	Determination of >2mm contaminants	BS3882:2007 & BS8601:2013 & PAS 100:2005	L019B	D	NONE
Density of available extract	Gravimetric determination of density of dried sample up to 2 mm	In-house method	L019B	D	NONE
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Conductivity (BS 3882/BS 8601)	Determination of the conductivity of soil in accordance with BS 3882:2007 methodology	BS 3882:2007 & BS 8601:2013	L031B	D	NONE
Carbonate (Topsoil - BS 3882)	Determination of Carbonate as per BS 3882:2015	Method based on BS 3882:2015	L034	D	NONE
Extractable/Available Metals (BS 3882/BS 8601)	Determination of the extractable metals in soil, in accordance with BS 3882:2007 methodology	BS3882:2007 & BS8601:2013	L038B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Carbon to Nitrogen Ratio (Topsoil - BS3882:2015)	Carbon to Nitrogen ratio (:1) calculated using Loss on Ignition	BS3882:2015	L047/L087B	W	NONE
Mass loss on ignition (Topsoil - BS 3882)	Determination of Loss on Ignition as per BS 3882:2015	Method based on BS 3882:2015	L047	D	NONE
Phosphorus as PO ₄ (BS 3882/BS 8601)	Determination of the extractable phosphorus in soil, in accordance with BS 3882:2007 methodology	Method based on BS 3882:2015 & BS 8601:2013	L048B	D	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	D	NONE
pH (BS 3882/BS 8601)	Determination of the pH of soil in accordance with BS 3882:2007 methodology	BS 3882:2007 & BS 8601:2013	L099	D	NONE
Topsoil (BS 3882:2015)	Specification for topsoil	BS 3882:2015	PL		NONE

Analytical Report Number : 24-027123
Project / Site name: Boorley Gardens

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Textural Classification Diagram (BS 3882:2015)	BS 3882:2015	BS 3882:2015	PL		NONE
Geotechnical Testing	See attached geotechnical report	See attached geotechnical report	PL		NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

TEST CERTIFICATE

SPECIFICATION FOR TOPSOIL
In-house method based on: BS 3882: 2015

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS



Client: Geo-Environmental Services Ltd
Client Address: Unit 7, Danworth Farm, Cuckfield Road,
Hurstpierpoint, West Sussex,
BN6 9GL

Contact: Fiona Goode
Site Address: Boorley Gardens

Client Reference: GE22457
Job Number: 24-027123-1
Date Sampled: 24/06/2024
Date Received: 25/06/2024
Date Tested: 28/06/2024
Sampled By: Not Given

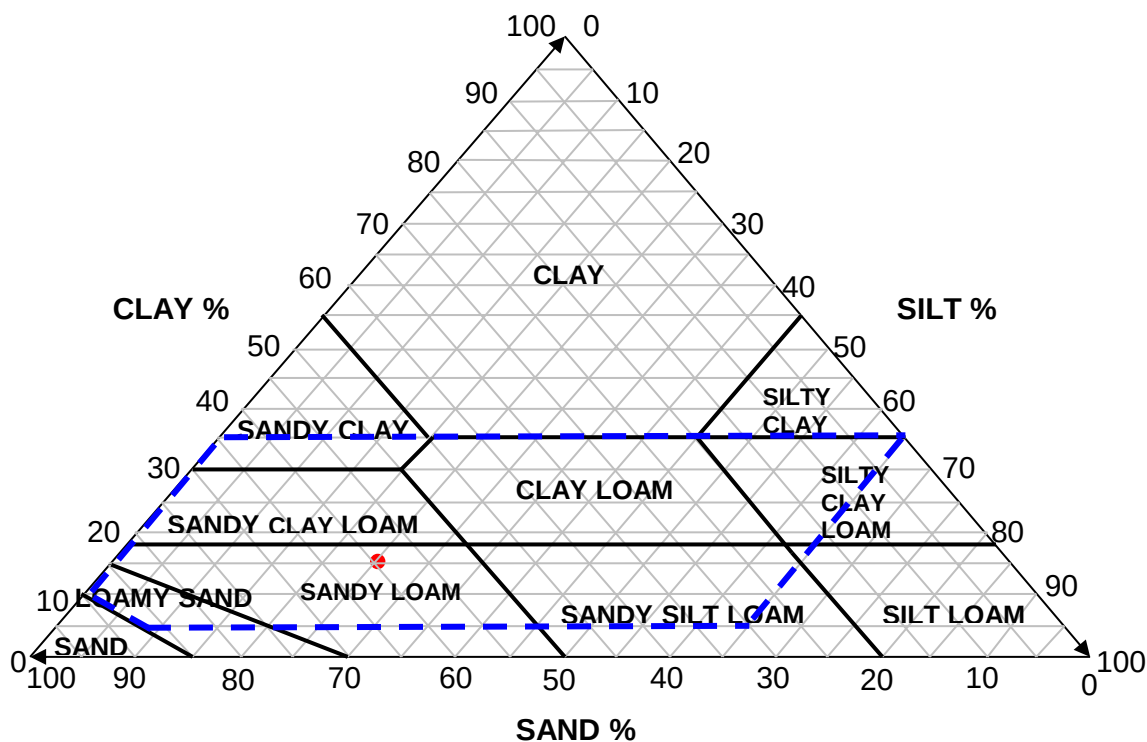
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference: 238336
Hole No.: HP01
Sample Reference: Not Given
Sample Description: SANDY LOAM

Depth Top [m]: 0.15
Depth Base [m]: Not Given
Sample Type: ES

Soil Texture Triangle



Sample Proportion	% dry mass
Sand	60.1
Silt	23.5
Clay	16.4

Texture within acceptable area (Y/N)

Remarks:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:



Katarzyna Koziel
Senior Reporting Specialist
for and on behalf of i2 Analytical Ltd