Land Science

BROOMHURST FARM

PHASE II CONTAMINATION ASSESSMENT

DAVID HARRIOTT

20TH NOVEMBER 2024

LS7905.1

Site:	**BROOMHURST FARM, LYMINSTER, BN17 7QQ**
Title:	**PHASE II CONTAMINATION ASSESSMENT**
Project:	**CONVERSION OF CATTLE SHED TO A DWELLING**
Client:	**DAVID HARRIOTT**
Contact:	**BATCHELLER MONKHOUSE**
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1.0 EXECUTIVE SUMMARY

This summary is a brief precis of the main findings and conclusions of the investigation. For detailed information, the reader is referred to the main report.

The area under investigation comprised a small cattle shed and dog kennel.

The proposed development was understood to comprise the conversion of the cattle shed and dog kennel into a two-storey residential dwelling with no garden.

The intrusive investigation included three hand pits to a maximum of 1.20m.

Strata	Base Depth range	Summary
Hardstanding	0.20m	Concrete - HP01 and HP02 only
Topsoil	0.30m	Slightly gravelly SAND. Gravel of flint - HP03 only
Made Ground	0.40m	Slightly clayey, sandy, GRAVELS. Chalk at HP01 and chalk, concrete and brick at HP02 - HP01 and HP02 only
Raised Beach Deposits	1.20m+	Slightly gravelly, silty, CLAY. Gravels of chalk and flint (HP01 and HP02) and slightly gravelly, clayey, SAND. Gravels of flint (HP03)

Groundwater was not encountered during the excavation of any of the investigative positions to a depth of 1.20mbgl.

Buried structural concrete may be designed to DS-1 and AC-1 in accordance with BS8500. Water supply pipe work will require protection from aggressive soil contaminants.

No issues with respect to ground gases have been identified.

No Radon Protection Measures (RPM) are required for new dwellings and extensions at this location.

Soil testing has identified elevated levels of PAH contamination. Requirements for remediation have been identified and detailed in section 9.8, due to risk of inhalation of indoor vapours.

Chemical results on Made Ground corresponded to a Non-Hazardous Waste classification. Natural soils are anticipated to generally be Inert Waste.

No immediate requirements for further ground investigation have been identified. A Remediation Method Statement should be prepared. This report should be submitted to relevant authorities etc. in good time for consideration and approval.

2.0 INTRODUCTION

2.1 General

Land Science was instructed to undertake a Phase II Contamination Assessment in relation to the proposed redevelopment at Broomhurst Farm, Lyminster, BN17 7QQ. The location is shown on Figure 1, which is centred at grid reference TQ 02720 05575.

2.2 Client

The Client for this appointment was David Harriott. This report may only be used by this named client and their project team for the purposes set out and subject to the report conditions. It was understood that the Client already owned the property, and that this investigation was not a prepurchase appraisal.

2.3 Area Under Investigation

The area under investigation comprised a small cattle shed and dog kennel. These locations were chosen based upon the findings of the recent phase I desk study report (July 2024). The layout is indicated on Figure 2, The area was approximately 0.01 hectares.

2.4 Proposed Development

The proposed development was understood to comprise the conversion of the cattle shed and dog kennel into a two-storey residential dwelling. No garden areas were proposed. Figure 3 illustrates the layout of the proposed redevelopment. The findings of this report may not be valid if the proposed development is altered.

2.5 Previous Investigations

The following previous investigation relevant to the site was made available:

- Phase I Contamination Assessment, ref. LS7686, by Land Science, dated 23rd July 2024

The previous desk study report included a site walkover, which identified areas of potential contamination. These included the storage of oil, fertiliser, pesticide and insecticide around barn 1, a sealed septic tank to the rear of the barns located on the soft standing and the previous cattle barn. There was no change to the site after the latest site visit for the phase II intrusive works.

The phase II Contamination Assessment has been carried out in accordance with the recommendations of the previous report and all reports must be read in conjunction with each other.

2.6 Scope of Work

The work carried out is described in detail in the following sections but in summary included:

- An intrusive investigation comprising three hand excavated trial pits.
- Preliminary chemical testing of selected soil samples in the field and laboratory.

The fieldwork was conducted on 16th September 2024, under the supervision of Land Science.

2.7 Geo-Environmental Objectives

A phase II intrusive investigation was required, to provide a generic quantitative risk assessment (GQRA). The reports were required to assess risks associated with end users, the proposed redevelopment, adjacent land uses, and the wider environment, in the context of the planning regime.

2.8 Standards

Where practicable, the investigation was undertaken in accordance with the following primary standards and guidance:

- Land Contamination Risk Management (LCRM) Environment Agency 2020.
- BS10175:2011+A1:2013, Investigation of Potentially Contaminated Sites.
- National Planning Policy Framework, July 2018.
- Building Regulations Approved Document C: Site preparation and resistance to contaminants and moisture, HM Government, July 2013.
- NHBC Standards Chapter 4.1: Land Quality - Managing Ground Conditions, 2019.

Other technical sources have been cited in respect of specific aspects of the investigation, as referenced throughout the text.

3.0 INTRUSIVE INVESTIGATION

3.1 Previous Investigations

A Phase I Contamination Assessment (LS7686) was previously undertaken by Land Science, which identified particularly significant land contamination hazards. This was primarily due to the agricultural land use and proposed residential end use, with the conceptual site model suggesting a **high** level of risk assigned to the site. Other potential sources of contamination included use of fuels and maintenance of vehicles, and storage of chemicals such as fertilisers and pesticides.

3.2 Investigation Rationale

Based on the findings of the conceptual site model from the previous phase I contamination assessment, the intrusive investigation was based on the following strategy:

- Hand pits were excavated to 1.20mbgl to assess the composition and depth of any Made Ground and any field evidence of contamination into the underlying soils.
- The hand excavated trial pits were used to minimise disruption to the site and the positions were located to give broad coverage across the site including across the footprint of the proposed dwelling.
- Additionally, HP03 was located specifically to investigate the septic tank.

Position	Provisional Depth / strata	Existing Location	Proposed Location	Testing, installations etc.
HP01	1.20m or refusal	Inside the cattle barn	Proposed dwelling	PID
HP02	8m or refusal	On the concrete hardstanding between the cattle barn and barn 1 (northwest)	Same as existing	
HP03	3m or refusal	Rear of the cattle barn (southwest)		

3.3 Contamination Strategy

Geo-environmental aspects were investigated based on the following strategy:

Area of Concern	Investigation	Position(s)
Made Ground	Representative samples of soil were to be screened for a broad industry standard screening contaminants.	All
Septic tank	A representative sample of soil was to be screened for petroleum hydrocarbon (TPH7) and volatile organic compounds (VOC/SVOC)	HP03
Agricultural land (fields) Offsite	A representative sample of soil was to be screened for herbicide and pesticides for possible surface runoff from adjacent farmland.	HP03

Area of Concern	Investigation	Position(s)
Agricultural land (oil, fertiliser)	Representative samples of soil were to be screened for petroleum hydrocarbon (TPH7) and volatile organic compounds (VOC/SVOC)	All
Waste classification	For preliminary waste classification, representative samples were to be screened for contaminants and full hazardous waste leachate testing performed.	HP02 & HP03

3.4 Enabling Works

Positions HP01 and HP02 were broken out using an electric Hilti breaker.

3.5 Hand Pits (HP)

Hand excavated trial pits provide a low cost and low impact method of sampling shallow soils.

3.6 Soil Sampling

Soil samples were recovered from the exploratory holes during the ground investigation and stored/transported in containers appropriate for the laboratory testing undertaken. Sample types and depths are recorded on the relevant exploratory hole records.

3.7 PID Screening (PID)

The samples of soil were screened for VOC's in headspace using a Photo Ionisation Detector (PID) broadly in accordance with the methodology set-out in CIRIA C682. Due to interference from humidity and other factors, Land Science adopts a method detection limit of 1.0ppm to avoid reporting false positive readings.

4.0 GROUND CONDITIONS

4.1 General

The expected ground conditions were anticipated to comprise Made Ground over Raised Beach Deposits over London Clay Formation to depth. The investigation confirmed the anticipated ground conditions. A thin capping of hardstanding, topsoil and/or Made Ground was encountered at surface. A summary of the encountered conditions is presented below.

Strata	Base Depth (mbgl)		
	HP01	HP02	HP03
Hardstanding	0.20	0.20	-
Topsoil	-	-	0.30
Made Ground	0.40	0.40	-
Raised Beach Deposits	1.20+	1.20+	1.20+

The naming of geological strata is tentative and should be used as a guide. Interpolation between or below investigation points should be treated with caution. The description of soils and rocks was in accordance with BS5930. Topsoil can be distinguished from Made Ground, even though these may have been disturbed through human activity and may contain materials such as brick, pottery, or charcoal etc.

4.2 Hardstanding

Positions HP01 and HP02 were located within the concrete hardstanding.

4.3 Topsoil

Topsoil was only encountered in HP03 and proved to a depth of 0.30mbgl. Topsoil comprised dark brown slightly gravelly SAND. Gravel consisted of subangular to subrounded fine to medium flint. Sand is medium.

4.4 Made Ground

Made Ground was encountered in positions HP01 and HP02 and the full thickness was proved to 0.40mbgl. In summary the Made Ground comprised grey, off white slightly clayey, sandy, GRAVELS. The gravels consisted of fine to medium, subangular to subrounded chalk in HP01 and chalk, concrete and red brick in HP02.

4.5 Raised Beach Deposits

Raised Beach Deposits was encountered in all positions. It is noted that the full thickness was not proved in any positions and the holes were completed at 1.20mbgl. In summary the Raised Beach Deposits comprised brown with off white streaks, slightly gravelly, silty, CLAY. Gravels consisting of fine to medium, subangular to subrounded chalk and flint in HP01 and HP02. In HP03 the strata consisted of brown with off white streaks, slightly gravelly, clayey, SAND with the gravels consisting of fine to medium, subangular to subrounded flint.

4.6 Roots and Rootlets

No roots were identified in the hand pits, occurrences of rootlets were noted as follows:

Position	Roots	Rootlets
HP03	-	0.0-0.30m; Occasional decayed rootlets

4.7 Field Evidence of Contamination

No evidence of possible soil contamination (such as staining, malodours, or brightly coloured soils) was identified in the field.

Made Ground was identified to a depth of 0.40mbgl, and such materials may be imported from an unknown source or mixed with hazardous materials, and as such may contain a wide range of potential contaminants. All such materials should be treated as suspect unless proven otherwise. Preliminary testing has been carried out, as described in section 6.0.

4.8 Groundwater

Groundwater was not encountered during excavation of any of the investigative positions.

4.9 Stability and Casing

The hand pits remained stable throughout and casing was not used.

4.10 PID Screening (PID)

None of the samples exhibited VOC's above the detection limit, with the exception of the following test.

Position	Depth	Strata	Result	Notes
HP01	0.30m	Made Ground	2.6ppm	-

Overall the readings were towards the lower end of the unit's detection limit (0.1ppm to 9999ppm). The purpose of the screening was to identify samples which may be impacted by organic contaminants (such as VOC's, SVOC's, petroleum hydrocarbons, diesel, etc.) and to assist in prioritising samples for laboratory analysis.

5.0 CONTAMINATION LABORATORY TESTING

5.1 Scheduled Testing

Samples were selected for geochemical (contamination) analysis, based on the following rationale:

- Made Ground was encountered, which may contain a wide range of contaminants. A sample from HP02 at 0.30mbgl was tested for a routine screening suite (LS1) and was screened for Asbestos. A sample of Topsoil from HP03 at 0.15mbgl was also tested for a routine screening suite (LS1) and was screened for Asbestos.
- Three samples of soil were to be screened for petroleum hydrocarbon (TPH7) and volatile organic compounds (VOC/SVOC), including HP01 at 0.30mbgl within the building, which had recorded an elevated PID reading (as described in section 4.10).
- Sample HP03 was to be tested for herbicides and pesticides from possible surface runoff from adjacent farmland.
- Waste classification testing on two samples was included in the scope of works, to provide a preliminary assessment for waste handling. The outside areas were specifically targeted including Made Ground and Topsoil for testing.

The scope and extent of testing was considered appropriate and in accordance with the Conceptual Site Model and preliminary risk assessment.

Sample	Strata	LS1	Asbestos	TPH7	VOC/SVOC	Herb./Pest.	LS2
HP01 0.30m	Made Ground			X	X		
HP02 0.30m		X	X	X	X		X
HP03 0.15m	Topsoil	X	X	X	X	X	X

The relevant screening suites are defined below. Where duplicate analysis exists between suites, each test is performed only once:

Suite	Definition
LS1 (soil)	Screening suite: pH, fraction of organic carbon, Metals and Non Metals, water soluble Sulphate, Sulphide, total Cyanide, total Phenols, speciated PAH's.
Asbestos	Asbestos screen: Laboratory screening for fibres and Asbestos Containing Materials; identification where identified. Using polarising light and dispersion staining as described in HSG 248, HSE Contract Research Report No 83/1996and in Davies et al, 1996.
TPH7	Speciated TPH: Total petroleum hydrocarbons CWG banding incl. aliphatic and aromatic split plus BTEX and MTBE.
VOC/SVOC	VOCs: Determination of volatile organic compounds in soil by headspace GC-MS. SVOCs: Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.
Herb./Pest.	Herbicide/Pesticide Analysis of unknown pesticides and herbicides by GC-MS.
LS2	Waste Acceptance Criteria: Total Organic Carbon, Loss on Ignition, BTEX, speciated PCB's, Mineral Oil (EC10 – EC40), pH, Acid Neutralisation Capacity, speciated PAH's, 10:1 leachable Metals and Non Metals.

The results are discussed in the relevant sections.

6.0 HUMAN HEALTH SCREENING

6.1 Screening Values

As the basis of a generic tier 1 screening assessment, the results have been compared directly against published standards for human health.

Several different partly overlapping schemes are currently in use in the UK, based on the Environment Agency's CLEA Model but with differing toxicological parameters. For this report, these schemes have and have been applied in the following hierarchy:

- Suitable For Use levels (S4UL) recently published by LQM in association with the CIEH.
- Category 4 Screening Levels (C4SL) recently published by the DEFRA and CL:AIRE.

Whilst other standards exist, such as the LQM Generic Assessment Criterion and the Environment Agency's Soil Guideline Values, these are deemed superseded by the above documents.

The soil chemical analysis results have been compared against respective screening values for residential land uses without plant uptake (i.e. residential properties without private gardens, where produce is unlikely to be homegrown for consumption).

For contaminants where the respective screening value is dependent on Soil Organic Matter (SOM), the corresponding value for 1.00% was used (the arithmetic mean SOM value for the soil was 2.12%).

Where no standard exists, the contaminant is either not considered a priority in terms of human health (at least in the scenario being considered), or no screening value has been published.

6.2 Screening Results

None of the results exceeded the screening criteria, with the exception of the following:

Determinand	Screening value	Results exceeding the screening value
Naphthalene	2.3mg/kg	HP01 0.30m (24mg/kg)
Benzo(a)anthracene	11mg/kg	HP01 0.30m (180mg/kg) & HP02 0.30m (19mg/kg)
Chrysene	30mg/kg	HP01 0.30m (150mg/kg)
Benzo(b)fluoranthene	3.2mg/kg	HP01 0.30m (180mg/kg) & HP02 0.30m (16mg/kg)
Benzo(a)pyrene	3.2mg/kg	HP01 0.30m (160mg/kg) & HP02 0.30m (15mg/kg)
Indeno(1,2,3-cd)pyrene	45mg/kg	HP01 0.30m (82mg/kg)
Di-benzo(a,h)anthracene	0.31mg/kg	HP01 0.30m (15mg/kg) & HP02 0.30m (2.2mg/kg)

It should be noted that the only PAH from the above table with a vapour risk is Naphthalene.

6.3 Speciated TPH

The risks from TPH's are assessed differently from other contaminants. The ratio of an individual group of carbon bands to the respective GAC is calculated (a Hazard Quotient) and these are totalled to derive a sample specific Hazard Index. A Hazard Index exceeding 1.0 suggests a potential significant risk to human health in the exposure scenario considered. The calculated Hazard Indexes are summarised below.

Sample	Total TPH	Hazard Index	Notes
HP01 0.30m	870	0.54	No significant health risk
HP02 0.30m	578	0.33	
HP03 0.15m	35	0.04	

6.4 Volatile and Semi-Volatile Compounds

The table below identifies volatile compounds (VOCs/SVOCs) found to exceed their respective detection limits, but where there were no screening values had been set.

Determinant	Detection Limit	Position	
		HP01 0.30m	HP02 0.30m
4-Methylphenol	0.2mg/kg	0.3mg/kg	0.2mg/kg
2-Methylnaphthalene	0.1mg/kg	6.5mg/kg	0.2mg/kg
Carbazole	0.3mg/kg	23mg/kg	0.3mg/kg
Dibenzofuran	0.2mg/kg	19mg/kg	0.2mg/kg

6.5 Asbestos

There are no published screening values for asbestos in soil. However, asbestos was not detected in the two soil samples tested.

6.6 Herbicides & Pesticides

There are no published screening values for Herbicides and Pesticides. A single sample of soil was screened for the presence of Herbicides and Pesticides and the results recorded everything below detection level. The full methodology is described in the analytical report.

7.0 ENVIRONMENTAL SCREENING

7.1 Soft Landscaping

A number of documents include guidance on screening levels of phytotoxic contaminants within soils, including:

- BS3882:2015 "Specification for topsoil and requirements for use" (although stipulated as not to be used in contaminated land risk assessment).
- ICRCL in publication 70/90 1990 'Notes on the Restoration and Aftercare of Metalliferous Mining Sites for Pasture and Grazing' (although indirectly withdrawn) (where marked *).
- Code of Practice for Agricultural Use of Sewage Sludge (England and Wales 1996) for arable use (as opposed to grazing) and relating to priority phytotoxic elements only.

The results of the chemical analysis for determinands known to pose a potential phytotoxic risk to plant growth are summarised on the following table, together with the respective adopted screening values for plant growth. The results of the chemical analysis were evaluated singularly without the use of statistical tools.

Element	Phytotoxicity Value (mg/kg)			Arable (grassland)	Results exceeding screening value
	pH <6.0	pH 6.0-7.0	pH >7.0	pH >5.2	
Zinc	200	200	300	300 (300)	None
Copper	100	135	200	200 (330)	
Nickel	60	75	110	110 (180)	
Cadmium	50*			3.0 (3.0)	
Arsenic	1,000*			50 (50)	

7.2 Structural Concrete

The results of the pH and water-soluble Sulphate tests are summarised on the following table.

Strata	No. of tests	Water soluble Sulphate (SO_4 g/l)	pH (value)
Made Ground	1	0.0449	7.5
Topsoil	1	0.0171	7.7

All sub surface concrete should be designed and specified in accordance with BS8500-1:2015+A1:2016. The results of the Sulphate and pH analyses fell into Class DS-1 and an ACEC class AC-1 is appropriate.

Buried plastics used for potable water supplies should be upgraded to resist chemical contamination. Metal or aluminium barrier pipework will be acceptable. No pipework should be laid where there is evidence of hydrocarbons.

7.3 Potable Water Supplies

The risk of chemical attack on water supply pipework has been assessed following the general Principals set out in the joint Water UK/HBF *Contaminated Land Assessment Guidance* dated January 2014. A summary of the main chemical criteria is reproduced below.

Test group (in mg/kg)	Poly-ethylene (PE)	Polyvinyl Chloride (PVC)	Metal or Barrier pipe	Results exceeding
VOC's	0.5	0.125	No limit	None
VOC's + BTEX & MTBE	0.1	0.03	No limit	
SVOC's (excl. PAH's etc.)	2.0	1.4	No limit	HP01 0.30m (3no. SVOCs over both PE & PVC thresholds)
SVOC's + Phenols	2.0	0.4	No limit	
SVOC's + Cresols & Chlorinated Phenols	2.0	0.04	No limit	HP01 0.30m (3no. SVOCs over both PE & PVC thresholds) HP02 0.30m (4no. SVOCs over PVC threshold)
Mineral oil EC11-20	10	No limit	No limit	HP01 0.30m & HP02 0.30m
Mineral oil EC21-40	500	No limit	No limit	None

Redox potential and conductivity should be checked where metal pipework is to be installed. aluminium barrier pipework is acceptable under all conditions. no pipework should be laid where there is evidence of petrol, diesel etc.

8.0 CONTROLLED WATERS SCREENING

The relevant analytical results have been compared directly against the standard set out in the water framework directive for surface waters, and the current UK potable water supply regulations.

8.1 Soil Leachate Screening

In comparison to the adopted surface water standards, the following determinands exceeded the respective thresholds:

Determinand	EQS	Units	HP01 0.30m	HP02 0.30m
Copper	0.001	mg/l	0.021	0.01
Lead	0.0012	mg/l	<0.0010	0.0014

In comparison to the adopted drinking water standards, the following determinands exceeded the respective thresholds:

Determinand	EQS	Units	HP01 0.30m	HP02 0.30m
Arsenic	0.01	mg/l	0.0104	<0.00100

Although the desk study stated there is a superficial aquifer (Raised Beach Deposits) below site, and surface water nearby the site was covered by hardstanding so there is no potential for infiltration.

9.0 TIER 1 CONTAMINATION ASSESSMENT

9.1 End Users

The preliminary conceptual site model identified end users to comprise a residential house with no garden.

The chemical results identified elevated PAHs at HP01 and HP02 both at 0.30mbgl, which exceeded the human health screening values for residential without vegetation land use.

SVOCs including 4-Methylphenol, 2-Methylnaphthalene, Carbazole and Dibenzofuran were also recorded above their detection limits in HP01 and HP02 both at 0.30mbgl.

Whilst the position HP01 will remain under the building footprint some of the determinands (Naphthalene and 2-Methylnaphthalene) are semi-volatile and part of the exposure risk is through the inhalation of indoor vapours. Therefore, there may remain a risk.

Consideration should be given to either conducting further investigation or proceeding considering possible remediation measures. However, upgrading the DPM to a vapour resistant one would be the most cost effective option.

9.2 Adjacent Land Users

A risk of ongoing pollution to neighbouring land has been identified, by way of possible vapours entering the adjacent attached residential dwelling. No issues from next door have been reported but the potential source is closest to the area under investigation.

Remedial measures to prevent (or reduce) this will be required.

Measures should always be taken to prevent and control any dust, run-off and mud etc. generated during groundworks, as part of good site management.

9.3 Soft Landscaping

None of the potentially phytotoxic metals tested exceeded the respective screening values and no evidence of potentially phytotoxic effects was noted during the site walkover survey inspection.

It is understood that there is no garden area proposed. However, if this was to change then possible areas of hardstanding and Made ground would need to be excavated and replaced. This is due to the physical composition of the Made Ground (with brick and concrete and little soil) such that it was unlikely to be a suitable medium for landscaping and planting. Clean imported topsoil and subsoil would be required in accordance with appropriate British Standards.

9.4 Concrete specification

All sub surface concrete should be designed and specified in accordance with BS8500-1:2015+A1:2016. The results of the Sulphate and pH analyses fell into Class DS-1 and an ACEC class AC-1 is appropriate.

9.5 Potable Water Supplies

The recorded concentrations of SVOCs and Mineral Oil EC11-20 exceeded the respective standard for both PE and PVC pipe in the samples from HP01 and HP02. Suitable types of pipework materials may include metal or aluminium barrier pipe.

9.6 Ground Water Protection

With the proposed residential building and no garden area the site remains as hardstanding so there is no potential for infiltration and therefore no source-pathway-receptor linkage.

However, the preliminary conceptual site model did identify possible source-pathway-receptor linkages with respect to groundwater if the soft standing to the southwest is possibly used as a garden, as the site overlies a superficial aquifer.

Contamination may be mobilised through the infiltration and percolation of water downwards through the soil column and into the water table. This may then in turn migrate with the water table and impact directly on any abstraction points.

Comparing the soil-leachate data directly to drinking water standards, Arsenic slightly exceeded the respective standards (HP02 0.30m 0.0104mg/l over value of 0.01mg/l). SVOCs also exceed the detection limits.

No VOCs or herbicides/pesticides were detected above the detection limit.

If a garden was proposed then actions detailed in section 9.3 should be followed, which would reduce the potential risk to groundwater to acceptable levels.

9.7 Surface Water Protection

With the proposed residential building and no garden area the site remains as hardstanding so there is no potential for infiltration and therefore no source-pathway-receptor linkage.

However, the preliminary conceptual site model did identify possible source-pathway-receptor linkages with respect to surface water if the soft standing to the southwest is possibly used as a garden.

Contamination may migrate through the action of water laterally towards the drain located ~105m south of the site, where the water quality may become degraded in terms of recreational amenity, potable abstraction, environmental status, etc.

Comparing the soil-leachate data directly to surface water standards, Copper and Lead exceeded the respective standards (HP02 0.30m 0.021mg/l and HP03 0.15m 0.01mg/l over copper value of 0.001mg/l and HP03 0.15m 0.0014mg/l over lead value of 0.0012mg/l). SVOCs also exceed the detection limits.

No VOCs or herbicides/pesticides were detected above the detection limit.

If a garden was proposed then actions detailed in section 9.3 should be followed, which would reduce the potential risk to surface water to acceptable levels.

9.8 Conclusions

The updated conceptual site model has identified the following potential risks:

- End users; inhalation of vapours,
- Adjacent land users; ongoing risk of pollution to neighbouring property through inhalation of vapours, and
- Water supply pipes; risk of chemical attack, decay and tainting of water supplies.

And if a garden is proposed:

- Soft landscaping; poor soil conditions for landscaping and planting,
- Groundwater; risk of contamination in Made Ground migrating into the water table and impacting on background quality; impact on local receptor points such as abstractions, and
- Surface water; risk of contamination in groundwater migrating laterally and impacting on local surface water features.

It seems unlikely that further investigation would be fruitful at this stage. The extent to which the PAH results exceeded the thresholds, specifically below the footprint of the proposed dwelling suggest that remediation would be the most sensible and cost effective next step.

The implementation of the following remediation options below will satisfactorily ensure that there are no contamination risks arising from this development:

- Provision of an upgraded DPM with vapour protection within the redeveloped dwelling, and
- Provision of upgraded or protected water supply pipework to a specification agreed with the local Utility.

And if a garden is proposed:

- Complete removal of Made Ground from garden areas, and reinstating with topsoil/subsoil as required by the landscape designer (minimum 600mm).
- Excavating and disposing of contaminated soils and replacement with a capping system.

A copy of this report should be submitted to the relevant authorities for approval in sufficient time prior to commencement on site.

A suitably qualified Environmental Consultant should prepare a full *Implementation, Verification Monitoring and Maintenance Plan*. An appropriate level of supervision and testing will be required, to form part of a formal *Verification Report*.

10.0 PRELIMINARY WASTE ASSESSMENT

10.1 General

Waste may be defined as any substance or object in Annex 1 of the Waste Framework Directive which the holder discards, intends to discard, or is required to discard. Subject to compliance with waste regulations, soils may either be handled as either:

- Non-Waste, and re-used (either on-site or on another site), or
- Waste, and disposed of (to a waste management facility).

Given the confines of the site, it was anticipated that all materials would be disposed of from site as waste.

The waste producer has a legal duty of care to ensure that waste materials are handled properly and sent to the appropriate licenced facility. Substantial tax penalties and fines are being levied by the regulators. Inspection, testing, segregation etc will be required on site, and the support of a suitably qualified consultant should be sought; therefore, the advice in this section is preliminary only.

10.2 Waste Disposal

Where materials are not re-used they must be handled as Waste, and must be sent to a licenced waste management facility. Waste is classified as follows:

- Step 1: Does the material contain dangerous substances that qualify as Hazardous Waste as prescribed under the Waste Framework Directive.

- Step 2: Does the leachability criteria allow the materials to be sub-classified as Stable Non Reactive Waste (SNRHW) or as Inert Waste.

A material is therefore either Hazardous or Non-Hazardous Waste; Hazardous may be sub-classified as SNRHW and Non-Hazardous Waste may be sub-classified as Inert.

The results of the soil analysis have been classified as follows:

Soil	Waste designation	Details
Made Ground – HP01 0.30m	Non-Hazardous*	The soil analysis was identified as Non-Hazardous however but no WAC test was carried out. Interpretation: Non-Hazardous waste.
Made Ground – HP02 0.30m	Non-Hazardous	The soil analysis was identified as Non-Hazardous however but the WAC test did not meet the requirements for Inert waste. Interpretation: Non-Hazardous waste. The test failing the criteria was a total PAH of 135mg/kg over the inert value of 100mg/kg.
Topsoil – HP03 0.15m	Inert	The soil analysis was identified as Non-Hazardous and the WAC tests met the requirements for Inert. Interpretation: Inert waste.

The receiving waste facility should be consulted as they may be able to handle different wastes with higher acceptance criteria. e.g. total PAH.

Whilst the sample marked * was classified as Non-Hazardous, WAC testing was not carried out and therefore the materials could not be sub-classified as Inert.

Further WAC testing may be considered for soils identified as Non-Hazardous, as the tests may enable those materials to be re-classified as Inert and therefore represent a potential saving on disposal costs.

With reference to the current List of Wastes (formerly European Waste Catalogue), waste soils and stone derived from construction and demolition sites may be disposed of under either of the following codes as appropriate:

Waste	Code	Description
Hazardous	17 05 03*	soil and stones containing dangerous substances
Non-Hazardous	17 05 04	soil and stones other than those mentioned in 17 05 03

(Note, the asterix is a Mirror Entry, as defined in the List of Wastes, conferring the relationship with the non-hazardous code 17-05-04).

REFERENCES

A number of technical references have been referred to in the preparation of this document, including:

- Smith, I. (2014) Smith's Elements of Sil Mechanics. Chichester. Wiley Blackwell. 9th Edition.
- Highways England 2009. Interim Advice Note 73/06 revision 1: Design Guidance for Road Pavement foundations (draft HD25)
- BRE Design Guide 365. Soakaway design ("DG365")
- Radon: Guidance on protective measures for new buildings, BRE Report BR 211, 2015 2ND edition
- Groundwater protection: Principles and practice (GP3) August 2013 Version 1.1
- Revised EU Waste Framework Directive 2008 2008/98/EC [transposed into English law under The Waste (England and Wales) Regulations 2011]
- European Community (EC) Directive 1999/31/EC [transposed into English law under the Landfill (England and Wales) Regulations 2002]
- Defining Waste Recovery - Permanent Deposit of Waste on Land, EPR13 v1.0, EA 2010
- The definition of waste: Development Industry Code of Practice, v2, CL:AIRE 2011
- Guidance on the classification and assessment of waste Technical Guidance WM3 ("WM3") EA publication (1st edition 2015)

REPORT CONDITIONS

The Client

This report may also be used only by the client named in section 1 and their appointed project team for the purpose of design, obtaining planning, building regulations approval, and in connection with finance. This report must not be used by any other persons or for other purposes without express written agreement of Land Science.

General

Land Science takes all reasonable professional care in preparation of this report, using current standards and industry practice. However, the evaluation of ground conditions depends on an interpretation and extrapolation of the conditions revealed by a limited data set. The level of risk is related to the extent of investigation and no site is ever free of risk. The client should understand their risks and liabilities. We accept no liability whatsoever in respect of:

- The scope, extent or design of an investigation.
- Any conditions not directly revealed by the investigation.
- Published standards or methodologies used or adopted in this report.
- The opinion of any other party including any regulator, authority or stakeholder.
- Any dispute, claim or consequential loss arising from any findings of this report.
- Third party information and data.

This report relates solely to ground-related matters as set out in the objectives and makes no representation on other matters such as ecology, arboriculture, invasive plant species, the condition of buildings and structures, hazardous building materials such as insulation or asbestos, the locations of boundaries, unexploded ordnance, and or planning constraints etc. Further reports should be commissioned in this respect as appropriate.

Regulators and Approvals

This (and any other) report should be submitted to relevant authorities for their own assessments and to provide their approval or comments accordingly. This should be in good time before commencing on site in case additional work is to be carried out.

Standards, technical guidance and regulatory positions change over time and which may therefore affect the findings and recommendations made in this report; this should be verified by the client prior to any critical project milestones. Where this information is used in design, the designer should verify that the information is appropriate and has been used correctly.

Variations with time

The report relates to conditions revealed at the time of the investigation and any monitoring visits. Some parameters may vary over time or seasonally; groundwater levels, ground gas compositions, or concentrations of contaminants are particularly variable in this respect. Further monitoring or verification should be considered as appropriate.

GLOSSARY OF TERMS

ACM	Asbestos Containing Material
BGS	British Geological Survey
BRE	Building Research Establishment
BS	British Standard
C4SL	Category 4 Screening Level
CBR	California Bearing Ratio
CDM	Construction Design and Management regulations
CIRIA	Construction Industry Research and Information Association
CL:AIRE	Contaminated Land: Applications in Real Environments
CLEA	Contaminated Land Exposure Assessment model
CSM	Conceptual Site Model
EA	Environment Agency
EQS	Environmental Quality Standards
FOC	Fraction of Organic Carbon
GAC	Generic Assessment Criterion
GQRA	Generic Quantitative Risk Assessment
mbgl	Meters Below Ground Level
NHBC	National House Building Council
mOD	Metres above Ordnance Datum
PAH's	Polycyclic Aromatic Hydrocarbons
PHE	Public Health England
PID	Photo-Ionisation Detector
PQRA	Preliminary Quantitative Risk Assessment
PSD	Particle Size Distribution Test
RMS	Remediation Method Statement
S4UL	Suitable for Use Level
SOM	Soil Organic Matter
SPZ	Source Protection Zone
SPT	Standard Penetration Test
SSSI	Sites of Special Scientific Interest
ST-WEL	Short Term Workplace Exposure Limit
SVOC's	Semi-Volatile Organic Compounds
TPH	Total Petroleum Hydrocarbons
TRRL / TRL	Transport Road Research Laboratory
TWA-WEL	Time Weighted Average Workplace Exposure Limit
UK HBF	United Kingdom House Building Federation
VOC's	Volatile Organic Compounds
WAC	Waste Acceptance Criteria

Land Science	Title: Site Location			Reference: LS7905
	Project: Broomhurst Farm, Lyminster, BN17 7QQ			Figure: 1
	Client: David Harriott			Date: 03/10/2024
	Prepared by: WP	Checked by: JM	Version: 01	Sheet: 1 of 1

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Land Science	Title: Exploratory Hole Location Plan		Reference: LS7905
	Project: Broomhurst Farm, Lyminster, BN17 7QQ		Figure: 2
	Client: David Harriott		Date: 03/10/2024
	Prepared by: WP	Checked by: JM	Version: 01	Sheet: 1 of 1

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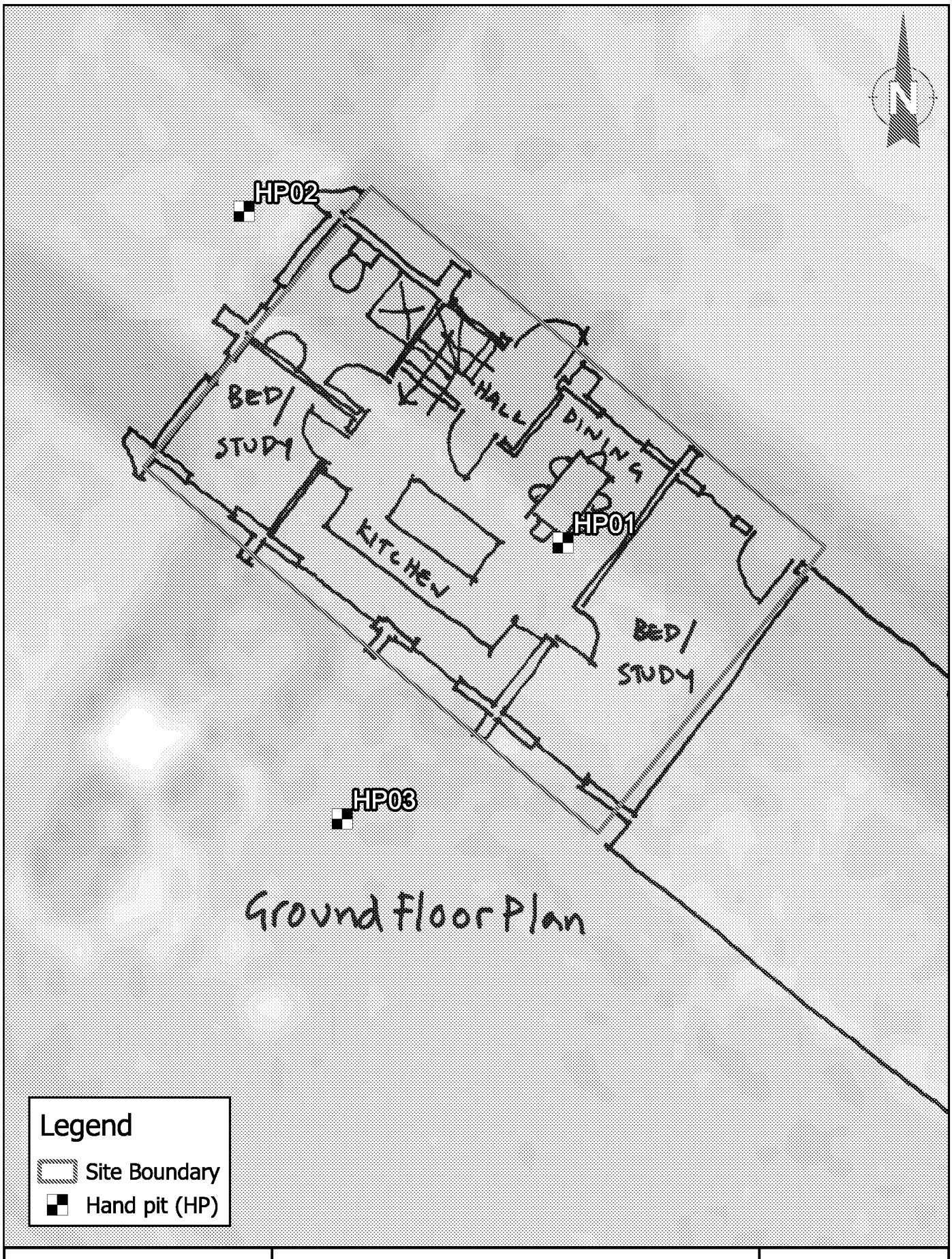

Legend

- Site Boundary
- Hand pit (HP)

Land Science	Title: Proposed Development Layout		Reference: LS7905
	Project: Broomhurst Farm, Lyminster, BN17 7QQ		Figure: 3
	Client: David Harriott		Date: 03/10/2024
	Prepared by: WP	Checked by: JM	Version: 01	Sheet: 1 of 1

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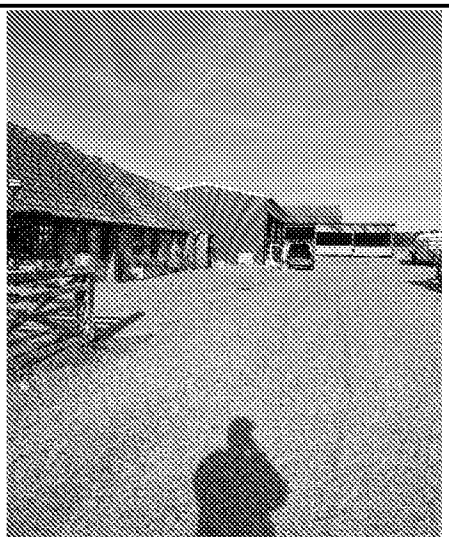
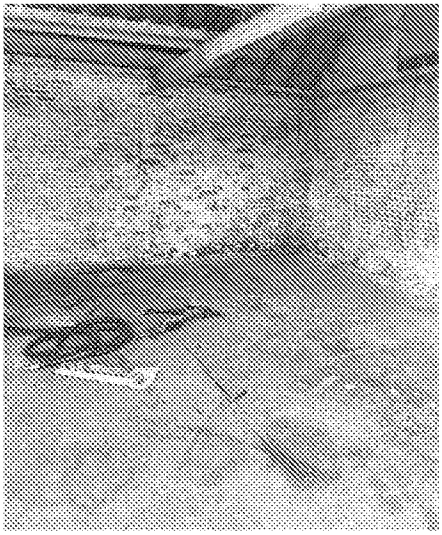
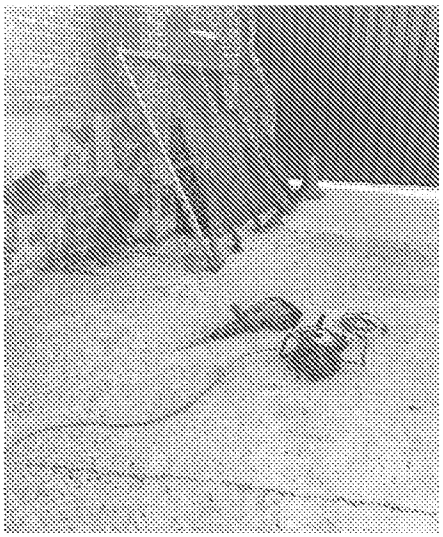
APPENDIX A







Land Science	**TITLE:** Site Photographs			**REF:**	LS7905
	PROJECT: Broomhurst Farm, Lyminster			**SHEET:**	1
	CLIENT: David Harriott			**DATE:**	30/09/2024
	PREPARED: ON	**CHECK:** JM	**VERSION** V1	**SHEET:**	1 OF 1

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UNIT 10, 19 ALBERT DRIVE BURGESS HILL, **WEST SUSSEX**, RH15 9TN
2ND FLOOR, 25-28 FIELD STREET, **LONDON**, WC1X 9DA

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APPENDIX B

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Site	Trial Pit Number
[redacted]roomhurst Farm, Lyminster, BN17 7QQ	HP01

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			David Harriott	LS7905
	Location	**Dates** 16/09/2024	**Engineer** Land Science	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Black concrete? (HARDSTANDING)		
					0.20			
					(0.20)	Off white slightly grey slightly clayey, sandy, GRAVELS. Gravels are subangular to subrounded fine to medium chalk gravels, sand is fine to medium (MADE GROUND)		
0.30	D		PID- 2.6		0.40			
0.60	D		PID- 1.1		(0.80)	Light brown with off white streaks slightly gravelly, silty, CLAY. Gravels are subangular to subrounded fine to medium chalk and flint gravels (BEACH DEPOSITS)		
1.00	D		PID- 0.2		1.20			
						Complete at 1.20m		

Plan

Remarks

GROUNDWATER: No groundwater encountered.
CASING: No casing used.
INSTALLATION: No installation.
BACKFILL: Backfilled with arisings.
NOTES: Handpit terminated at target depth.

Scale (approx)	Logged By	Figure No.
1:25	ON	LS7905.HP01

Land Science

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[redacted]

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Site	Trial Pit Number
Broomhurst Farm, Lyminster, BN17 7QQ	HP02

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			David Harriott	LS7905
	Location	**Dates** 16/09/2024	**Engineer** Land Science	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20) 0.20	Concrete (HARDSTANDING)		
0.30	D		PID- 0.0		(0.20) 0.40	Grey, brown off white slightly clayey, sandy, GRAVELS. Gravels are subangular to subrounded fine to medium chalk, concrete and red brick. Sand is fine to medium. (MADE GROUND)		
0.60	D		PID- 0.0		(0.80)	Brown off white slightly gravelly, silty, CLAY. Gravels are subangular to subrounded fine to medium chalk and flint gravels (BEACH DEPOSITS) .....Strata gets less chalkly from 0.65m		
1.00	D		PID- 0.0		1.20	Complete at 1.20m		

Plan

Remarks

GROUNDWATER: No groundwater encountered.
CASING: No casing used.
INSTALLATION: No installation.
BACKFILL: Backfilled with arisings.
NOTES: Handpit terminated at target depth.

Scale (approx)	Logged By	Figure No.
1:25	ON	LS7905.HP02

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[redacted]

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Site	Trial Pit Number
Broomhurst Farm, Lyminster, BN17 7QQ	HP03

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			David Harriott	LS7905
	Location	**Dates** 16/09/2024	**Engineer** Land Science	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.15	D		PID- 0.0		(0.30)	Dark brown slightly gravelly, SAND. Gravels are subangular to subrounded fine to medium flint. Sand is medium. Occasional rootlets. (TOPSOIL)		
					0.30			
0.40	D		PID- 0.0		(0.90)	Brown slightly gravelly, clayey, SAND. Gravels are subangular to subrounded fine to medium flint, Sand is fine to medium. (BEACH DEPOSITS)		
1.00	D		PID- 0.0		1.20	Complete at 1.20m		

Plan

Remarks

GROUNDWATER: No groundwater encountered.
CASING: No casing used.
INSTALLATION: No installation.
BACKFILL: Backfilled with arisings.
NOTES: Handpit terminated at target depth.

Scale (approx)	Logged By	Figure No.
1:25	ON	LS7905.HP03

APPENDIX C

Land Science
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jos.middleton@landscience.co.uk

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

Analytical Report Number : 24-042999

Project / Site name:	Broomhurst Farm, Lyminster, BN17 7QQ	Samples received on:	19/09/2024
Your job number:	LS7905	Samples instructed on/ Analysis started on:	19/09/2024
Your order number:		Analysis completed by:	01/10/2024
Report Issue Number:	1	Report issued on:	01/10/2024
Samples Analysed:	3 soil samples - 2 leachate samples		

Signed: [redacted]

Tuhina Mukerjee
Senior Customer Service Advisor
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: 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

Lab Sample Number				321526	321527	321528
Sample Reference				HP01	HP02	HP03
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.15
Date Sampled				16/09/2024	16/09/2024	16/09/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Stone Content	%	0.1	NONE	39.1	2.3	< 0.1
Moisture Content	%	0.01	NONE	19	18	7
Total mass of sample received	kg	0.1	NONE	0.6	0.6	0.6
Asbestos						
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	-	KSZ	KSZ
General Inorganics						
pH (L005B)	pH Units	N/A	MCERTS	-	7.5	7.7
pH (L099)	pH Units	N/A	MCERTS	-	8.6	7.9
Total Cyanide	mg/kg	1	MCERTS	-	< 1.0	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	90	34
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.0449	0.0171
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	44.9	17.1
Sulphide	mg/kg	1	MCERTS	-	< 1.0	< 1.0
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.0096	0.015
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	1	1.5
Loss on Ignition @ 450°C	%	0.2	MCERTS	-	2	4.4
Acid Neutralisation Capacity	+/- mmol/kg	-9999	NONE	-	6	1.7
Total Phenols						
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	24	0.37	0.09
Acenaphthylene	mg/kg	0.05	MCERTS	0.16	1.2	0.1
Acenaphthene	mg/kg	0.05	MCERTS	41	0.17	< 0.05
Fluorene	mg/kg	0.05	MCERTS	20	0.46	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	190	4.3	0.3
Anthracene	mg/kg	0.05	MCERTS	25	1.9	0.09
Fluoranthene	mg/kg	0.05	MCERTS	420	21	1.3
Pyrene	mg/kg	0.05	MCERTS	360	21	1.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	180	19	0.8
Chrysene	mg/kg	0.05	MCERTS	150	15	0.82
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	180	16	1.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	63	8	0.54
Benzo(a)pyrene	mg/kg	0.05	MCERTS	160	15	1.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	82	5.3	0.69
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	15	2.2	0.2
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	80	5.3	0.83
Coronene	mg/kg	0.05	NONE	-	< 0.05	< 0.05
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	135	9.38
Total WAC-17 PAHs	mg/kg	0.85	NONE	-	135	9.38
Heavy Metals / Metalloids						

Analytical Report Number: 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

Lab Sample Number				321526	321527	321528
Sample Reference				HP01	HP02	HP03
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.15
Date Sampled				16/09/2024	16/09/2024	16/09/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	11	29
Barium (aqua regia extractable)	mg/kg	1	MCERTS	-	34	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	0.41	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	-	1.1	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	0.3	1.2
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	-	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	14	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	6.6	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	33	50
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	7.2	33
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	6.1
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	27	59
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	37	100
Petroleum Hydrocarbons						
TPHCWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	3.4	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	21	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	19	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	15	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	58	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	20	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	97	14	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	300	180	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	440	320	25
TPHCWG - Aromatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	860	520	25
Mineral Oil (EC10 - EC40) $_{EH\_CU\_1D\_AL}$	mg/kg	10	NONE	-	58	< 10
VOCs						
Chloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

Analytical Report Number: 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

Lab Sample Number				321526	321527	321528
Sample Reference				HP01	HP02	HP03
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.15
Date Sampled				16/09/2024	16/09/2024	16/09/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 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
Styrene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	< 5.0	< 5.0

Total BTEX	µg/kg	5	MCERTS	-	< 5.0	< 5.0

Analytical Report Number: 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

Lab Sample Number				321526	321527	321528
Sample Reference				HP01	HP02	HP03
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.15
Date Sampled				16/09/2024	16/09/2024	16/09/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
SVOCs						
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	0.3	0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	6.5	0.2	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	19	0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	< 0.30	< 0.30
Carbazole	mg/kg	0.3	MCERTS	23	0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3
PCBs by GC-MS						
PCB Congener 28	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	-	< 0.007	< 0.007

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Analytical Report Number: 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

Lab Sample Number				321526	321527	321528
Sample Reference				HP01	HP02	HP03
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.15
Date Sampled				16/09/2024	16/09/2024	16/09/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Pesticides						
Alpha-BHC (Benzene Hexachloride)	µg/kg	10	NONE	-	-	< 10
Alachlor	µg/kg	10	NONE	-	-	< 10
Bifenthrin	µg/kg	10	NONE	-	-	< 10
Cyhalothrin (Lambda)	µg/kg	10	NONE	-	-	< 10
Gamma-BHC (Lindane, gamma HCH)	µg/kg	10	NONE	-	-	< 10
Omethoate	µg/kg	10	NONE	-	-	< 10
1,2,3-Trichlorobenzene	µg/kg	10	NONE	-	-	< 10
1,3,5-Trichlorobenzene	µg/kg	10	NONE	-	-	< 10
2,6-Dichlorobenzonitrile	µg/kg	10	NONE	-	-	< 10
Dimethylvinphos	µg/kg	10	NONE	-	-	< 10
Demeton-O	µg/kg	10	NONE	-	-	< 10
Demeton-S	µg/kg	10	NONE	-	-	< 10
Endrin Aldehyde	µg/kg	10	NONE	-	-	< 10
Endrin Ketone	µg/kg	10	NONE	-	-	< 10
Hexachlorobutadiene	µg/kg	10	NONE	-	-	< 10
Phosphamidon (Sum)	µg/kg	10	NONE	-	-	< 10
1,2,4,5-Tetrachlorobenzene	µg/kg	10	NONE	-	-	< 10
Cis-Permethrin	µg/kg	10	NONE	-	-	< 10
Endosulfan sulfate	µg/kg	10	NONE	-	-	< 10
Etrimfos	µg/kg	10	NONE	-	-	< 10
Fenvalerate (Sum)	µg/kg	10	NONE	-	-	< 10
Hexachlorobenzene	µg/kg	10	NONE	-	-	< 10
Mevinphos, E+Z	µg/kg	10	NONE	-	-	< 10
Pentachlorobenzene	µg/kg	10	NONE	-	-	< 10
Pirimiphos-ethyl	µg/kg	10	NONE	-	-	< 10
Propetamphos	µg/kg	10	NONE	-	-	< 10
Tecnazene	µg/kg	10	NONE	-	-	< 10
Triadimefon	µg/kg	10	NONE	-	-	< 10
Trans-Permethrin	µg/kg	10	NONE	-	-	< 10
Aldrin	µg/kg	10	NONE	-	-	< 10
Azinphos-methyl	µg/kg	10	NONE	-	-	< 10
Beta-BHC	µg/kg	10	NONE	-	-	< 10
Cis-Chlordane	µg/kg	10	NONE	-	-	< 10
Chlorfenvinphos	µg/kg	10	NONE	-	-	< 10
Chlorpyrifos	µg/kg	10	NONE	-	-	< 10
Chlorothalonil	µg/kg	10	NONE	-	-	< 10
Carbophenothion	µg/kg	10	NONE	-	-	< 10
Cyfluthrin (Sum)	µg/kg	10	NONE	-	-	< 10
Delta-BHC	µg/kg	10	NONE	-	-	< 10
Dieldrin	µg/kg	10	NONE	-	-	< 10
Deltamethrin	µg/kg	10	NONE	-	-	< 10
Heptachlor Exo-epoxide	µg/kg	10	NONE	-	-	< 10
Endrin	µg/kg	10	NONE	-	-	< 10
Endosulfan I (alpha isomer)	µg/kg	10	NONE	-	-	< 10
Endosulfan II (beta isomer)	µg/kg	10	NONE	-	-	< 10
Fenthion	µg/kg	10	NONE	-	-	< 10
Isodrin	µg/kg	10	NONE	-	-	< 10
Methacrifos	µg/kg	10	NONE	-	-	< 10
O,p'-DDD	µg/kg	10	NONE	-	-	< 10
O,p'-DDE	µg/kg	10	NONE	-	-	< 10

Analytical Report Number: 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

Lab Sample Number				321526	321527	321528
Sample Reference				HP01	HP02	HP03
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.15
Date Sampled				16/09/2024	16/09/2024	16/09/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
O,p'-DDT	µg/kg	10	NONE	-	-	< 10
Parathion	µg/kg	10	NONE	-	-	< 10
Parathion-methyl	µg/kg	10	NONE	-	-	< 10
Pendimethalin	µg/kg	10	NONE	-	-	< 10
Phorate	µg/kg	10	NONE	-	-	< 10
Phosalone	µg/kg	10	NONE	-	-	< 10
P,p'-DDD	µg/kg	10	NONE	-	-	< 10
P,p'-DDE	µg/kg	10	NONE	-	-	< 10
P,p'-DDT	µg/kg	10	NONE	-	-	< 10
P,p'-Methoxychlor	µg/kg	10	NONE	-	-	< 10
Propyzamide	µg/kg	10	NONE	-	-	< 10
Triazophos	µg/kg	10	NONE	-	-	< 10
Trans-Chlordane	µg/kg	10	NONE	-	-	< 10
Cypermethrin (Sum)	µg/kg	10	NONE	-	-	< 10
Dichlorvos	µg/kg	10	NONE	-	-	< 10
Dimethoate	µg/kg	10	NONE	-	-	< 10
Diazinon	µg/kg	10	NONE	-	-	< 10
Ethion	µg/kg	10	NONE	-	-	< 10
Fenitrothion	µg/kg	10	NONE	-	-	< 10
Malathion	µg/kg	10	NONE	-	-	< 10
Pirimiphos-methyl	µg/kg	10	NONE	-	-	< 10
Trifluralin	µg/kg	10	NONE	-	-	< 10
Azinphos-ethyl	µg/kg	10	NONE	-	-	< 10

Analytical Report Number: 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

Lab Sample Number				321526	321527	321528
Sample Reference				HP01	HP02	HP03
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.30	0.15
Date Sampled				16/09/2024	16/09/2024	16/09/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Acid Herbicides						
4-CPA	µg/kg	10	NONE	-	-	< 10
Dinoseb	µg/kg	10	NONE	-	-	< 10
Flamprop	µg/kg	10	NONE	-	-	< 10
Ioxynil	µg/kg	10	NONE	-	-	< 10
2,3,6-TBA	µg/kg	10	NONE	-	-	< 10
Bromacil	µg/kg	10	NONE	-	-	< 10
Diclofop	µg/kg	10	NONE	-	-	< 10
Flamprop-Isopropyl	µg/kg	10	NONE	-	-	< 10
MCPP (Mecoprop)	µg/kg	10	NONE	-	-	< 10
Bromoxynil	µg/kg	10	NONE	-	-	< 10
Dichlorprop	µg/kg	10	NONE	-	-	< 10
Clopyralid	µg/kg	10	NONE	-	-	< 10
2,4-D	µg/kg	10	NONE	-	-	< 10
2,4-DB	µg/kg	10	NONE	-	-	< 10
Dicamba	µg/kg	10	NONE	-	-	< 10
2,4,5-TP (Fenoprop)	µg/kg	10	NONE	-	-	< 10
MCPB	µg/kg	10	NONE	-	-	< 10
Picloram	µg/kg	10	NONE	-	-	< 10
2,4,5-T	µg/kg	10	NONE	-	-	< 10
MCPA	µg/kg	10	NONE	-	-	< 10

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

Analytical Report Number: 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

Lab Sample Number				321527	321528
Sample Reference				HP02	HP03
Sample Number				None Supplied	None Supplied
Depth (m)				0.30	0.15
Date Sampled				16/09/2024	16/09/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		
10:1 WAC Leachate					
Arsenic	mg/l	0.001	ISO 17025	0.0104	< 0.00100
Barium	mg/l	0.00005	ISO 17025	0.00469	0.00526
Cadmium	mg/l	0.0001	ISO 17025	< 0.000100	< 0.000100
Chromium	mg/l	0.0004	ISO 17025	0.00065	0.00066
Copper	mg/l	0.0007	ISO 17025	0.021	0.01
Mercury	mg/l	0.0005	ISO 17025	< 0.000500	< 0.000500
Molybdenum	mg/l	0.0004	ISO 17025	0.0025	0.00151
Nickel	mg/l	0.0003	ISO 17025	0.0023	0.00046
Lead	mg/l	0.001	ISO 17025	< 0.0010	0.0014
Antimony	mg/l	0.0017	ISO 17025	< 0.0017	< 0.0017
Selenium	mg/l	0.004	ISO 17025	< 0.0040	< 0.0040
Zinc	mg/l	0.0004	ISO 17025	0.0042	0.0063
Chloride	mg/l	0.15	ISO 17025	5.7	1.3
Fluoride	mg/l	0.05	ISO 17025	0.21	0.22
Sulphate	mg/l	0.045	ISO 17025	6.9	2.6
Total dissolved solids	mg/l	6	ISO 17025	78	68
Total monohydric phenols	mg/l	0.01	ISO 17025	< 0.010	< 0.010
Dissolved organic carbon	mg/l	0.1	NONE	19.2	16.5
10:1 WAC Leachate					
Arsenic	mg/kg	0.01	NONE	0.104	< 0.0100
Barium	mg/kg	0.0005	NONE	0.0469	0.0526
Cadmium	mg/kg	0.001	NONE	< 0.00100	< 0.00100
Chromium	mg/kg	0.004	NONE	0.0065	0.0066
Copper	mg/kg	0.007	NONE	0.21	0.1
Mercury	mg/kg	0.005	NONE	< 0.00500	< 0.00500
Molybdenum	mg/kg	0.004	NONE	0.025	0.0151
Nickel	mg/kg	0.003	NONE	0.023	0.0046
Lead	mg/kg	0.01	NONE	< 0.010	0.014
Antimony	mg/kg	0.017	NONE	< 0.017	< 0.017
Selenium	mg/kg	0.04	NONE	< 0.040	< 0.040
Zinc	mg/kg	0.004	NONE	0.042	0.063
Chloride	mg/kg	1.5	NONE	57	13
Fluoride	mg/kg	0.5	NONE	2.1	2.2
Sulphate	mg/kg	0.45	NONE	69	26
Total dissolved solids	mg/kg	60	ISO 17025	780	680
Total monohydric phenols	mg/kg	0.1	NONE	< 0.10	< 0.10
Dissolved organic carbon	mg/kg	1	NONE	192	165

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

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

[redacted]

Waste Acceptance Criteria Analytical Results

Report No:	**24-042999**						
					Client:	**LANDSCIENCE**	
Location	**Broomhurst Farm, Lyminster, BN17 7QQ**						
Lab Reference (Sample Number)	321526				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	16/09/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	HP01						
Depth (m)	0.30						
Solid Waste Analysis							
TOC (%)**	-				3%	5%	6%
Loss on Ignition (%) **	-				--	--	10%
BTEX (µg/kg) **	-				6000	--	--
Sum of PCBs (mg/kg) **	-				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	-				500	--	--
Total PAH (WAC-17) (mg/kg)	-				100	--	--
pH (units)**	-				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	-				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	-			-	0.5	2	25
Barium *	-			-	20	100	300
Cadmium *	-			-	0.04	1	5
Chromium *	-			-	0.5	10	70
Copper *	-			-	2	50	100
Mercury *	-			-	0.01	0.2	2
Molybdenum *	-			-	0.5	10	30
Nickel *	-			-	0.4	10	40
Lead *	-			-	0.5	10	50
Antimony *	-			-	0.06	0.7	5
Selenium *	-			-	0.1	0.5	7
Zinc *	-			-	4	50	200
Chloride *	-			-	800	15000	25000
Fluoride*	-			-	10	150	500
Sulphate *	-			-	1000	20000	50000
TDS*	-			-	4000	60000	100000
Phenol Index (Monohydric Phenols) *	-			-	1	-	-
DOC	-			-	500	800	1000
Leach Test Information							
Stone Content (%)	39.1						
Sample Mass (kg)	0.6						
Dry Matter (%)	81						
Moisture (%)	19						

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

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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

Waste Acceptance Criteria Analytical Results

Report No:	**24-042999**						
					Client:	**LANDSCIENCE**	
Location	**Broomhurst Farm, Lyminster, BN17 7QQ**						
Lab Reference (Sample Number)	321527				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	16/09/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	HP02						
Depth (m)	0.30						
Solid Waste Analysis							
TOC (%)**	1.0				3%	5%	6%
Loss on Ignition (%) **	2.0				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	58				500	--	--
Total PAH (WAC-17) (mg/kg)	135				100	--	--
pH (units)**	7.5				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	6.0				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg			
Arsenic *	0.0104			0.104	0.5	2	25
Barium *	0.00469			0.0469	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.00065			0.0065	0.5	10	70
Copper *	0.021			0.21	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00250			0.0250	0.5	10	30
Nickel *	0.0023			0.023	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0042			0.042	4	50	200
Chloride *	5.7			57	800	15000	25000
Fluoride*	0.21			2.1	10	150	500
Sulphate *	6.9			69	1000	20000	50000
TDS*	78			780	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	19.2			192	500	800	1000
Leach Test Information							
Stone Content (%)	2.3						
Sample Mass (kg)	0.6						
Dry Matter (%)	82						
Moisture (%)	18						

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

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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

[redacted]

Waste Acceptance Criteria Analytical Results

Report No:	24-042999						
					Client:	LANDSCIENCE	
Location	Broomhurst Farm, Lyminster, BN17 7QQ						
Lab Reference (Sample Number)	321528				Landfill Waste Acceptance Criteria Limits		
Sampling Date	16/09/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	HP03						
Depth (m)	0.15						
Solid Waste Analysis							
TOC (%)**	1.5				3%	5%	6%
Loss on Ignition (%) **	4.4				--	--	10%
BTEX (µg/kg) **	< 5.0				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	9.38				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	1.7				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.00100			< 0.0100	0.5	2	25
Barium *	0.00526			0.0526	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.00066			0.0066	0.5	10	70
Copper *	0.010			0.10	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00151			0.0151	0.5	10	30
Nickel *	0.00046			0.0046	0.4	10	40
Lead *	0.0014			0.014	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0063			0.063	4	50	200
Chloride *	1.3			13	800	15000	25000
Fluoride*	0.22			2.2	10	150	500
Sulphate *	2.6			26	1000	20000	50000
TDS*	68			680	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	16.5			165	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.6						
Dry Matter (%)	93						
Moisture (%)	7.0						

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

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

* 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 *
321526	HP01	None Supplied	0.3	Brown clay and sand with gravel and stones
321527	HP02	None Supplied	0.3	Brown clay and sand with gravel and stones
321528	HP03	None Supplied	0.15	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

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
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	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 (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-PL	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
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	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
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
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE

Analytical Report Number : 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

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
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Pesticides by GC-MS/MS	Detemination of Pesticides in soil by GC MS/MS	In-house method	L055B	W	NONE
Acid Herbicides by LC-MS	Detemination of Acid Herbicides in soil by LC -MS	In-house method	PL	W	NONE
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-PL	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	NONE
Hexavalent chromium in soil (low level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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-PL	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-PL	W	MCERTS
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
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
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate	In-house method	L009B	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.

Analytical Report Number : 24-042999
Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Description
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

Analytical Report Number : 24-042999

Project / Site name: Broomhurst Farm, Lyminster, BN17 7QQ

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
HP03	N/A	S	321528	b	Acid Herbicides by LC-MS	PL	b

Waste Classification Report

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

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

SZ5YC-UW8AP-WYMVV

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

Job name

LS7905

Description/Comments

Project

LS7905

Site

Broomhurst Farm, Lyminster

Classified by

Name:
Jos Middleton
Date:
02 Oct 2024 11:01 GMT
[redacted]

Company:
Land Science
Unit 10, 19 Albert Drive
Burgess Hill
RH15 9TN.

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

HazWasteOnline™ Certification: [redacted]

Course	**Date**
Hazardous Waste Classification	[redacted]

Purpose of classification

2 - Material Characterisation

Address of the waste

Broomhurst Farm, Lyminster Post Code BN17 7QQ

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment from agricultural to residential

Description of the specific process, sub-process and/or activity that created the waste

Waste from any excavations for the redevelopment

Description of the waste

Made Ground: slightly clayey sandy GRAVEL. Sand is fine and medium. Gravel is subangular to subrounded fine and medium chalk, locally with concrete and brick.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	HP01	0.30	Non Hazardous		3
2	HP02	0.30	Non Hazardous		5
3	HP03	0.15	Non Hazardous		8

Related documents

#	Name	Description
1	Land Science Template WM3 v1.2GB	waste stream template used to create this Job

Report

Created by: Jos Middleton

Created date: 02 Oct 2024 11:01 GMT

Classification of sample: HP01

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

Sample details

Sample name:
HP01
Sample Depth:
0.30 m
Moisture content:
19%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 19% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		naphthalene	601-052-00-2	202-049-5	91-20-3		24	mg/kg		24	mg/kg	0.0024 %		
2	«	acenaphthylene		205-917-1	208-96-8		0.16	mg/kg		0.16	mg/kg	0.000016 %		
3	«	acenaphthene		201-469-6	83-32-9		41	mg/kg		41	mg/kg	0.0041 %		
4	«	fluorene		201-695-5	86-73-7		20	mg/kg		20	mg/kg	0.002 %		
5	«	phenanthrene		201-581-5	85-01-8		190	mg/kg		190	mg/kg	0.019 %		
6	«	anthracene		204-371-1	120-12-7		25	mg/kg		25	mg/kg	0.0025 %		
7	«	fluoranthene		205-912-4	206-44-0		420	mg/kg		420	mg/kg	0.042 %		
8	«	pyrene		204-927-3	129-00-0		360	mg/kg		360	mg/kg	0.036 %		
9		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		180	mg/kg		180	mg/kg	0.018 %		
10		chrysene	601-048-00-0	205-923-4	218-01-9		150	mg/kg		150	mg/kg	0.015 %		
11		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		180	mg/kg		180	mg/kg	0.018 %		
12		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		63	mg/kg		63	mg/kg	0.0063 %		
13		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		160	mg/kg		160	mg/kg	0.016 %		
14	«	indeno[123-cd]pyrene		205-893-2	193-39-5		82	mg/kg		82	mg/kg	0.0082 %		
15		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		15	mg/kg		15	mg/kg	0.0015 %		
16	«	benzo[ghi]perylene		205-883-8	191-24-2		80	mg/kg		80	mg/kg	0.008 %		
17		benzene	601-020-00-8	200-753-7	71-43-2		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP Index number	EC Number	CAS Number									
18		toluene				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
19	»	ethylbenzene				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
20		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
21	»	TPH (C6 to C40) petroleum group				870	mg/kg		870	mg/kg	0.087 %		
				TPH									
22		vinyl chloride; chloroethylene				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
23		mesitylene; 1,3,5-trimethylbenzene				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
24		1,2,4-trimethylbenzene				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
25	»	dibenzofuran				19	mg/kg		19	mg/kg	0.0019 %		
			205-071-3	132-64-9									
26	»	carbazole				23	mg/kg		23	mg/kg	0.0023 %		
			201-696-0	86-74-8									
										Total:	0.294 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
»	Determinand defined or amended by HazWasteOnline (see Appendix A)
<LOD	Below limit of detection

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: No diesel or oil noted during site works

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.087%)

Classification of sample: HP02

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

Sample details

Sample name:
HP02
Sample Depth:
0.30 m
Moisture content:
18%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 18% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	※	pH			PH		7.5	pH		7.5	pH	7.5 pH		
2		phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
3		naphthalene	601-052-00-2	202-049-5	91-20-3		0.37	mg/kg		0.37	mg/kg	0.000037 %		
4	※	acenaphthylene		205-917-1	208-96-8		1.2	mg/kg		1.2	mg/kg	0.00012 %		
5	※	acenaphthene		201-469-6	83-32-9		0.17	mg/kg		0.17	mg/kg	0.000017 %		
6	※	fluorene		201-695-5	86-73-7		0.46	mg/kg		0.46	mg/kg	0.000046 %		
7	※	phenanthrene		201-581-5	85-01-8		4.3	mg/kg		4.3	mg/kg	0.00043 %		
8	※	anthracene		204-371-1	120-12-7		1.9	mg/kg		1.9	mg/kg	0.00019 %		
9	※	fluoranthene		205-912-4	206-44-0		21	mg/kg		21	mg/kg	0.0021 %		
10	※	pyrene		204-927-3	129-00-0		21	mg/kg		21	mg/kg	0.0021 %		
11		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		19	mg/kg		19	mg/kg	0.0019 %		
12		chrysene	601-048-00-0	205-923-4	218-01-9		15	mg/kg		15	mg/kg	0.0015 %		
13		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		16	mg/kg		16	mg/kg	0.0016 %		
14		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		8	mg/kg		8	mg/kg	0.0008 %		
15		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		15	mg/kg		15	mg/kg	0.0015 %		
16	※	indeno[123-cd]pyrene		205-893-2	193-39-5		5.3	mg/kg		5.3	mg/kg	0.00053 %		
17		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		2.2	mg/kg		2.2	mg/kg	0.00022 %		

#		Determinand	EU CLP Index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
18	◈	benzo[ghi]perylene		205-883-8	191-24-2		5.3	mg/kg		5.3	mg/kg	0.00053 %		
19	◈	coronene		205-881-7	191-07-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
20		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11	mg/kg	1.32	14.524	mg/kg	0.00145 %		
21		barium { ◈ barium oxide }		215-127-9	1304-28-5		34	mg/kg	1.117	37.961	mg/kg	0.0038 %		
22		beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.41	mg/kg	2.775	1.138	mg/kg	0.000114 %		
23		boron { ◈ diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1.1	mg/kg	3.22	3.542	mg/kg	0.000354 %		
24		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.343	mg/kg	0.0000343 %		
25		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
26		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6.6	mg/kg	1.126	7.431	mg/kg	0.000743 %		
27		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	33	mg/kg	1.56	51.474	mg/kg	0.0033 %		
28		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
29		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		7.2	mg/kg	2.976	21.429	mg/kg	0.00214 %		
30		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
31		vanadium { ◈ divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		27	mg/kg	1.785	48.2	mg/kg	0.00482 %		
32		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		37	mg/kg	2.774	102.643	mg/kg	0.0103 %		
33		benzene	601-020-00-8	200-753-7	71-43-2		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
34		toluene	601-021-00-3	203-625-9	108-88-3		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
35	◈	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
36		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
37	◈	TPH (C6 to C40) petroleum group			TPH		578	mg/kg		578	mg/kg	0.0578 %		
38	◈	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
39		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
40		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
41		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
42	◈	dibenzofuran		205-071-3	132-64-9		0.2	mg/kg		0.2	mg/kg	0.00002 %		
43	◈	carbazole		201-696-0	86-74-8		0.3	mg/kg		0.3	mg/kg	0.00003 %		
											Total:	0.103 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: No diesel or oil noted during site works

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0578%)

Classification of sample: HP03

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

Sample details

Sample name:
HP03
Sample Depth:
0.15 m
Moisture content:
7%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 7% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	»	pH			PH		7.7	pH		7.7	pH	7.7 pH		
2		phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
3		naphthalene	601-052-00-2	202-049-5	91-20-3		0.09	mg/kg		0.09	mg/kg	0.000009 %		
4	»	acenaphthylene		205-917-1	208-96-8		0.1	mg/kg		0.1	mg/kg	0.00001 %		
5	»	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		**<LOD**
6	»	fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		**<LOD**
7	»	phenanthrene		201-581-5	85-01-8		0.3	mg/kg		0.3	mg/kg	0.00003 %		
8	»	anthracene		204-371-1	120-12-7		0.09	mg/kg		0.09	mg/kg	0.000009 %		
9	»	fluoranthene		205-912-4	206-44-0		1.3	mg/kg		1.3	mg/kg	0.00013 %		
10	»	pyrene		204-927-3	129-00-0		1.4	mg/kg		1.4	mg/kg	0.00014 %		
11		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.8	mg/kg		0.8	mg/kg	0.00008 %		
12		chrysene	601-048-00-0	205-923-4	218-01-9		0.82	mg/kg		0.82	mg/kg	0.000082 %		
13		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.2	mg/kg		1.2	mg/kg	0.00012 %		
14		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.54	mg/kg		0.54	mg/kg	0.000054 %		
15		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1.1	mg/kg		1.1	mg/kg	0.00011 %		
16	»	indeno[123-cd]pyrene		205-893-2	193-39-5		0.69	mg/kg		0.69	mg/kg	0.000069 %		
17		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.2	mg/kg		0.2	mg/kg	0.00002 %		

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
18	◈	benzo[ghi]perylene		205-883-8	191-24-2		0.83	mg/kg		0.83	mg/kg	0.000083 %		
19	◈	coronene		205-881-7	191-07-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
20		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		29	mg/kg	1.32	38.289	mg/kg	0.00383 %		
21		barium { ◈ barium oxide }		215-127-9	1304-28-5		120	mg/kg	1.117	133.981	mg/kg	0.0134 %		
22		beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.1	mg/kg	2.775	3.053	mg/kg	0.000305 %		
23		boron { ◈ diboron trioxide; boric oxide }	005-008-00-3	215-125-8	1303-86-2		0.9	mg/kg	3.22	2.898	mg/kg	0.00029 %		
24		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.2	mg/kg	1.142	1.371	mg/kg	0.000137 %		
25		chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.2	mg/kg	1.923	<2.308	mg/kg	<0.000231 %		<LOD
26		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12	mg/kg	1.126	13.511	mg/kg	0.00135 %		
27		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	50	mg/kg	1.56	77.991	mg/kg	0.005 %		
28		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
29		nickel { nickel chromate }	028-035-00-7	256-766-8	14721-18-7		33	mg/kg	2.976	98.217	mg/kg	0.00982 %		
30		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				6.1	mg/kg	1.405	8.571	mg/kg	0.000857 %		
31		vanadium { ◈ divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		59	mg/kg	1.785	105.326	mg/kg	0.0105 %		
32		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		100	mg/kg	2.774	277.415	mg/kg	0.0277 %		
33		benzene	601-020-00-8	200-753-7	71-43-2		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
34		toluene	601-021-00-3	203-625-9	108-88-3		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
35	◈	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
36		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
37	◈	TPH (C6 to C40) petroleum group			TPH		35	mg/kg		35	mg/kg	0.0035 %		
38	◈	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
39		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
40		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
41		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
42	◈	dibenzofuran		205-071-3	132-64-9		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
43	◈	carbazole		201-696-0	86-74-8		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
											Total:	0.0816 %		

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: No diesel or oil noted during site works

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0035%)

Appendix A: Classifier defined and non GB MCL determinands

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

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

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

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

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

dibenzofuran (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

carbazole (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

coronene (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

barium oxide (EC Number: 215-127-9, CAS Number: 1304-28-5)

Description/Comments: Data from ECHA's C&L Inventory Database, Sigma Aldrich SDS dated 6/2/20
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/88825
Data source date: 02 Apr 2020
Hazard Statements: Acute Tox. 3; H301 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 1; H332

divanadium pentaoxide; vanadium pentoxide (EC Number: 215-239-8, CAS Number: 1314-62-1)

GB MCL index number: 023-001-00-8
Description/Comments: Hazard statements H301, H330, H350 added by HazWasteOnline due to ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.
Additional Hazard Statement(s): Carc. 1B; H350 , Acute Tox. 3; H301 , Acute Tox. 2; H330
Reason for additional Hazards Statement(s):
20 Sep 2022 - Carc. 1B; H350 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 3; H301 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 3; H301". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.
28 Sep 2022 - Acute Tox. 2; H330 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 2; H330". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.

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

GB MCL index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

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

barium {barium oxide}

No Chromium 6

beryllium {beryllium oxide}

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

boron {diboron trioxide; boric oxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

cadmium {cadmium oxide}

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

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

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

copper {dicopper oxide; copper (I) oxide}

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

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

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

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

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2024.271.6257.11459 (29 Sep 2024)
HazWasteOnline Database: 2024.271.6257.11459 (29 Sep 2024)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024