

Table S2.1 Permitted waste types and quantities for use in deposit for recovery	
Maximum quantity	The total quantity of waste accepted at the site shall be less than 220,000 tonnes per year. The total quantity of waste to be accepted at the site shall not exceed 440,000 m ³
Waste code	Description
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones
† Road planings (waste types coded 17 03 02) shall be: (a) limited to use for construction of hard surface infrastructure such as roads, tracks, pathways and parking; and SR2015 No 39 v2 Table 2.3 Operating techniques (b) only used within 30cm of the final waste level except where they are used as temporary infrastructure; and (c) removed before further waste is deposited where used as temporary infrastructure.	

Schedule 3 – Emissions and monitoring

Table S3.1 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
MW105 as shown in Figure 3 of Controlled Waters Risk Assessment (Ref: 1783-CWRA)	Chromium	30.8 ug/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Lead	0.65 ug/l			
	Phenol	9.3 ug/l			
	TPH	11 ug/l			
MW109D as shown in Figure 3 of Controlled Waters Risk Assessment (Ref: 1783-CWRA)	Chromium	30.8 ug/l			
	Lead	0.20 ug/l			
	Phenol	9.3 ug/l			
	TPH	11 ug/l			

Table S3.2 Surface water – other monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
SW1, SW2 as shown in Figure 1: Surface Water Monitoring Plan	Visual screen for oils and grease.	Weekly	Spot Sample	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	pH, electrical conductivity, suspended solids, chloride, ammoniacal nitrogen, sulphate	Quarterly		
	pH, electrical conductivity, suspended solids, metals (As, Cd, Cr, Cu Hg, Ni, Pb, Sb, Se, Zn), Chloride, ammoniacal nitrogen, sulphate, phenol, PAH, BTEX, TPH	Annually		

Table S3.3 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	Parameter	Monitoring frequency	Monitoring standard or method
MW101, MW105, MW109D as shown in Figure 3 of Controlled Waters Risk Assessment (Ref: 1783-CWRA)	pH, electrical conductivity, metals (As, Cd, Cr, Cu Hg, Ni, Pb, Sb, Se, Zn), TPH-total	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	pH, electrical conductivity, suspended solids, metals (As, Cd, Cr, Cu Hg, Ni, Pb, Sb, Se, Zn), Chloride, ammoniacal nitrogen, sulphate, phenol, PAH, BTEX, TPH-banded, with aliphatic/aromatic split	Annually	

Schedule 4 – Reporting

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

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

Table S4.2 Reporting forms		
Media/parameter	Reporting format	Date of form
Surface water	Form Water 1 or other form as agreed in writing by the Environment Agency	08/03/2021
Groundwater	Form Groundwater 1 or other form as agreed in writing by the Environment Agency	08/03/2021
Topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	-

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

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

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

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

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

'accident' means an accident that may result in pollution.

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

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

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

'area for waste deposit' is the part of the site where waste material is to be deposited.

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

'emissions to land' includes emissions to groundwater.

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

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

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

'Hazardous waste' has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

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

'pests' means birds, vermin and insects.

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

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

'soil substitute' means a material that serves as a direct replacement for soil and can only be used on a site where there is no existing soil profile.

No hazardous waste or dangerous substances may be included and the soil substitute must be free from contaminants such as asbestos fragments, plastics, glass, metals, treated timber, foils and films.

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

'Waste Framework Directive' or 'WFD' means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste.

'year' means calendar year ending 31 December.

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

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

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

“PCBs” means

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

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

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

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

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

Schedule 7 – Site plan



END OF PERMIT

Reporting Forms

Surface Water and/or Groundwater Monitoring Form: version 1, 08/03/2021

Permit number: [EPR/AB1234CB]

Operator: [A Company Name Limited]

Facility name: [Unit A, Anytown]

Reporting of surface water and/or groundwater monitoring for the period from [DD/MM/YY] to [DD/MM/YY]

Monitoring point	Substance / parameter	Trigger level	Reference period	Test method ¹	Result ²	Sample dates and times ³	Uncertainty ⁴
[e.g. GW1]	[e.g. pH]	[e.g. >5 and <9 pH units]	[e.g. instantaneous]	[e.g. BS ISO 5667-11:200]	[State result]	[State relevant dates and time periods]	[State uncertainty if not 95% confidence interval]

Signed: [Name]

Date: [DD/MM/YY]

(Authorised to sign as representative of the operator)

Guidance for use: Use this form to report your monitoring results.

Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. Complete columns 1 to 5 using the information from schedule 3 of your permit. Complete columns 6 to 8 with your monitoring data. Add additional rows as necessary.

¹ Where an internationally recognised standard test method is used, give the reference number. Where another method that has been formally agreed with the Environment Agency, give the appropriate identifier. In other cases state the principal technique, for example gas chromatography.

² Give the result as the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, give the result as the 'minimum to maximum' of the measured values.

³ For non-continuous measurements give the date and time of the sample that produced the result. For continuous measurements give the percentage of the process operating time covered by the result.

⁴ Complete if the uncertainty associated with the result is not a 95% confidence interval. Leave blank for 95% confidence intervals.

Notice of transfer with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Peel L&P Land (INTERMEDIATE) Limited

Unit 2-4 at Port Salford

Liverpool Road

Eccles

M30 7RX

Transfer application number

EPR/LB3107SJ/T002

Permit number

EPR/LB3107SJ

Unit 2-4 at Port Salford

Permit number EPR/LB3107SJ

Introductory note

This introductory note does not form a part of the notice.

The following notice gives notice of the transfer of an environmental permit to a new operator (the transferee).

We consider that in reaching our decision to transfer the permit we have taken into account all relevant considerations and legal requirements.

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

Status log of the permit		
Description	Date	Comments
Permit determined EPR/LB3107SJ/A001	24/01/24	Permit issued to NRE Aggregates Limited for a deposit for recovery activity permit
Application EPR/LB3107SJ/T002 (full transfer of permit EPR/LP3694ZJ)	Duly made 06/06/25	Application to transfer the permit in full to Peel L&P Land (INTERMEDIATE) Limited
Transfer determined EPR/LB3107SJ	13/06/25	Full transfer of permit complete

End of introductory note

Notice of transfer

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 21 of the Environmental Permitting (England and Wales) Regulations 2016 transfers

Permit number

EPR/LB3107SJ

to

Peel L&P Land (INTERMEDIATE) Limited ("the operator")

whose registered office is

**Venus Building 1 Old Park Lane
Traffordcity
Manchester
M41 7HA**

company registration number **06495537**

to operate a regulated facility at

**Unit 2-4 at Port Salford
Liverpool Road
Eccles
M30 7RX**

from NRE Aggregates Limited

The notice shall take effect from 13/06/2025

Name	Date
Caroline Wynn	13/06/2025

Authorised on behalf of the Environment Agency

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

The Bacup Clay Company Limited

Tong Quarry
Tong Lane
Bacup
Lancashire
OL13 9XA

Variation application number

EPR/EB3307HK/V003

Permit number

EPR/EB3307HK

Tong Quarry

Permit number EPR/EB3307HK

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. Only the variations specified in schedule 1 are subject to a right of appeal.

Tong Quarry was previously operating under a Paragraph 9 Exemption to backfill the excavated areas to allow the land to return to agricultural use. This permit will allow the importation of inert waste materials for recovery to raise ground levels to those permitted by the planning permission.

The permit has been varied to extend the quarry restoration, increase the annual tonnage throughput and add waste codes.

The schedules specify the changes made to the permit.

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

Status log of the permit		
Description	Date	Comments
Application received	Duly made 16/11/11	Application for a deposit for recovery activity permit.
Permit determined EPR/CB3138RW	15/02/12	Permit issued to Tong Quarry Limited.
Application EPR/EB3307HK/T001 (full transfer of permit EPR/ CB3138RW)	Duly made 23/08/16	Application to transfer the permit in full to The Bacup Clay Company Limited.
Transfer determined EPR/EB3307HK	05/10/16	Full transfer of permit complete.
Application EPR/EB3307HK/V003 (variation and consolidation)	Duly made 21/06/23	Application to vary and update the permit to modern conditions.
Additional information received	05/01/24	Revised Importation Protocol, conceptual site model, engineering and monitoring infrastructure information, groundwater monitoring information, stability risk assessment, gas monitoring data and modelling files information.
Additional information received	03/05/24	Revised Importation Protocol and groundwater monitoring information.
Additional information received	12/06/24	Revised Importation Protocol.
Variation determined and consolidation issued EPR/EB3307HK	15/07/24	Varied and consolidated permit issued in modern format.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/EB3307HK

Issued to

The Bacup Clay Company Limited ("the operator")

whose registered office is

**11 Neptune Court Hallam Way
Whitehills Business Park
Blackpool
Lancashire
FY4 5LZ**

company registration number 09749610

to operate a regulated facility at

**Tong Quarry
Tong Lane
Bacup
Lancashire
OL13 9XA**

to the extent set out in the schedules.

The notice shall take effect from 15/07/2024

Name	Date
Claire Roberts	15/07/2024

Authorised on behalf of the Environment Agency

Schedule 1

Only conditions 2.2.1, 2.3.1 and 2.5.1 have been varied by the consolidated permit EPR/EB3307HK as a result of the application made by the operator.

The following conditions were varied as a result of the application made by the operator:

- Schedule 7 as referenced in condition 2.2.1 to amend the permit boundary.
- Table S1.2 as referenced in condition 2.3.1 to update the operational techniques.
- Tables S2.1 and S2.2 as referenced by condition 2.5.1 are amended to amend the waste types and quantity to be accepted.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/EB3307HK

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/EB3307HK/V003 authorising,

The Bacup Clay Company Limited ("the operator"),

whose registered office is

**11 Neptune Court Hallam Way
Whitehills Business Park
Blackpool
Lancashire
FY4 5LZ**

company registration number 09749610

to operate waste operations at

**Tong Quarry
Tong Lane
Bacup
Lancashire
OL13 9XA**

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

Name	Date
Claire Roberts	15/07/2024

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

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

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

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

2 Operations

2.1 Permitted activities

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

2.2 The site

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

2.3 Operating techniques

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

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

2.4 Pre-operational conditions

- 2.4.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.3 have been completed.

2.5 Waste acceptance

- 2.5.1 Waste shall only be accepted if:

- (a) it is of a type and quantity listed in schedule 2, table S2.1 and table S2.2;
- (b) it has been identified as a suitable waste in the approved waste recovery plan;
- (c) its chemical, physical and biological characteristics make it suitable for its intended use on the site; and
- (d) it fulfils the approved waste acceptance criteria; and
- (e) all the approved waste acceptance procedures have been completed; and
- (f) it conforms to the description in the documentation supplied by the producer and holder; and
- (g) It is not waste consisting solely or mainly of dusts, powders or loose fibres; and
- (h) It is not hazardous wastes; and
- (i) It is not waste in liquid form.

- 2.5.2 The operator shall:

- (a) visually inspect without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the site and waste at the point of deposit; and
- (b) be satisfied that the waste conforms to the requirements of condition 2.5.1.

- 2.5.3 The total quantity of waste that shall be deposited under the permit shall be limited by the final levels shown on the final levels contour plan ('Restoration Plan'), reference 213036/D/005, dated 01/07/21.

2.6 Site Engineering

- 2.6.1 (a) No construction of site engineering in the area for waste deposit shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.

- (b) The operator shall review the construction proposals every 12 months.

- 2.6.2 The construction of site engineering in the area for waste deposit shall take place only in accordance with the approved construction proposals unless:

- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
- (b) a change has otherwise been agreed in writing by the Environment Agency.

- 2.6.3 The operator shall prepare a CQA Validation Report to cover every 6 month period of construction of the area for deposit. The operator shall submit the CQA validation report to the Environment Agency within 4 weeks of the completion of the works.

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

3 Emissions and monitoring

3.1 Emissions of substances not controlled by emission limits

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

3.2 Odour

- 3.2.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.3 Noise and vibration

- 3.3.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Monitoring

- 3.4.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) Groundwater specified in table S3.1;
 - (b) Ground gas specified in tables S3.2, S3.3A and S3.3B.
- 3.4.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.4.3 The operator shall undertake a topographical survey of the site referenced to ordnance datum that shall be used to produce a plan of a scale adequate to show the surveyed features of the site:
- (a) prior to commencement of the recovery activity; and
 - (b) on completion of the recovery activity to show final waste levels defined by condition 2.5.3.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;

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

4.1.2 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery, origin and the identity of the carrier and producer of any waste that is received for recovery. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

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

4.2 Reporting

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

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

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.2 ; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall submit the topographical survey plans required by condition 3.4.3 (a) and (b) to the Environment Agency within one month of the completion of the survey.

4.3 Notifications

4.3.1 In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

- (a) inform the Environment Agency,
- (b) take the measures necessary to limit the environmental consequences of such an incident or accident, and
- (c) take the measures necessary to prevent further possible incidents or accidents;

4.3.2 In the event of a breach of any permit condition the operator must immediately—

- (a) inform the Environment Agency, and

(b) take the measures necessary to ensure that compliance is restored within the shortest possible time.

- 4.3.3 In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.4 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.5 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.6 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (a) the death of any of the named operators (where the operator consists of more than one named individual);
 - (b) any change in the operator's name(s) or address(es); and
 - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.7 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.8 The operator shall notify the Environment Agency in writing:
- (a) at least 14 days before the commencement of operations;
 - (b) within 14 days of completion of operations.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made 'immediately', in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities	
Description of activities for waste operations	Limits of activities
R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Secure storage of wastes listed in Tables S2.1 and S2.2 for the purpose of recovery. Storage of wastes listed in Tables S2.1 and S2.2 shall be limited to three years.
R5: Recycling/reclamation of other inorganic compounds	Use of waste types specified in Tables S2.1 and S2.2 for the purposes of construction work and/or restoration, reclamation or improvement of land.
R10: Land treatment resulting in benefit to agriculture or ecological improvement	Use of waste to create a final growth layer. Wastes listed in Table S2.2 may only be recovered in the final 500mm layer of the scheme.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	Approved Waste Recovery Plan, reference 213036/WRP/001, dated 01/03/21	13/10/21
Application	Final levels contour plan ('Restoration Plan'), reference 213036/D/005, dated 01/07/21	13/10/21
Application	Importation Protocol and Construction Controls, reference 213036/IP, dated 12/06/24	12/06/24
Application	Dust Emissions Management Plan, reference 213036/DEMP, dated 01/08/21.	01/08/21
Application	Borehole monitoring plan, reference 213036/BH/D/001, dated February 2021.	13/10/21

Table S1.3 Pre-operational measures	
Reference	Pre-operational measures
PO1	Prior to accepting waste types classed as EWC 19 02 06 at the site, the operator shall provide details to the Environment Agency for prior written approval: a) Identifying and specifying each site producing the waste stream; b) specifying the sampling and testing regime for each of the identified sites, including sampling frequency, that the waste producer will subject the waste types classed as EWC 19 02 06 to, and how this meets the guidance requirements given on GOV.UK; c) providing representative leaching test results for each waste stream from each specific source; and

Table S1.3 Pre-operational measures	
Reference	Pre-operational measures
	d) demonstrating that the leaching test results of the waste types classed as EWC 19 02 06 are compliant with Inert Waste Acceptance Criteria in accordance with the criteria specified in section 2.1 of the Annex to Council Decision (2003/33/EC). Wastes types classed as EWC 19 02 06 shall not be accepted at the site until written approval of the information provided under paragraphs a) to d) above has been obtained from the Environment Agency.

Schedule 2 – Waste types

Table S2.1 Permitted waste types and quantities for use in deposit for recovery	
Maximum quantity	The total quantity of waste accepted at the site shall be less than 200,000 tonnes per year. The total quantity of waste to be accepted at the site shall not exceed 930,000 m ³
Waste code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 01	wastes from mineral excavation
01 01 02	wastes from non metalliferous excavation
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those containing dangerous substances
01 04 09	waste sand and clays
10	WASTES FROM THERMAL PROCESSES
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones (excluding topsoil and peat)
17 05 06	dredging spoil other than those mentioned in 17 05 05
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 06 ¹	Silts/ clay from soil washing facility
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	minerals (for example sand, stones) from the treatment of waste aggregates that are otherwise naturally occurring minerals - excludes fines from treatment of any non-hazardous waste or gypsum from recovered plasterboard.
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those containing dangerous substances
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	garden and park wastes (including cemetery waste)

Table S2.1 Permitted waste types and quantities for use in deposit for recovery	
Maximum quantity	The total quantity of waste accepted at the site shall be less than 200,000 tonnes per year. The total quantity of waste to be accepted at the site shall not exceed 930,000 m ³
Waste code	Description
20 02 02	soil and stones (excluding topsoil and peat)

¹ only in accordance with the requirements specified in PO1 of Table S1.3 Pre-operational measures.

Table S2.2 Permitted waste types and quantities for use of waste in land treatment to create a soil profile	
Maximum quantity	The total quantity of waste accepted at the site shall be less than 200,000 tonnes per year The total quantity of waste to be accepted at the site shall not exceed 127,356 m ³
Waste code	Description
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 05	soils (including excavated soils from contaminated sites), stones and dredgings
17 05 04	topsoil and peat
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	garden and park wastes (including cemetery waste)
20 02 02	topsoil and peat

Schedule 3 – Emissions and monitoring

Table S3.1 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
GW8D as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Chloride	80 mg/l	Spot Sample	Quarterly	As specified in Environment Agency Guidance LFTGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk), or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Ammoniacal Nitrogen	0.95 mg/l			
	Sulphate	100 mg/l			
	Arsenic	0.005 mg/l			
	Lead	0.0002 mg/l			
	Total Petroleum Hydrocarbons	0.01 mg/l			
GW9D as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Chloride	130 mg/l	Spot Sample	Quarterly	
	Ammoniacal Nitrogen	1.5 mg/l			
	Sulphate	180 mg/l			
	Arsenic	0.005 mg/l			
	Lead	0.0002 mg/l			
	Total Petroleum Hydrocarbons	0.01 mg/l			
Mine adit as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Chloride	100 mg/l	Spot Sample	Quarterly	
	Ammoniacal Nitrogen	1.2 mg/l			
	Sulphate	295 mg/l			
	Arsenic	0.005 mg/l			
	Lead	0.0003 mg/l			
	Total Petroleum Hydrocarbons	0.01 mg/l			
Spr NW as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Chloride	50 mg/l	Spot Sample	Quarterly	
	Ammoniacal Nitrogen	0.9 mg/l			
	Sulphate	210 mg/l			
	Arsenic	0.005 mg/l			
	Lead	0.0025 mg/l			
	Total Petroleum Hydrocarbons	0.01 mg/l			
Spr N as shown on drawing	Chloride	50 mg/l	Spot Sample	Quarterly	
	Ammoniacal Nitrogen	0.7 mg/l			

Table S3.1 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Sulphate	215 mg/l			
	Arsenic	0.005 mg/l			
	Lead	0.002 mg/l			
	Total Petroleum Hydrocarbons	0.01 mg/l			
Daisy Hall Spr as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Chloride	120 mg/l	Spot Sample	Quarterly	
	Ammoniacal Nitrogen	1.65 mg/l			
	Sulphate	115 mg/l			
	Arsenic	0.005 mg/l			
	Lead	0.001 mg/l			
	Total Petroleum Hydrocarbons	0.01 mg/l			
GW8S as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Chloride	50 mg/l	Spot Sample	Quarterly	
	Ammoniacal Nitrogen	0.9 mg/l			
	Sulphate	80 mg/l			
	Arsenic	0.005 mg/l			
	Lead	0.0002 mg/l			
	Total Petroleum Hydrocarbons	0.01 mg/l			

Table S3.2 Ground gas: in-waste monitoring – Action level and monitoring requirements				
Location or description of point of measurement	Parameter	Action level (including units)	Monitoring frequency	Monitoring standard, specifications and other actions
All in-waste landfill gas monitoring points in accordance with 'The Bacup Clay Company Ltd – Land Restoration at Tong Quarry - Environmental Setting and Site Design Report – Job No 213036 – July 2021 - Appendix D - Gas Risk Assessment – 213036/LGRA– August 2021'	Methane	In accordance with 'The Bacup Clay Company Ltd – Land Restoration at Tong Quarry - Environmental Setting and Site Design Report – Job No 213036 – July 2021 - Appendix D - Gas Risk Assessment – 213036/LGRA– August 2021'	Monthly	As per Environment Agency guidance "Guidance on the Management of Landfill Gas – September 2004" LFTGN03 or such other subsequent guidance as may be agreed in writing with the Environment Agency Where the concentration of methane at any in-waste monitoring location exceeds the specified action level, the operator shall investigate the root cause in accordance with their gas action plan and waste acceptance procedures.
	Carbon Dioxide	No limit		Record whether the ground is: waterlogged

Table S3.2 Ground gas: in-waste monitoring – Action level and monitoring requirements				
Location or description of point of measurement	Parameter	Action level (including units)	Monitoring frequency	Monitoring standard, specifications and other actions
	Oxygen	No limit		frozen snow covered
	Atmospheric Pressure	No limit		
	Differential Pressure	No limit		

Table S3.3A Ground gas: off-site/ perimeter monitoring – Compliance limit and monitoring requirements				
Location or description of point of measurement	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard, specifications and other actions
GW2 as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Methane	2.1% v/v	Monthly	As per Environment Agency guidance "Guidance on the Management of Landfill Gas – September 2004" LFTGN03 or such other subsequent guidance as may be agreed in writing with the Environment Agency Record whether the ground is: waterlogged frozen snow covered
	Oxygen	No limit		
	Atmospheric Pressure	No limit		
	Differential Pressure	No limit		
GW4S as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Methane	10.8% v/v		
	Oxygen	No Limit		
	Atmospheric Pressure	No Limit		
	Differential Pressure	No Limit		
GW4D as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'	Methane	No Limit		
	Oxygen	No Limit		
	Atmospheric Pressure	No Limit		
	Differential Pressure	No Limit		
GW1, GW3, GW5S, GW5D, GW6S, GW6D, GW7S, GW7D, GW8S, GW8D, GW9S, GW9D	Methane	1.1% v/v		
	Oxygen	No Limit		
	Atmospheric Pressure	No Limit		
	Differential Pressure	No Limit		

Table S3.3A Ground gas: off-site/ perimeter monitoring – Compliance limit and monitoring requirements				
Location or description of point of measurement	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard, specifications and other actions
as shown on drawing 'Monitoring Plan - Drawing Number 213036/D/006 – Rev. B – Dated Dec'23'				

Table S3.3B Ground gas: off-site/ perimeter monitoring – Action levels and monitoring requirements				
Location or description of point of measurement	Parameter	Action level (including units)	Monitoring frequency	Monitoring standard, specifications and other actions
GW1	Carbon Dioxide	3.1% v/v	Monthly	As per Environment Agency guidance "Guidance on the Management of Landfill Gas – September 2004" LFTGN03 or such other subsequent guidance as may be agreed in writing with the Environment Agency Where the concentration of carbon dioxide at a specified monitoring point exceeds the specified action level, the operator shall investigate the root cause in accordance with their gas action plan. Record whether the ground is: waterlogged frozen snow covered
	Methane	0.6% v/v		
GW2	Carbon Dioxide	3.3% v/v		
	Methane	1.6% v/v		
GW3	Carbon Dioxide	1.6% v/v		
	Methane	0.6% v/v		
GW4S	Carbon Dioxide	8.3% v/v		
	Methane	10.3% v/v		
GW4D	Carbon Dioxide	9% v/v		
	Methane	18.7% v/v		
GW5S	Carbon Dioxide	3.3% v/v		
	Methane	0.6% v/v		
GW5D	Carbon Dioxide	1.6% v/v		
	Methane	0.6% v/v		
GW6S	Carbon Dioxide	2.1% v/v		
	Methane	0.6% v/v		
GW6D	Carbon Dioxide	3.5% v/v		
	Methane	0.6% v/v		
GW7S	Carbon Dioxide	2.6% v/v		
	Methane	0.6% v/v		
GW7D	Carbon Dioxide	3.1% v/v		
	Methane	0.6% v/v		
GW8S	Carbon Dioxide	1.9% v/v		
	Methane	0.6% v/v		
GW8D	Carbon Dioxide	2.1% v/v		

Table S3.3B Ground gas: off-site/ perimeter monitoring – Action levels and monitoring requirements				
Location or description of point of measurement	Parameter	Action level (including units)	Monitoring frequency	Monitoring standard, specifications and other actions
	Methane	0.6% v/v		
GW9S	Carbon Dioxide	2.4% v/v		
	Methane	0.6% v/v		
GW9D	Carbon Dioxide	2.1% v/v		
	Methane	0.6% v/v		

Schedule 4 – Reporting

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

Table S4.2 Reporting forms		
Media/parameter	Reporting format	Date of form
Groundwater	Form Groundwater 1 or other form as agreed in writing by the Environment Agency	15/07/24
Ground gas	Form Gas 1 or other form as agreed in writing by the Environment Agency	15/07/24
Topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	-

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

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

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

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

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

'accident' means an accident that may result in pollution.

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

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

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

'area for waste deposit' is the part of the site where waste material is to be deposited.

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

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

- a. For emissions to surface water, the surface water quality up-gradient of the site; or
- b. For emissions to groundwater, the groundwater quality up-gradient of the site; or
- c. For emissions of ground gas, the ground or air outside the site and not attributable to the site

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

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

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

'ecological improvement' means providing, maintaining or improving the soils ability to provide a growing medium including for growth of vegetation on landscaping and for recreational and amenity uses.

'emissions to land' includes emissions to groundwater.

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

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

'groundwater' means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil. 'Hazardous waste' has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

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

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

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

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

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

'site engineering' means the engineered attenuation layer, geological barrier or other construction proposals that are required before waste can be deposited.

'site infrastructure' means any specified element of the:

- k. permanent capping;
- l. surface water drainage systems;
- m. groundwater monitoring boreholes;
- n. ground gas monitoring boreholes;
- o. ground gas management systems;

within the site.

'soil substitute' means a material that serves as a direct replacement for soil and can only be used on a site where there is no existing soil profile.

No hazardous waste or dangerous substances may be included and the soil substitute must be free from contaminants such as asbestos fragments, plastics, glass, metals, treated timber, foils and films.

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

'Waste Framework Directive' or 'WFD' means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste.

'year' means calendar year ending 31 December.

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

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

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

"PCBs" means

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

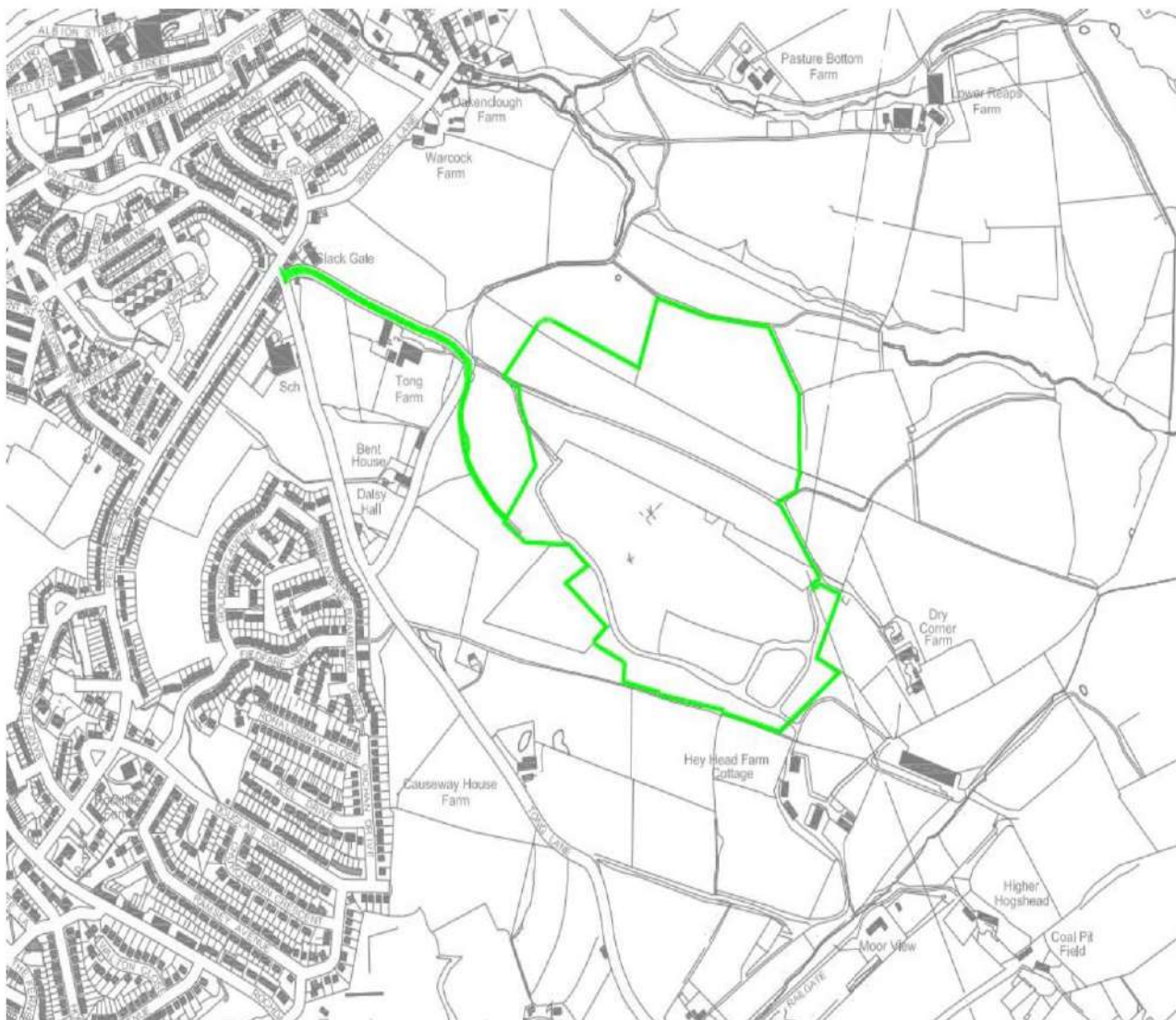
“transition metals” means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified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

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

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

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

Schedule 7 – Site plan



©Crown Copyright. All rights reserved. Environment Agency, 100024198, 2024.

END OF PERMIT

Operator: [A Company Name Limited]

Reporting of surface water and/or groundwater monitoring for the period from [DD/MM/YY] to [DD/MM/YY]

[illegible]

Signed:

[Name]

(Authorised to sign as representative of the operator)

Date:

[DD/MM/YY]

Guidance for use: Use this form to report your monitoring results.

Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. Complete columns 1 to 5 using the information from schedule 3 of your permit. Complete columns 6 to 8 with your monitoring data. Add additional rows as necessary.

- 2 Where an internationally recognised standard test method is used, give the reference number. Where another method that has been formally agreed with the Environment Agency, give the appropriate identifier. In other cases state the principal technique, for example gas chromatography.
- 3 Give the result as the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, give the result as the 'minimum to maximum' of the measured values.
- 4 For non-continuous measurements give the date and time of the sample that produced the result. For continuous measurements give the percentage of the process operating time covered by the result.
- 5 Complete if the uncertainty associated with the result is not a 95% confidence interval. Leave blank for 95% confidence intervals.

Appendix E – Previous Validation Works

Client: Forth Homes
 Site: Windy Arbor
 Title: Windy Arbor Plot Validation, Plots 1 and 3
 Date: 22nd August 2024

Swan Environmental Services (SES) were retained by Forth Homes to validate the soils used in the garden and soft landscaping areas at Windy Arbor Brow, Whiston, Prescott L35 1RA to determine that the soils met the requirements of the Remediation Strategy (RS) produced by Swan Environmental, dated January 2022.

SES attended site on 2nd August 2024 to verify the thickness of the cover system and to retrieve samples for laboratory testing. Trial pits were excavated in garden plots 1 and 3 which had been completed prior to the site visit.

When compared to the RS no exceedances of applied Generic Assessment Criteria (GAC) were recorded.

The table below summarises the chemical results when compared with the RS GAC values.

Determinand	Units	GAC With plant	GAC Without plant	GAC Source	n	[mc]	Location	Primary Pathways	Assessment
Inorganics									
Arsenic	mg/kg	37	40	(i)	4	<10	N/A	1	No further action.
Cadmium	mg/kg	11	85	(i)		<2.5		1, 2	
Chromium (VI)	mg/kg	6	6	(i)		<1.0		1, 2, 3	
Lead	mg/kg	200	310	(iv)		72		1, 2	
Mercury [Inorganic]	mg/kg	40	56	(i)		<2.5		1, 2	
Nickel	mg/kg	180	180	(i)		27		1	
Selenium	mg/kg	250	430	(i)		<8.0		1, 2	
Copper	mg/kg	2,400	7100	(i)		52		1, 2	
Zinc	mg/kg	3,700	40000	(i)		97		1, 2	
Asbestos	-	D	D	-		ND		3	
Organics – PAHs and Phenol									
Naphthalene	mg/kg	2.3	2.3	(ii)	4	<0.02	N/A	4	No further action.
Acenaphthylene	mg/kg	170	2900	(ii)		<0.02		2	
Acenaphthene	mg/kg	210	3000	(ii)		<0.02		2	
Fluorene	mg/kg	170	2800	(ii)		<0.02		2	
Phenanthrene	mg/kg	95	1300	(ii)		0.15		2	
Anthracene	mg/kg	2400	31000	(ii)		0.04		2	
Fluoranthene	mg/kg	280	1500	(ii)		0.23		1, 2	
Pyrene	mg/kg	620	3700	(ii)		0.23		1, 2	

The Locket Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
 T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Determinand	Units	GAC With plant	GAC Without plant	GAC Source	n	[mc]	Location	Primary Pathways	Assessment
Benzo(a) Anthracene	mg/kg	7.2	11	(ii)	4	0.11	N/A	1	No further action.
Chrysene	mg/kg	15	30	(ii)		0.13		1	
Benzo(b) Fluoranthene	mg/kg	2.6	3.9	(ii)		0.14		1	
Benzo(k) Fluoranthene	mg/kg	77	110	(ii)		0.06		1	
Benzo(a)Pyrene	mg/kg	2.2	3.2	(ii)		0.12		1	
Indeno (123-cd) Pyrene	mg/kg	27	45	(ii)		0.06		1	
Dibenzo(a,h) Anthracene	mg/kg	0.24	0.31	(ii)		<0.02		1	
Benzo(ghi) Perylene	mg/kg	320	360	(ii)		0.08		1	
Organics – TPH									
TPH C ₅ -C ₆	mg/kg	42	42	(iii)	4	<0.06	N/A	4	No further action.
TPH C ₆ -C ₈	mg/kg	100	100	(iii)		<0.06		4	
TPH C ₈ -C ₁₀	mg/kg	27	27	(iii)		<0.06		4	
TPH C ₁₀ -C ₁₂	mg/kg	74	130	(iii)		1.2		4	
TPH C ₁₂ -C ₁₆	mg/kg	140	1100	(iii)		2.0		1, 2	
TPH C ₁₆ -C ₂₁	mg/kg	260	1900	(iii)		11		1	
TPH C ₂₁ -C ₃₅	mg/kg	1,100	1900	(iii)		21		1	
Key for Table 1									
[mc]	Maximum Concentration Recorded								
D.	Detected								
N.D.	None Detected (Limit of Detection = <0.0001%)								
Primary Pathways									
1	Ingestion of soil and indoor dust and / or oral background exposure;								
2	Consumption of home-grown produce and attached soil;								
3	Inhalation of dust (background and indoor);								
4	Inhalation of vapour (background and indoor);								
Generic Assessment Criteria (GAC) Source									
(i)	LQM/CIEH Suitable For Use Level (S4UL) (2015);								
(ii)	S4UL – Conservative Assessment Approach of 1% SOM;								
(iii)	S4UL –1% SOM and assumed worst case aliphatic / aromatic compound;								
(iv)	Defra Category 4 Screening Level (2014);								
(v)	CLEA 1.06 Derived Value.								
(vi)	EA Values								

Copies of the laboratory testing reports are included with this letter.
 Overleaf are presented validation photographs of the cover system.

The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
 T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Plot 1



The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Plot 3



The Locket Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk





Yours sincerely

Director

Enc Laboratory Certificates

The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Company Registration no. 06419936 VAT Reg no. 923601449



7 - 11 Harding Street
Leicester
LE1 4DH

SWAN Environmental
The Lockey Suite
The Nostell Estate Yard
Nostell
WF4 1AB

Analytical Test Report: L24/07187/SWA - 24-48346 - Amendment A

Your Project Reference:	Windy Arbor SES41455		
Your Order Number:	10828	Samples Received / Instructed:	06/08/2024 / 06/08/2024
Report Issue Number:	2	Sample Tested:	06/08 to 16/08/2024
Samples Analysed:	4 samples	Report issued:	21/08/2024

Notes:

Amendment A 21/08/2024 - Report amended to include additional testing as requested by client.

General

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples will be retained for 14 days after issue of this report with the exception of the asbestos test portion which is held for 6 months unless otherwise requested.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30°C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Stone Content was determined in accordance with CTS method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.

Uncertainty of measurement values are available on request.

Samples were supplied by customer, results apply to the samples as received.

Asbestos

Please note: Where further analysis is required samples identified as containing asbestos are screened and tested on an as received basis. No correction is made for moisture content and these results are not covered by our accreditation

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

Deviating Samples

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present)

Accreditation Key

UKAS = UKAS Accreditation, MCERTS = MCERTS Accreditation, u = Unaccredited, subUKAS - Subcontracted to a laboratory UKAS accredited for this test, subMCERTS - Subcontracted to a laboratory MCERTS accredited for this test

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

Date of Issue: 08.08.2024

Issued by: J. Gane

Issue No: 4

Rev No: 11



7 - 11 Harding Street
Leicester
LE1 4DH

L24/07187/SWA - 24-48346 - Amendement A

Project Reference - Windy Arbor SES41455

Analytical Test Results - Solid

Lab Reference		388182	388183	388184	388185
Client Sample ID		Plot 1	Plot 1	Plot 3	Plot 3
Client Sample Location		-	-	-	-
Client Sample Type		-	-	-	-
Client Sample Number		-	-	-	-
Depth - Top (m)		0.05	0.50	0.10	0.40
Depth - Bottom (m)		0.15	0.60	0.20	0.50
Date of Sampling		02/08/2024	02/08/2024	02/08/2024	02/08/2024
Time of Sampling		-	-	-	-
Sample Matrix		Clay	Clay	Clay	Clay
Determinant	Units	Accreditation			
Arsenic	(mg/kg)	MCERTS	< 10	< 10	< 10
Boron (w/s)	(mg/kg)	u	< 2.5	< 2.5	< 2.5
Cadmium	(mg/kg)	MCERTS	0.5	0.7	0.6
Chromium (III)	(mg/kg)	u	< 1.0	13	3.7
Chromium (Total)	(mg/kg)	UKAS	< 1.0	14	4.7
Copper	(mg/kg)	MCERTS	20	52	13
Lead	(mg/kg)	MCERTS	61	26	62
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	13	27	12
Selenium	(mg/kg)	u	< 8.0	< 8.0	< 8.0
Zinc	(mg/kg)	MCERTS	95	79	97
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	< 1.0	< 1.0
Acenaphthene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02
Acenaphthylene	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02
Anthracene	(mg/kg)	UKAS	< 0.02	0.04	< 0.02
Benzo (a) anthracene	(mg/kg)	MCERTS	0.05	0.11	0.04
Benzo (a) pyrene	(mg/kg)	MCERTS	0.06	0.10	0.04
Benzo (b) fluoranthene	(mg/kg)	MCERTS	0.09	0.14	0.05
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	0.05	0.07	0.04
Benzo (k) fluoranthene	(mg/kg)	MCERTS	0.03	0.06	< 0.02
Chrysene	(mg/kg)	MCERTS	0.07	0.13	0.05
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02
Fluoranthene	(mg/kg)	MCERTS	0.10	0.23	0.07
Fluorene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02
Indeno (1, 2, 3-cd) pyrene	(mg/kg)	MCERTS	0.04	0.06	0.03
Naphthalene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02
Phenanthrene	(mg/kg)	MCERTS	0.07	0.11	0.05
Pyrene	(mg/kg)	MCERTS	0.09	0.23	0.07
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	0.80	1.4	0.60
TOC	(%)	MCERTS	1.8	1.2	1.6
Asbestos	-	UKAS	No asbestos detected	No asbestos detected	No asbestos detected



7 - 11 Harding Street
Leicester
LE1 4DH

L24/07187/SWA - 24-48346 - Amendement A

Project Reference - Windy Arbor SES41455

Analytical Test Results - VPH / EPH

Lab Reference			388182	388183	388184	388185
Client Sample ID			Plot 1	Plot 1	Plot 3	Plot 3
Client Sample Location			-	-	-	-
Client Sample Type			-	-	-	-
Client Sample Number			-	-	-	-
Depth - Top (m)			0.05	0.50	0.10	0.40
Depth - Bottom (m)			0.15	0.60	0.20	0.50
Date of Sampling			02/08/2024	02/08/2024	02/08/2024	02/08/2024
Time of Sampling			-	-	-	-
Sample Matrix			Clay	Clay	Clay	Clay
Determinant	Units	Accreditation				
Benzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
m&p Xylene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02
o-Xylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C ₅ to C ₆ [H ₅ ,MS,10,AL]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic >C ₆ to C ₈ [H ₆ ,MS,10,AL]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic >C ₈ to C ₁₀ [H ₅ ,MS,10,AL]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic >C ₁₀ to C ₁₂ [H ₁ ,20,AL]	(mg/kg)	U	< 1.0	1.2	< 1.0	< 1.0
Aliphatic >C ₁₂ to C ₁₆ [H ₁ ,20,AL]	(mg/kg)	U	1.6	2.0	1.3	3.1
Aliphatic >C ₁₆ to C ₂₁ [H ₁ ,20,AL]	(mg/kg)	U	5.8	3.3	3.7	11
Aliphatic >C ₂₁ to C ₃₅ [H ₁ ,20,AL]	(mg/kg)	U	21	13	16	17
Aliphatic >C ₃₅ to C ₄₄ [H ₁ ,20,AL]	(mg/kg)	U	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic >C ₅ to C ₇ [H ₅ ,MS,10,AR]	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C ₇ to C ₈ [H ₅ ,MS,10,AR]	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C ₈ to C ₁₀ [H ₅ ,MS,10,AR]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	< 0.06
Aromatic >C ₁₀ to C ₁₂ [H ₁ ,20,AR]	(mg/kg)	U	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic >C ₁₂ to C ₁₆ [H ₁ ,20,AR]	(mg/kg)	U	1.5	1.6	1.2	1.4
Aromatic >C ₁₆ to C ₂₁ [H ₁ ,20,AR]	(mg/kg)	U	3.3	3.3	2.1	3.9
Aromatic >C ₂₁ to C ₃₅ [H ₁ ,20,AR]	(mg/kg)	U	25	13	12	13
Aromatic >C ₃₅ to C ₄₄ [H ₁ ,20,AR]	(mg/kg)	U	< 5.0	< 5.0	< 5.0	< 5.0
Total >C ₅ to C ₃₅ [H ₁ ,20,MS,10,TotH]	(mg/kg)	U	58	37	36	49



L24/07187/SWA - 24-48346 - Amendement A

Project Reference - Windy Arbor SES41455

Sample Descriptions

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)
388182	Plot 1	-	-	-	Brown sandy clay with rare rootlets	18	< 0.1
388183	Plot 1	-	-	-	Brown sandy clay	14	< 0.1
388184	Plot 3	-	-	-	Brown sandy clay with rare rootlets	15	< 0.1
388185	Plot 3	-	-	-	Reddish brown sandy clay	12	< 0.1



7 - 11 Harding Street
Leicester
LE1 4DH

L24/07187/SWA - 24-48346 - Amendment A

Project Reference - Windy Arbor SES41455

Sample Comments

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Comments
388182	Plot 1	-	-	-	VPH/BTEX - Sample taken from container with headspace.
388183	Plot 1	-	-	-	VPH/BTEX - Sample taken from container with headspace.
388184	Plot 3	-	-	-	VPH/BTEX - Sample taken from container with headspace.
388185	Plot 3	-	-	-	VPH/BTEX - Sample taken from container with headspace.

L24/07187/SWA - 24-48346 - Amendment A

Project Reference - Windy Arbor SES41455

Analysis Methodologies

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
SKALARHCS	MS - CL - Hexavalent Chromium by Skalar	As received	Passing 10mm test sieve	Determination of hexavalent chromium in soil using Skalar segmented flow analyser
ICPMETS	MS - CL - ICP Metals	Air dried	Passing 10mm test sieve	Determination of metals in soils via ICP
PAHASRDS	MS - CL - PAH (As Received)	As received	Passing 10mm test sieve	Determination of Polyanromatic hydrocarbons in soil via GC-MS
TOCS	MS - CL - TOC Eltra	Air Dried	Passing 10mm test sieve	Determination of Total Organic Carbon in soils
GCGCS	MS - CL - TPH & EPH by GCXGC	As received	Passing 10mm test sieve	Determination of TPH and EPH in soils via GCxGC-FID
CWGS	Calculation from VPH-S and EPH-S	As received	Passing 10mm test sieve	Determination of TPH CWG (Volatile Petroleum Hydrocarbons and Extractable Petroleum Hydrocarbons) in soils via Headspace-GC-MS and GC-GC-FID respectively
VPHS	MS - CL - VPH	As received	Passing 10mm test sieve	Determination of VPH in soils via Headspace-GC-MS
WSBORONS	MS - CL - WS Boron	Air dried	Passing 10mm test sieve	Determination of Water soluble Boron in soils via ICP
ASB	MS - AS - Asbestos	-	-	Fibre identification is in accordance with in house documented methods which are based on the procedure documented in the HSE Document HSG 248 "Asbestos: The analysts guide for sampling, analysis and clearance procedures"
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis



7 - 11 Harding Street
Leicester
LE1 4DH

L24/07187/SWA - 24-48346 - Amendement A

Project Reference - Windy Arbor SES41455

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
388182	Plot 1	-	-	-	MS - CL - VPH	RX
388183	Plot 1	-	-	-	MS - CL - VPH	RX
388184	Plot 3	-	-	-	MS - CL - VPH	RX
388185	Plot 3	-	-	-	MS - CL - VPH	RX



7 - 11 Harding Street
Leicester
LE1 4DH

L24/07187/SWA - 24-48346 - Amendement A

Project Reference - Windy Arbor SES41455

HWOL TPH Acronym Index

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

Client: Forth Homes
 Site: Windy Arbor
 Title: Windy Arbor Plot Validation, Plots 14-29 and amenity space
 Date: 8th November 2024

Swan Environmental Services (SES) were retained by Forth Homes to validate the soils used in the garden and soft landscaping areas at Windy Arbor Brow, Whiston, Prescott L35 1RA to determine that the soils met the requirements of the Remediation Strategy (RS) produced by Swan Environmental, dated January 2022.

SES attended site on 29th October 2024 to sample the sub-soils off the cover system for laboratory testing. Trial pits were excavated in garden plots 16, 17, 18, 22 and 29. Also 2no trial pits were excavated in the Amenity Area behind residential flats on site.

When compared to the RS no exceedances of applied Generic Assessment Criteria (GAC) were recorded.

The table below summarises the chemical results when compared with the RS GAC values.

Determinand	Units	GAC With plant	GAC Without plant	GAC Source	n	[mc]	Location	Primary Pathways	Assessment
Inorganics									
Arsenic	mg/kg	37	40	(i)	7	<10	N/A	1	No further action.
Cadmium	mg/kg	11	85	(i)		2.7		1, 2	
Chromium (VI)*	mg/kg	6	6	(i)		<0.1		1, 2, 3	
Lead	mg/kg	200	310	(iv)		73		1, 2	
Mercury [Inorganic]	mg/kg	40	56	(i)		<2.5		1, 2	
Nickel	mg/kg	180	180	(i)		41		1	
Selenium	mg/kg	250	430	(i)		<8.0		1, 2	
Copper	mg/kg	2,400	7100	(i)		120		1, 2	
Zinc	mg/kg	3,700	40000	(i)		370		1, 2	
Asbestos	-	D	D	-		ND		3	
Organics – PAHs and Phenol									
Naphthalene	mg/kg	2.3	2.3	(ii)	7	0.06	N/A	4	No further action.
Acenaphthylene	mg/kg	170	2900	(ii)		<0.02		2	
Acenaphthene	mg/kg	210	3000	(ii)		0.08		2	
Fluorene	mg/kg	170	2800	(ii)		0.1		2	
Phenanthrene	mg/kg	95	1300	(ii)		0.83		2	
Anthracene	mg/kg	2400	31000	(ii)		0.35		2	
Fluoranthene	mg/kg	280	1500	(ii)		1.8		1, 2	
Pyrene	mg/kg	620	3700	(ii)		1.8		1, 2	

The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
 T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Determinand	Units	GAC With plant	GAC Without plant	GAC Source	n	[mc]	Location	Primary Pathways	Assessment
Benzo(a) Anthracene	mg/kg	7.2	11	(ii)	7	0.76	N/A	1	No further action.
Chrysene	mg/kg	15	30	(ii)		0.79		1	
Benzo(b) Fluoranthene	mg/kg	2.6	3.9	(ii)		0.92		1	
Benzo(k) Fluoranthene	mg/kg	77	110	(ii)		0.34		1	
Benzo(a)Pyrene	mg/kg	2.2	3.2	(ii)		0.74		1	
Indeno (123-cd) Pyrene	mg/kg	27	45	(ii)		0.4		1	
Dibenzo(a,h) Anthracene	mg/kg	0.24	0.31	(ii)		0.1		1	
Benzo(ghi) Perylene	mg/kg	320	360	(ii)		0.46		1	
Organics – TPH									
TPH C ₅ -C ₆	mg/kg	42	42	(iii)	7	<0.06	N/A	4	No further action.
TPH C ₆ -C ₈	mg/kg	100	100	(iii)		0.34		4	
TPH C ₈ -C ₁₀	mg/kg	27	27	(iii)		<0.06		4	
TPH C ₁₀ -C ₁₂	mg/kg	74	130	(iii)		2.8		4	
TPH C ₁₂ -C ₁₆	mg/kg	140	1100	(iii)		8.5		1, 2	
TPH C ₁₆ -C ₂₁	mg/kg	260	1900	(iii)		31.5		1	
TPH C ₂₁ -C ₃₅	mg/kg	1,100	1900	(iii)		154		1	
Key for Table 1									
[mc]	Maximum Concentration Recorded								
D.	Detected								
N.D.	None Detected (Limit of Detection = <0.0001%)								
Primary Pathways									
1	Ingestion of soil and indoor dust and / or oral background exposure;								
2	Consumption of home-grown produce and attached soil;								
3	Inhalation of dust (background and indoor);								
4	Inhalation of vapour (background and indoor);								
Generic Assessment Criteria (GAC) Source									
(i)	LQM/CIEH Suitable For Use Level (S4UL) (2015);								
(ii)	S4UL – Conservative Assessment Approach of 1% SOM;								
(iii)	S4UL –1% SOM and assumed worst case aliphatic / aromatic compound;								
(iv)	Defra Category 4 Screening Level (2014);								
(v)	CLEA 1.06 Derived Value.								
(vi)	EA Values								

Copies of the laboratory testing reports are included with this letter.
 Overleaf are presented validation photographs of the cover system.

The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
 T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Plot 16



The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Plot 17



The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Plot 18



The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Plot 22



The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Plot 29



The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Communal C



The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk



Communal B



Yours sincerely

Peter Clarke
Director

Enc Laboratory Certificates

The Lockey Suite | Nostell Estate, Nostell | Wakefield, WF4 1AB
T: 01977 624364 E: enquiries@swanenvironmental.co.uk





7 - 11 Harding Street
Leicester
LE1 4DH

SWAN Environmental
The Locket Suite
The Nostell Estate Yard
Nostell
WF4 1AB

Analytical Test Report: E24/00367/SWA - 24-51953 - Amendment B

Your Project Reference: **SES41455 Windy Arbor**

Your Order Number: **PO 10921** Samples Received / Instructed: **31/10/2024 / 06/11/2024**

Report Issue Number: **3** Sample Tested: **06/11 to 06/11/2024**

Samples Analysed: **7 sample(s)** Report issued: **06/11/2024**

James Gane
Analytical Services Manager
CTS Group

Notes:

General

Amendment B 08/11/2024 - Report updated to include Chromium (III) & Chromium (Hexavalent)

Amendment A 06/11/2024 - Report updated to include date of sampling

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples will be retained for 14 days after issue of this report with the exception of the asbestos test portion which is held for 6 months unless otherwise requested.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30°C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2.

Stone Content was determined in accordance with CTS method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.

Uncertainty of measurement values are available on request.

Samples were supplied by customer, results apply to the samples as received.

Asbestos

Please note: Where further analysis is required samples identified as containing asbestos are screened and tested on an as received basis. No correction is made for moisture content and these results are not covered by our accreditation.

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

Deviating Samples

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present).

Accreditation Key

UKAS = UKAS Accreditation, MCERTS = MCERTS Accreditation, u = Unaccredited, subUKAS - Subcontracted to a laboratory UKAS accredited for this test, subMCERTS - Subcontracted to a laboratory MCERTS accredited for this test.

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices.

UKAS accreditation on waters only covers the Ground water and Surface water matrices.

Date of Issue: 23.10.2024

Issued by: J. Gane

Issue No: 4

Rev No: 17



4161



7 - 11 Harding Street
Leicester
LE1 4DH

E24/00367/SWA - 24-51953 - Amendment B

Project Reference - SES41455 Windy Arbor

Analytical Test Results - Solid

Lab Reference			414171	414172	414173	414174	414175	414176	414177
Client Sample ID			Plot 16	Plot 17	Plot 18	Plot 22	Plot 29	Communal C	Communal B
Client Sample Location			-	-	-	-	-	-	-
Client Sample Type			-	-	-	-	-	-	-
Client Sample Number			-	-	-	-	-	-	-
Depth - Top (m)			0.30	0.10	0.00	0.10	0.00	0.10	0.00
Depth - Bottom (m)			0.40	0.20	0.10	0.20	0.10	0.20	0.10
Date of Sampling			29/10/2024	29/10/2024	29/10/2024	29/10/2024	29/10/2024	29/10/2024	29/10/2024
Time of Sampling			-	-	-	-	-	-	-
Sample Matrix			Clay	Clay	Clay	Clay	Clay	Clay	Clay
Determinant	Units	Accreditation							
Arsenic	(mg/kg)	MCERTS	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Boron (w/s)	(mg/kg)	u	< 2.5	< 2.5	< 2.5	2.7	< 2.5	< 2.5	< 2.5
Cadmium	(mg/kg)	MCERTS	1.9	1.2	0.8	1.7	1.0	0.9	1.0
Chromium (III)	(mg/kg)	u	17	18	10	17	16	16	15
Chromium (Total)	(mg/kg)	UKAS	18	19	11	18	17	17	16
Copper	(mg/kg)	MCERTS	42	44	29	120	22	32	18
Lead	(mg/kg)	MCERTS	16	21	19	73	8.8	23	14
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	41	35	27	34	36	33	37
Selenium	(mg/kg)	u	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	(mg/kg)	MCERTS	68	95	59	370	25	69	42
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Acenaphthene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.08	< 0.20	< 0.02	< 0.20	0.03
Acenaphthylene	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02	< 0.20	< 0.02	< 0.20	< 0.02
Anthracene	(mg/kg)	UKAS	< 0.02	< 0.02	0.35	0.28	< 0.02	< 0.20	0.05
Benzo (a) anthracene	(mg/kg)	MCERTS	0.06	0.05	0.65	0.76	< 0.02	0.35	0.15
Benzo (a) pyrene	(mg/kg)	MCERTS	0.07	0.06	0.72	0.74	< 0.02	0.34	0.15
Benzo (b) fluoranthene	(mg/kg)	MCERTS	0.09	0.07	0.84	0.92	< 0.02	0.39	0.18
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	0.05	0.04	0.42	0.46	< 0.02	< 0.20	0.10
Benzo (k) fluoranthene	(mg/kg)	MCERTS	0.03	0.03	0.29	0.34	< 0.02	< 0.20	0.06
Chrysene	(mg/kg)	MCERTS	0.07	0.06	0.63	0.79	< 0.02	0.29	0.16
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.10	< 0.20	< 0.02	< 0.20	< 0.02
Fluoranthene	(mg/kg)	MCERTS	0.12	0.12	1.6	1.8	0.03	0.72	0.39
Fluorene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.10	< 0.20	< 0.02	< 0.20	< 0.02
Indeno (1, 2, 3-cd) pyrene	(mg/kg)	MCERTS	0.05	0.04	0.39	0.40	< 0.02	< 0.20	0.08
Naphthalene	(mg/kg)	MCERTS	< 0.02	< 0.02	0.06	< 0.20	< 0.02	< 0.20	< 0.02
Phenanthrene	(mg/kg)	MCERTS	0.03	0.06	0.83	0.79	< 0.02	0.44	0.15
Pyrene	(mg/kg)	MCERTS	0.13	0.12	1.5	1.8	0.02	0.71	0.37
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	0.86	0.79	8.5	10	0.38	5.3	2.0
TOC	(%)	MCERTS	0.7	0.8	1.0	1.7	< 0.5	0.9	0.5
Asbestos	-	UKAS	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected



7 - 11 Harding Street
Leicester
LE1 4DH

E24/00367/SWA - 24-51953 - Amendment B

Project Reference - SES41455 Windy Arbor

Analytical Test Results - VPH / EPH

Lab Reference	414171	414172	414173	414174	414175	414176	414177
Client Sample ID	Plot 16	Plot 17	Plot 18	Plot 22	Plot 29	Communal C	Communal B
Client Sample Location	-	-	-	-	-	-	-
Client Sample Type	-	-	-	-	-	-	-
Client Sample Number	-	-	-	-	-	-	-
Depth - Top (m)	0.30	0.10	0.00	0.10	0.00	0.10	0.00
Depth - Bottom (m)	0.40	0.20	0.10	0.20	0.10	0.20	0.10
Date of Sampling	29/10/2024	29/10/2024	29/10/2024	29/10/2024	29/10/2024	29/10/2024	29/10/2024
Time of Sampling	-	-	-	-	-	-	-
Sample Matrix	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Determinant	Units	Accreditation					
Benzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m&p Xylene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o-Xylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C ₆ to C ₈ (HS_MS_10_AI)	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic >C ₆ to C ₈ (HS_MS_10_AI)	(mg/kg)	MCERTS	< 0.06	0.34	< 0.06	< 0.06	< 0.06
Aliphatic >C ₈ to C ₁₀ (HS_MS_10_AI)	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic >C ₁₀ to C ₁₂ (EH_20_AI)	(mg/kg)	MCERTS	< 1.0	2.8	< 1.0	< 1.0	< 1.0
Aliphatic >C ₁₂ to C ₁₆ (EH_20_AI)	(mg/kg)	MCERTS	< 1.0	1.4	2.3	< 1.0	1.7
Aliphatic >C ₁₆ to C ₂₁ (EH_20_AI)	(mg/kg)	MCERTS	1.4	2.0	3.2	< 1.0	3.5
Aliphatic >C ₂₁ to C ₂₅ (EH_20_AI)	(mg/kg)	MCERTS	9.7	5.5	4.9	< 2.0	15
Aliphatic >C ₂₅ to C ₃₄ (EH_20_AI)	(mg/kg)	u	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic >C ₅ to C ₇ (HS_MS_10_AI)	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C ₇ to C ₈ (HS_MS_10_AI)	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C ₈ to C ₁₀ (HS_MS_10_AI)	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aromatic >C ₁₀ to C ₁₂ (EH_20_AI)	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic >C ₁₂ to C ₁₆ (EH_20_AI)	(mg/kg)	MCERTS	< 1.0	< 1.0	4.2	< 1.0	1.8
Aromatic >C ₁₆ to C ₂₁ (EH_20_AI)	(mg/kg)	MCERTS	4.1	3.3	26	2.1	9.5
Aromatic >C ₂₁ to C ₃₅ (EH_20_AI)	(mg/kg)	MCERTS	27	9.1	64	< 2.0	31
Aromatic >C ₃₅ to C ₄₄ (EH_20_AI)	(mg/kg)	u	14	< 5.0	15	< 5.0	17
Total >C ₆ to C ₃₄ (EH_20-HS_10_Total)	(mg/kg)	MCERTS	43	25	100	< 10	62



7 - 11 Harding Street
Leicester
LE1 4DH

E24/00367/SWA - 24-51953 - Amendment B

Project Reference - SES41455 Windy Arbor

Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)
414171	Plot 16	-	-	-	Brown slightly gravelly slightly sandy silty clay	18	< 0.1
414172	Plot 17	-	-	-	Brown slightly gravelly slightly sandy silty clay	21	< 0.1
414173	Plot 18	-	-	-	Brown slightly gravelly slightly sandy silty clay	19	< 0.1
414174	Plot 22	-	-	-	Brown slightly gravelly slightly sandy silty clay	22	< 0.1
414175	Plot 29	-	-	-	Brown gravelly sandy silty clay	14	< 0.1
414176	Communal C	-	-	-	Brown slightly gravelly slightly sandy silty clay	15	23
414177	Communal B	-	-	-	Made Ground- brown slightly gravelly slightly sandy silty clay with occasional brick fragments	16	< 0.1



7 - 11 Harding Street
Leicester
LE1 4DH

E24/00367/SWA - 24-51953 - Amendment B

Project Reference - SES41455 Windy Arbor

Sample Comments

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Comments
414171	Plot 16	-	-	-	VPH/BTEX - Sample taken from container with headspace.
414172	Plot 17	-	-	-	
414173	Plot 18	-	-	-	
414174	Plot 22	-	-	-	VPH/BTEX - Sample taken from container with headspace. PAHAR - 1/10 dark colour extract
414175	Plot 29	-	-	-	VPH/BTEX - Sample taken from container with headspace.
414176	Communal C	-	-	-	PAHAR - 1/10 dark colour extract
414177	Communal B	-	-	-	



7 - 11 Harding Street
Leicester
LE1 4DH

E24/00367/SWA - 24-51953 - Amendment E

Project Reference - SES41455 Windy Arbor

Analysis Methodologies

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
SKALARHCS	MS - CL - Hexavalent Chromium by Skalar	As received	Passing 10mm test sieve	Determination of hexavalent chromium in soil using Skalar segmented flow analyser
ICPMETS	MS - CL - ICP Metals	Air dried	Passing 10mm test sieve	Determination of metals in soils via ICP
PAHASRDS	MS - CL - PAH (As Received)	As received	Passing 10mm test sieve	Determination of Polyaromatic hydrocarbons in soil via GC-MS
TOCS	MS - CL - TOC Eltra	Air Dried	Passing 10mm test sieve	Determination of Total Organic Carbon in soils
GCCXGS	MS - CL - TPH & EPH by GCCXGC	As received	Passing 10mm test sieve	Determination of TPH and EPH in soils via GCCXGC-FID
CWGS	Calculation from VPH-S and EPH-S	As received	Passing 10mm test sieve	Determination of TPH CWG (Volatile Petroleum Hydrocarbons and Extractable Petroleum Hydrocarbons) in soils via Headspace-GC-MS and GC-GC-FID respectively
VPHS	MS - CL - VPH	As received	Passing 10mm test sieve	Determination of VPH in soils via Headspace-GC-MS
WSBORONS	MS - CL - WS Boron	Air dried	Passing 10mm test sieve	Determination of Water soluble Boron in soils via ICP
ASB	MS - AS - Asbestos	-	-	Fibre identification is in accordance with in house documented methods which are based on the procedure documented in the HSE Document HSG 248 "Asbestos: The analysts guide for sampling, analysis and clearance procedures"
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis



7 - 11 Harding Street
Leicester
LE1 4DH

E24/00367/SWA - 24-51953 - Amendment

Project Reference - SES41455 Windy Arbor

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 96 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
414171	Plot 16	-	-	-		A
414172	Plot 17	-	-	-		A
414173	Plot 18	-	-	-		A
414174	Plot 22	-	-	-		A
414175	Plot 29	-	-	-		A
414176	Communal C	-	-	-		A
414177	Communal B	-	-	-		A



E24/00367/SWA - 24-51953 - Amendment B

Project Reference - SES41455 Windy Arbor

HWOL TPH Acronym Index

7 - 11 Harding Street
Leicester
LE1 4DH

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

Appendix F – Regulatory Correspondence



Knowsley Council

Mark Wright
4 Allerton Road Mossley Hill
Liverpool
L18 1LN
United Kingdom

Our Ref: 20/00329/FUL

Date: 15 December 2022

Dear Sir/Madam

TOWN AND COUNTRY PLANNING ACT 1990

APPLICATION NO: 20/00329/FUL

PROPOSAL: ERECTION OF A RESIDENTIAL DEVELOPMENT OF 43 NO. DWELLINGS COMPRISING 14 NO. APARTMENTS AND 29 NO. HOUSES TOGETHER WITH ACCESS, CAR PARKING AND ASSOCIATED DEVELOPMENT (DEMOLITION OF EXISTING BARN)

LOCATION: Land At Windy Arbor Brow / Windy Arbor Road, Whiston, Knowsley

Thank you for your application to discharge conditions in relation to the above.

Condition - 4 Contaminated Land

The information submitted to date is acceptable and satisfactorily addresses Parts A, B & C of Condition 4. **The pre-commencement elements of Condition 4 have therefore been satisfied and works can commence.**

Please note that the remaining parts of Condition 4 are required to be addressed prior to Condition 4 being discharged in full.

Part D (Implementation of Approved Remediation Scheme and Verification Report),
Part E (Reporting of Unexpected Contamination),
Part F (Materials Management Plan) and;
Part G (Importation of Soil/Material)).

Background

FHC has confirmed that majority of the made ground will be removed from site. Any made ground which remains will be checked to ensure it is free from asbestos. It is also confirmed that, once the identified ACM has been removed and the site strip (including demolition etc) is complete, FHC will commission Swan Environmental to carry out further reviews of the site including testing of remaining soils and any made ground which remains.

Comments and observations

Knowsley Metropolitan Borough Council
PO Box 21 Archway Road Huyton Knowsley Merseyside L36 9YU
Telephone: 0151 489 6000 www.knowsley.gov.uk





Knowsley Council

The submitted Remediation Strategy (Swan Environmental, June 2022) together with above additional works, are sufficient to enable discharge of Part C (Submission of Remediation Scheme) of Condition 4.

It is requested that the detail of the proposed further review and additional testing is agreed with the Local Planning Authority prior to implementation.

With regard to the assessment criterion for asbestos presented within Table 4 of the Remediation Strategy, in order to be consistent with the other criteria presented within the Table, the criterion for asbestos should be Not Detected ie the level in the soil above which may present an unacceptable risk of harm to human health.

Since it is clearly intended that a positive identification for asbestos will trigger the removal of affected materials from the site, an update of the Remediation Strategy is not required in this instance.

Details can be submitted via email to dcsubmissions@knowsley.gov.uk or by post to the address shown below.

If you require any further information please do not hesitate to contact me on 0151 443 3501

Yours sincerely

Rebekah McNally
Monitoring Officer



Morning Environmental Health,

I haven't received a reply relating to the below request from 28th November

Have you had anything back from Merseyside Environmental advisory Service (MEAS)?

We would really appreciate engagement due to the site circumstances to ensure that sign off of the outstanding planning conditions can be achieved.

Kind Regards

Phil Sales

BSc MSc FGS CSci QP425

Technical Manager
(Geo-Environmental)



0151 345 6551



www.quinndevelopments.co.uk



0749 590 0568



Phil.Sales@quinndevelopments.co.uk



From: Phil Sales <Phil.Sales@quinndevelopments.co.uk>

Sent: 04 December 2025 08:08

To: McEvoy, Feargal <Feargal.McEvoy@knowsley.gov.uk>; Environmental Health
<environmentalhealth@knowsley.gov.uk>

Cc: Jasmine Zbogar-Ward <Jasmine.ZbogarWard@quinndevelopments.co.uk>; Bradshawe, Helen
<Helen.Bradshawe@knowsley.gov.uk>

Subject: RE: Windy Arbor - Planning Permission Ref: 20/00329/FUL

Morning Fergal,

Thank you for the update, much appreciated

Kind Regards

Phil Sales

BSc MSc FGS CSci QP425

Technical Manager
(Geo-Environmental)



0151 345 6551



www.quinndevelopments.co.uk



0749 590 0568



Phil.Sales@quinndevelopments.co.uk



phil@quinndevelopments.co.uk

Subject: RE: Windy Arbor - Planning Permission Ref: 20/00329/FUL

Morning Phil

My understanding is that Environmental Health shared your e-mail with Merseyside Environmental advisory Service (MEAS) and are probably awaiting a response before they reply to you.

Regards

Feargal McEvoy
Principal Planner (Development Management)
Planning

Telephone: 01514432108

Knowsley Council, , Knowsley,

Subject: RE: Windy Arbor - Planning Permission Ref: 20/00329/FUL

EXTERNAL EMAIL - This email was sent by a person from outside your organization. Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

Secured by Check Point

Morning Environmental Health,

I haven't received a reply relating to the below request.

Our client provided me with the attached confirming discharge of conditions 4A, 4B and 4C.

I would like to catch up with someone regarding requirements for conditions 4D to 4G.

Kind Regards

Phil Sales
BSc MSc FGS CSci QP425

Technical Manager 
(Geo-Environmental)



Morning Fergal and environmental health.

Quinn Developments have been commissioned by Vistry Merseyside to undertake a review of existing works and undertaken any remedial works for the civils and ground elements at Land at Windy Arbor Brow / Windy Arbor Road, Whiston, Knowsley L35 1RA.

Planning Permission Ref: 20/00329/FUL (attached).

The site was previously developed by Forth Homes who have subsequently left the site unfinished.

Condition 4 of the planning condition is related to contaminated land related requirements.

I was after a contact at the for the contaminated land team to discuss the requirements and our proposed solutions given the sites current condition.

There is a Site Investigation and Remediation Strategy, have these been reviewed and accepted?

Kind Regards



This e-mail and any attachments are confidential. It may contain privileged information and is intended for the named recipient(s) only. It must not be distributed without consent. If you are not one of the intended recipients, please notify the sender immediately and do not disclose, distribute, or retain this email or any part of it and do not take any action based on it.

Unless expressly stated, opinions in this email are those of the individual sender, and not of

Knowsley MBC. Legally binding obligations can only be created for, or be entered into on behalf of, Knowsley MBC by duly authorised officers or representatives.

Knowsley MBC excludes any liability whatsoever for any offence caused, any direct or consequential loss arising from the use, or reliance on, this e-mail or its contents. We believe but do not warrant that this e-mail and any attachments are virus free. You must therefore take full responsibility for virus checking and no responsibility is accepted for loss or damage arising from viruses or changes made to this message after it was sent. Knowsley MBC reserves the right to monitor and/or record all e-mail communications through its network in accordance with relevant legislation.

This e-mail and any attachments are confidential. It may contain privileged information and is intended for the named recipient(s) only. It must not be distributed without consent. If you are not one of the intended recipients, please notify the sender immediately and do not disclose, distribute, or retain this email or any part of it and do not take any action based on it.

Unless expressly stated, opinions in this email are those of the individual sender, and not of Knowsley MBC. Legally binding obligations can only be created for, or be entered into on behalf of, Knowsley MBC by duly authorised officers or representatives.

Knowsley MBC excludes any liability whatsoever for any offence caused, any direct or consequential loss arising from the use, or reliance on, this e-mail or its contents. We believe but do not warrant that this e-mail and any attachments are virus free. You must therefore take full responsibility for virus checking and no responsibility is accepted for loss or damage arising from viruses or changes made to this message after it was sent. Knowsley MBC reserves the right to monitor and/or record all e-mail communications through its network in accordance with relevant legislation.

Morning Fergal and environmental health.

Quinn Developments have been commissioned by Vistry Merseyside to undertake a review of existing works and undertaken any remedial works for the civils and ground elements at Land at Windy Arbor Brow / Windy Arbor Road, Whiston, Knowsley L35 1RA.

Planning Permission Ref: 20/00329/FUL (attached).

The site was previously developed by Forth Homes who have subsequently left the site unfinished.

Condition 4 of the planning condition is related to contaminated land related requirements.

I was after a contact at the for the contaminated land team to discuss the requirements and our proposed solutions given the sites current condition.

There is a Site Investigation and Remediation Strategy, have these been reviewed and accepted?

Kind Regards

F
E

T
(

l
l



Phil Sales

From: Environmental Health <environmentalhealth@knowsley.gov.uk>
Sent: 28 November 2025 11:27
To: Phil Sales
Subject: Automatic reply: Windy Arbor - Planning Permission Ref: 20/00329/FUL

Thank you for your email, we will reply to your enquiry within 2 working days.

If your enquiry is regarding dog fouling, fly tipping, statutory nuisance (eg: noise, smoke) or littering, further information and how these can be reported online, can be found by going to www.knowsley.gov.uk, and clicking on "Report it".

If your enquiry is regarding a stray dog, further information can be found here: [Stray dogs | Knowsley Council](#)

This e-mail and any attachments are confidential. It may contain privileged information and is intended for the named recipient(s) only. It must not be distributed without consent. If you are not one of the intended recipients, please notify the sender immediately and do not disclose, distribute, or retain this email or any part of it and do not take any action based on it.

Unless expressly stated, opinions in this email are those of the individual sender, and not of Knowsley MBC. Legally binding obligations can only be created for, or be entered into on behalf of, Knowsley MBC by duly authorised officers or representatives.

Knowsley MBC excludes any liability whatsoever for any offence caused, any direct or consequential loss arising from the use, or reliance on, this e-mail or its contents. We believe but do not warrant that this e-mail and any attachments are virus free. You must therefore take full responsibility for virus checking and no responsibility is accepted for loss or damage arising from viruses or changes made to this message after it was sent. Knowsley MBC reserves the right to monitor and/or record all e-mail communications through its network in accordance with relevant legislation.

Appendix G – Photograph Plates and Material Logs

Windy Arbour Site Satellite Image

Legend

- Rough Site Boundary
- Locations of samples

Client: Vistry Limited

Drawing
Site satellite Image 001

Quinn Developments NW Ltd
Lees Road
Knowsley Industrial Park
North Kirkby
Liverpool
L33 7SE
Company Registration No.
08904579

19.12.2025
Scale 1:700



Merseyside Environmental Advisory Service
The Barn, Court Hey Park
Roby Road, Huyton, L16 3NA
Director: Alan Jemmett, PhD, MBA

Enquiries: 0151 934 4951

Contact: Lesley Bye
Direct Dial: 0151 934 4766
Email: lesley.bye@eas.sefton.gov.uk
Website: www.meas.org.uk

MEMO

To: Helen Bradshawe
Organisation: Knowsley Council

Your Ref: 20/00329/DISCON
File Ref: KN20-044
W/P Ref: e-DM folder

From: Lesley Bye
MEAS

Date: 19 December 2025

Land At Windy Arbor Brow / Windy Arbor Road, Whiston, Knowsley Discharge of Condition 4 (Contaminated Land)

Thank you for consulting Merseyside EAS on the additional information submitted in respect of the above discharge of conditions application. Please find below observations and comments following consideration of the following:

- Email trail from Quinn Developments (Phil Sales) to Knowsley Council (Environmental Health) dated 4 December 2025.
- Email from Quinn Developments (Phil Sales) to Knowsley Council (Planning and Environmental Health) dated 28 November 2025; and
- Email trail from Vistry Merseyside and Cheshire West (Ben Canning) to Knowsley Council (Fergal McEvoy) dated 21 November 2025.

Background

1. It is my understanding that the site, previously developed by Forth Homes, is currently unfinished. Quinn Developments, on behalf of Vistry Merseyside and Cheshire, are seeking to find solutions to address the remaining Parts of Condition 4: Part D (Implementation of Approved Remediation Scheme and Verification Report), Part E (Reporting of Unexpected Contamination), Part F (Materials Management Plan), and Part G (Importation of Soil/Material).
2. Part A (Risk Assessment), Part B (Ground Gas Risk Assessment) and Part C (Submission of Remediation Scheme) have been previously satisfied.
3. The requirements of the remaining Parts of Condition 4 are as follows:

D. Implementation of Approved Remediation Scheme and Verification Report

The approved remediation scheme shall be implemented and a verification report submitted to and approved in writing by the Local Planning Authority, prior to the development (or relevant phase of development) being brought into use.

E. Reporting of Unexpected Contamination

In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported immediately to the Local Planning Authority. Development on the part of the site affected must be halted and a risk assessment carried out and submitted to and approved in writing by the Local Planning Authority. Where unacceptable risks are found remediation and verification schemes shall be submitted to and approved in writing by the Local Planning Authority. These shall be implemented prior to the development (or relevant phase of development) being brought into use.

F. Materials Management Plan

Prior to the reuse of site won materials ('waste' and non-waste) a Materials Management Plan, carried out in line with the CL: AIRE code of practice and signed off by a Qualified Person, shall be submitted to and agreed in writing with the local planning authority. The MMP shall demonstrate that any reuse of contaminated materials do not result in increased risk to the environment or human health.

G. Importation of Soil/Material

No soil is to be imported to the site until it has been tested for contamination and assessed for its suitability for the proposed development; a suitable methodology for testing this material should be submitted to and agreed by the Local Planning Authority prior to the soils being imported onto site. The methodology should include the sampling frequency, testing schedules, criteria against which the analytical results will be assessed (as determined by the risk assessment) and source material information. The analysis shall then be carried out and evidence submitted to and approved in writing to by the Local Planning Authority

Summary of Quinn Development's Proposals.

4. The following proposals have been provided within Quinn Developments' e-mail dated 21 November 2025, specifically with reference to Condition 4 Part F (Materials Management Plan):
 - Demonstrate that no site-won materials were reused during enabling works by providing waste transfer documentation.
 - Avoid removal of approximately 2,374 m³ of garden soils by validating their suitability for retention through chemical analysis (proposed frequency: 1 sample per 50 m³).
 - Produce an "equivalent of an MMP" supported by a QP letter to confirm compliance with CL:AIRE Code of Practice.

Comments and Observations

Condition 4 Part F (Materials Management Plan)

Retrospective MMP

5. Condition 4 Part F requires a Qualified Person (QP)-signed Materials Management Plan (MMP) prior to re-use of site won materials. It is acknowledged that a CL:AIRE Definition of Waste Code of Practice MMP cannot be applied retrospectively. A QP letter or retrospective documentation will not meet the requirements of Part F.

No Re-use Evidence

6. If the applicant demonstrates that all site won materials were removed off site (ie no re-use occurred), Part F would not apply and could be discharged on this basis. Evidence that site won soils were not reused should include:
 - Waste Transfer Notes and Weighbridge tickets/evidence of volumes;
 - Mapping of excavation areas linked to removal records;
 - Site records or photographic evidence.
7. This provides a pragmatic approach to the circumstances of the site and is consistent with advice provided within my memo of 5 April 2024, that subject to there being no reuse of site won materials (none was proposed), Part F (MMP) may be discharged.
8. The above proposals for validating the suitability of garden soils for retention are also pertinent to Condition 4 Part D (Implementation of Approved Remediation Scheme and Verification Report) and are discussed further below.

Condition 4 Part D (Implementation of Approved Remediation Scheme and Verification Report)

Remediation Strategy

9. The agreed Remediation Scheme comprises the submitted Remediation Strategy (*Swan Environmental Services, Revision 2, June 2022*) together with additional works identified within Forth Homes Construction (Darren Hardy) e-mail of 18 November 2022.
10. Forth Homes Construction (Mark Wright's e-mail of 7 April 2023) confirmed that all material stripped from the site would not be reused and would be removed from site. In accordance with the Remediation Strategy, a clean cover layer of 600mm was to be provided across all landscaping areas (including gardens). It was proposed that the clean cover layer would be tested once in situ in accordance with the Remediation Strategy and that soil import would be supported by validation certificates.

Revised Proposal - Retention of Garden Soils

11. As noted in Quinn Development's e-mail of 21 November 2025, the above necessitates the removal of the upper 600mm within gardens and landscaped areas to be replaced by a 600mm clean cover system. Quinn Developments propose to avoid removal of the existing garden soils by validating their suitability for retention through sampling and chemical analysis (as detailed in Quinn Development's e-mail dated 21 November 2025).

12. I have no objection to the proposed sampling and analytical plan, with the following provisos:

- Minimum sampling density of 1 per 50 m³, covering all garden areas and landscaping and representative of all depths within the upper 600mm;
- Sample locations should include previously identified higher risk areas (former shed where asbestos was noted, former buildings, location of previous stockpiles);
- The analytical suite must include asbestos and determinands in accordance the Remediation Strategy;
- The chemical analysis results must meet the agreed screening criteria set out in the Remediation Strategy. The acceptance criteria for asbestos must be 'ND -Not Detected' and **not** 'D-Detected' (this was noted in earlier correspondence as an error in the Remediation Strategy).

13. Retention of in-situ soils will be accepted only if analytical results meet agreed assessment criteria (including asbestos ND) and the report of sampling and analysis demonstrates no unacceptable risks. Should remedial actions be required these must be agreed with the LPA in advance of implementation, together with a validation plan.

14. In accordance with the requirements of Condition 4, Part D, all results must be compiled into a Verification Report. Section 11 of the Remediation Strategy sets out the information to be included within this document.

Gas Protection Measures

15. The Verification Report must also include details of the independent validation of the installation of the required gas protection measures consistent with the Amber 1 (low-rise dwellings) and CS2 (apartment block) classifications.

Well

16. A well identified on historical mapping was to be investigated and treated if found open. Details of the measures taken should be confirmed within the Verification Report.

Condition 4 Part E. Reporting of Unexpected Contamination

17. A statement regarding any unexpected contamination encountered and actions taken should be included within the Verification Report.

Condition 4 Part G (Importation of Soil/Material)

18. Any imported soil materials must be validated in accordance with the Remediation Strategy. Details must be included in the Verification Report.

19. Whilst not submitted in support of the discharge of Condition 4, I note on the Planning Public Access System that a report described as *Conditions 5 & 9 Donor Site 1 Site Investigation* was received on 17/11/2025. Condition 5 relates to ground levels and Condition 9 to Landscaping. In addition, comparison of Google Earth imagery dated 3/6/2025 with earlier imagery dated 3/18/2024 indicates that soils may have been imported and emplaced in the intervening period. Clarification is sought on this matter.

Please do not hesitate to contact me should you require further clarification or additional information on any of the matters raised.

Lesley Bye
Environment Manager

Location	Depth (m bgl)	Description	Photograph	Human Health Criteria Assessment	Waste Classification
SS1B	0.00-0.20	Dark brown organic clayey fine to coarse SAND. (TOPSOIL)		Passes	Non-Hazardous
SS1Bi	0.00-0.20	Soft greyish brown with slight yellowish mottling sandy CLAY. (SUB-SOIL)		Passes	Non-Hazardous

SS1S	0.00-0.25	Soft dark brown organic Slightly gravelly sandy CLAY. Gravel is sub- angular to sub-rounded fine to coarse of sandstone and limestone. (TOPSOIL)		Passes	Non-Hazardous
SS1F	0.00-0.20	Reddish grey sandy sub- angular to sub-rounded GRAVEL of sandstone, mudstone, brick and limestone. (MADE GROUND)		Fails due to elevated Lead (464mg/kg)	Hazardous (HP 14)

SS2B	0.00-0.10	Dark brown to grey slightly gravelly clayey fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse of sandstone and mudstone. (TOPSOIL)		Passes	Non-Hazardous
SS2Bi	0.00-0.20	Dark brown slightly clayey slightly gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse of brick sandstone, and mudstone. (MADE GROUND / TOPSOIL)		Passes	Non-Hazardous

SS2F	0.00-0.20	Dark grey very gravelly fine to coarse ashy SAND. Gravel is sub-angular to sub-rounded fine to coarse of limestone, brick and sandstone. (MADE GROUND)		Passes	Non-Hazardous
SS3B	0.00-0.30	Dark brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to medium of sandstone and mudstone. (TOPSOIL)		Passes	Non-Hazardous

SS3Bi	0.00-0.30	Soft dark brown to grey slightly gravelly sandy CLAY. Gravel is sub-angular to sub-rounded fine to coarse of sandstone and mudstone. (TOPSOIL)		Passes	Non-Hazardous
SS3F	0.00-0.20	Brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to medium of sandstone and brick fragments. (MADE GROUND / TOPSOIL)		Passes	Non-Hazardous

SS4B	0.00-0.30	Dark brown slightly clayey gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse of sandstone and mudstone. (TOPSOIL)		Passes	Non-Hazardous
SS4Bi	0.00-0.30	Dark brown slightly gravelly sandy CLAY. Gravel is sub-angular to sub-rounded fine to coarse of sandstone and mudstone. (TOPSOIL)		Passes	Non-Hazardous

SS4F	0.00-0.20	Reddish brown gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse of brick and sandstone. (MADE GROUND)		Passes	Non-Hazardous
SS5S	0.00-0.10	Dark grey sandy ashy sub-angular to sub-rounded fine to coarse GRAVEL of sandstone, limestone and mudstone. (MADE GROUND)		Passes	Non-Hazardous

SS5B	0.0-0.10	Soft grey slightly gravelly slightly sandy CLAY. Gravel is sub-angular to sub-rounded fine to coarse of sandstone. (SUB-SOIL)		Passes	Non-Hazardous
SS6B	0.0-0.20	Soft sandy gravelly CLAY. Gravel is sub-angular fine to coarse of brick and sandstone. Nail also found. (MADE GROUND)		Passes	Non-Hazardous

SS7B	0.00-0.30	Soft gravelly sandy CLAY. Gravel is sub-angular to subrounded fine to coarse of sandstone, brick and coal fragments. (MADE GROUND)		Passes	Non-Hazardous
SS7F	0.00-0.20	Dark brown slightly clayey fine to coarse SAND. (TOPSOIL)		Passes	Non-Hazardous

SS8B	0.00-0.20	Soft gravelly sandy CLAY. Gravel is sub-angular to sub-rounded fine to coarse of sandstone. Boulder of sandstone. Occasional plastic. (MADE GROUND)		Passes	Non-Hazardous
SS9B	0.00-0.10	Dark brown slightly gravelly clayey fine to coarse SAND. Clay in pockets. Gravel is sub-angular to sub-rounded fine to medium of sandstone. (SUB-SOIL)		Passes	Non-Hazardous

SS9F	0.00-0.30	Dark brown slightly gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to medium of sandstone and mudstone. (TOPSOIL)		Passes	Non-Hazardous
SS10B	0.00-0.20	Dark brown clayey gravelly SAND. Gravel is sub-angular to sub-rounded fine to coarse of sandstone and brick. (MADE GROUND / TOPSOIL)		Passes	Non-Hazardous

SS10F	0.00-0.20	Dark brown slightly gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse of sandstone and mudstone. (TOPSOIL)		Passes	Non-Hazardous
SS11B	0.00-0.30	Soft dark grey slightly gravelly sandy CLAY. Gravel is sub-angular to sub-rounded fine to coarse of sandstone. Occasional brick cobble. (MADE GROUND / Sub-SOIL)		Passes	Non-Hazardous

SS12B	0.00-0.30	Dark brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is sub-angular to subrounded fine to coarse of sandstone and mudstone. (SUB-SOIL)		Passes	Non-Hazardous
SS13B	0.00-0.20	Dark brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is sub-angular to subrounded fine to coarse of sandstone and mudstone. (SUB-SOIL)		Passes	Non-Hazardous

SS14B	0.00-0.10	Light brown slightly clayey gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded of mudstone, sandstone, brick, concrete and limestone. (MADE GROUND)		Passes	Non-Hazardous
SS15B	0.00-0.10	Light brown slightly clayey gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded of mudstone, sandstone, brick, concrete and limestone. Fragment of a disused clay pipe found. (MADE GROUND)		Passes	Non-Hazardous

SS15F	0.00-0.10	Soft dark brown organic Slightly gravelly sandy CLAY. Gravel is sub- angular to sub-rounded fine to coarse of sandstone and limestone. (MADE GROUND / TOPSOIL)		Passes	Non-Hazardous
SS16B	0.00-0.20	Light brown slightly clayey gravelly fine to coarse SAND. Gravel is sub-angular to sub- rounded of mudstone, sandstone, brick, concrete, and limestone. Old insulation found on ground. (MADE GROUND)		Passes	Non-Hazardous

SS17B	0.00-0.20	Light brown slightly clayey gravelly fine to coarse SAND. Gravel is sub-angular to sub-rounded of mudstone, sandstone, brick, concrete and limestone. Additionally, glass and ceramic fragments found. (MADE GROUND)		Passes	Non-Hazardous
SS17F	0.00-0.30	Dark brown clayey fine to coarse SAND. (TOPSOIL)		Passes	Non-Hazardous

SS18B	0.05-0.10	Soft dark brown gravelly sandy CLAY. Gravel is sub-angular to sub-rounded fine to coarse of sandstone, mudstone and concrete. At 0.10 encountered a concrete slab. (MADE GROUND)		Passes	Non-Hazardous
SS19B	0.00-0.20	Light brown gravelly clayey SAND. Gravel is sub-angular to sub-rounded fine to coarse of sandstone, mudstone and concrete. (MADE GROUND)		Passes	Non-Hazardous

SS20B	0.00-0.10	Dark brown slightly organic slightly gravelly clayey fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to medium of sandstone and mudstone with occasional ceramic fragments. (MADE GROUND / SUB-SOIL)		Passes	Non-Hazardous
SS21B	0.00-0.10	Dark brown slightly gravelly clayey fine to coarse SAND. Gravel is sub-angular to sub-rounded fine to coarse of sandstone, mudstone and concrete. (MADE GROUND / SUB-SOIL)		Passes	Non-Hazardous

SS22B	Stockpile	Dark brown slightly gravelly slightly organic, fine to coarse SAND. (Stockpiled TOPSOIL)		Passes	Non-Hazardous
SS22Bi	0.00-0.20	Soft gravelly sandy CLAY. Gravel is sub-angular to sub-rounded fine to coarse of brick, sandstone, limestone, mudstone and ceramic. (MADE GROUND)		Passes	Non-Hazardous

SS23B	0.00-0.10	Soft gravelly sandy CLAY. Gravel is sub-angular to sub-rounded fine to coarse of brick, sandstone, limestone, mudstone and ceramic. MADE GROUND)		Passes	Non-Hazardous
SS27B	Stockpile	Dark brown slightly clayey fine to coarse SAND. (Stockpiled TOPSOIL)		Passes	Non-Hazardous

SS28Bi	0.00-0.10	Soft reddish brown gravelly sandy silty CLAY. Gravel is sub-angular to sub-rounded fine to medium of brick, sandstone, limestone, concrete and ceramic fragments. (MADE GROUND)		Passes	Non-Hazardous
SS28B	Stockpile	Dark brown slightly gravelly, slightly organic fine to coarse SAND. Rootlets. (Stockpiled TOPSOIL)		Passes	Non-Hazardous

SS29B	0.00-0.10	Dark grey sandy sub-angular to sub-rounded fine to coarse GRAVEL of sandstone, mudstone brick and limestone. (MADE GROUND)		Fails due to elevated PAH compounds: Benzo[a]pyrene (9.75mg/kg) Benzo[b]fluoranthene (9.07mg/kg) Dibenzo[ah]anthracene (<4.00mg/kg)	Non-Hazardous
Com A SS1	0.00-0.10	Soft reddish brown very gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse of mixed lithologies. (MADE GROUND)		Passes	Non-Hazardous

Com A SS2	0.00-0.20	Soft reddish brown very gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse of mixed lithologies. (MADE GROUND)		Passes	Non-Hazardous
--------------	-----------	--	---	--------	---------------

Appendix H – Chemical Laboratory Results

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 25/13928
Issue Number: 1
Date: 17 December, 2025

Client: Quinn Developments NW
30 Lees road
Liverpool
Mersersyde
L33 7SE

Project Manager: Phil Sales
Project Name: Windy Arbour
Project Ref: 20081
Order No: QD/20081/27000
Date Samples Received: 28/11/25
Date Instructions Received: 02/12/25
Date Analysis Completed: 17/12/25

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 25/13928

Client Project Name: Windy Arbour

Client Project Ref: 20081

Lab Sample ID	25/13928/1	25/13928/2	25/13928/3	25/13928/4	25/13928/5	25/13928/6	25/13928/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS1B	SS1BI	SS1F	SS1S	SS2B	SS2BI	SS2F			
Depth to Top										
Depth To Bottom	0.20	0.20	0.20	0.20	0.10	0.20	0.20			
Date Sampled	26-Nov-25	26-Nov-25	27-Nov-25	27-Nov-25	26-Nov-25	27-Nov-25	27-Nov-25			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	6AE	4ABE	4AE	4AE	4AE	4AE			
% Moisture at <40C _A	19.4	12.2	11.0	23.9	14.7	14.2	12.1	% w/w	0.1	A-T-044
Dry Matter (Dry Solids) at 105C	81.6	85.9	86.3	79.1	83.6	84.5	83.3	% w/w	0.1	Calc-no stones
% Stones >10mm _A	<0.1	16.4	24.9	<0.1	4.0	5.3	22.4	% w/w	0.1	A-T-044
pH _D ^{M#}	7.62	8.20	9.87	8.18	7.87	8.18	8.50	pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	<0.01	0.09	0.38	0.04	<0.01	0.02	0.03	g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	420	350	3800	350	330	330	710	mg/kg	200	A-T-028s
Cyanide (free) _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042s/FCN
Cyanide (total) _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042s/ICN
Phenols - Total by HPLC _A	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Sulphur (elemental) _D ^{M#}	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-029s
Organic Matter _D ^{M#}	4.46	1.89	2.32	2.73	2.59	4.51	6.18	% w/w	0.14	A-T-032s
Antimony _D	<5	<5	53	<5	<5	<5	6	mg/kg	5	A-T-024s
Arsenic _D ^{M#}	10	3	4	3	9	6	3	mg/kg	1	A-T-024s
Barium _D	60	63	219	46	104	78	80	mg/kg	3	A-T-024s
Beryllium _D	0.7	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	mg/kg	0.5	A-T-024s
Boron (water soluble) _D ^{M#}	<1.0	<1.0	3.5	<1.0	<1.0	<1.0	1.5	mg/kg	1	A-T-027s
Cadmium _D	<1.0	<1.0	6.6	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-024s
Copper _D ^{M#}	40	57	1470	21	30	56	174	mg/kg	1	A-T-024s
Chromium _D ^{M#}	14	18	59	11	11	14	23	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Lead _D ^{M#}	78	21	464	21	44	41	40	mg/kg	1	A-T-024s
Mercury _D	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	mg/kg	0.17	A-T-024s
Molybdenum _D ^{M#}	<1	<1	5	<1	<1	<1	2	mg/kg	1	A-T-024s
Nickel _D ^{M#}	17	21	60	10	10	13	23	mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium _D ^{M#}	19	16	23	11	13	15	12	mg/kg	1	A-T-024s
Zinc _D ^{M#}	134	68	1610	53	60	100	190	mg/kg	1	A-T-024s

Envirolab Job Number: 25/13928

Client Project Name: Windy Arbour

Client Project Ref: 20081

Lab Sample ID	25/13928/1	25/13928/2	25/13928/3	25/13928/4	25/13928/5	25/13928/6	25/13928/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS1B	SS1BI	SS1F	SS1S	SS2B	SS2BI	SS2F			
Depth to Top										
Depth To Bottom	0.20	0.20	0.20	0.20	0.10	0.20	0.20			
Date Sampled	26-Nov-25	26-Nov-25	27-Nov-25	27-Nov-25	26-Nov-25	27-Nov-25	27-Nov-25			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	6AE	4ABE	4AE	4AE	4AE	4AE			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil [#]	NAD	NAD	NAD	NAD	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual) ₀	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope) ₀	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test? ₀	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 25/13928

Client Project Name: Windy Arbour

Client Project Ref: 20081

Lab Sample ID	25/13928/1	25/13928/2	25/13928/3	25/13928/4	25/13928/5	25/13928/6	25/13928/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS1B	SS1BI	SS1F	SS1S	SS2B	SS2BI	SS2F			
Depth to Top										
Depth To Bottom	0.20	0.20	0.20	0.20	0.10	0.20	0.20			
Date Sampled	26-Nov-25	26-Nov-25	27-Nov-25	27-Nov-25	26-Nov-25	27-Nov-25	27-Nov-25			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	6AE	4ABE	4AE	4AE	4AE	4AE			
PAH-16MS										
Acenaphthene _A ^{M2}	<0.01	<0.01	0.02	<0.01	<0.01	0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M2}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene _A ^{M2}	<0.02	0.04	0.05	<0.02	<0.02	0.03	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M2}	<0.04	0.13	0.22	<0.04	0.09	0.11	0.10	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M2}	<0.04	0.14	0.28	<0.04	0.12	0.12	0.11	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M2}	<0.05	0.16	0.31	0.12	0.09	0.11	0.17	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M2}	<0.05	0.09	0.19	<0.05	0.08	0.07	0.10	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M2}	<0.07	0.10	0.17	<0.07	0.10	0.08	0.08	mg/kg	0.07	A-T-019s
Chrysene _A ^{M2}	<0.06	0.19	0.28	0.08	0.15	0.14	0.16	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M2}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M2}	<0.08	0.33	0.48	<0.08	0.20	0.25	0.21	mg/kg	0.08	A-T-019s
Fluorene _A ^{M2}	<0.01	<0.01	0.02	<0.01	<0.01	0.02	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M2}	<0.03	0.10	0.21	0.07	0.08	0.08	0.11	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M2}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M2}	<0.03	0.14	0.20	<0.03	0.09	0.14	0.09	mg/kg	0.03	A-T-019s
Pyrene _A ^{M2}	<0.07	0.32	0.47	<0.07	0.20	0.26	0.20	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M2}	<0.08	1.74	2.90	0.27	1.20	1.42	1.33	mg/kg	0.01	A-T-019s

Envirolab Job Number: 25/13928

Client Project Name: Windy Arbour

Client Project Ref: 20081

Lab Sample ID	25/13928/1	25/13928/2	25/13928/3	25/13928/4	25/13928/5	25/13928/6	25/13928/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS1B	SS1BI	SS1F	SS1S	SS2B	SS2BI	SS2F			
Depth to Top										
Depth To Bottom	0.20	0.20	0.20	0.20	0.10	0.20	0.20			
Date Sampled	26-Nov-25	26-Nov-25	27-Nov-25	27-Nov-25	26-Nov-25	27-Nov-25	27-Nov-25			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	4AE	6AE	4ABE	4AE	4AE	4AE	4AE			
TPH UKCWG with Clean Up										
Ali >C5-C6 _A	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8 _A	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	<1	<1	3	1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	6	8	39	17	6	8	11	mg/kg	1	A-T-055s
Ali >C35-C44 _A	<1	<1	8	3	2	2	3	mg/kg	1	A-T-055s
Total Aliphatics _A	6	9	50	21	8	10	14	mg/kg	1	Calc. As Recd
Aro >C5-C7 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	<1	<1	3	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12 _A	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16 _A	<1	<1	2	<1	<1	<1	2	mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	<1	<1	14	3	1	2	4	mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	5	4	143	9	7	8	9	mg/kg	1	A-T-055s
Aro >C35-C44 _A	<1	<1	13	3	2	2	2	mg/kg	1	A-T-055s
Total Aromatics _A	5	5	174	14	10	12	16	mg/kg	1	Calc. As Recd
TPH (Ali & Aro >C5-C44) _A	11	13	224	35	18	22	30	mg/kg	1	Calc. As Recd
BTEX - Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s