

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number
EPR/AB3006CE

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/AB3006CE/V002 authorising,

Brett Aggregates Limited (“the operator”),
whose registered office is

150 Aldersgate Street
London
EC1A 4AB

company registration number 00316788

to operate regulated facilities at:

Hithermoor Quarry

Stanwell

Surrey

TW19 6AX

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

Name	Date
Anne Nightingale	08 October 2014

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, closures and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

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

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

1.3 Energy efficiency

- 1.3.1 For the following activities referenced in schedule 1, table S1.1, A1 to A8; the operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.4 Efficient use of raw materials

1.4.1 For the following activities referenced in schedule 1, table S1.1, A1 to A8; the operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) 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
- (a) 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.
 - (b) 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.
- 2.3.2 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3 and S2.4; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

- 2.3.4 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.
- 2.3.6 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

2.4 Improvement programme

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

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.

3.2 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.

3.3 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 Emissions to water, air or land

- 3.4.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 table S3.1.
- 3.4.2 The limits given in schedule 3 shall not be exceeded.
- 3.4.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.
- 3.4.4 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.

3.5 Monitoring

- 3.5.1 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) point source emissions specified in table S3.1;
 - (b) process monitoring specified in table S3.2;
 - (c) other monitoring specified in table S3.3.

- 3.5.2 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.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 table S3.1, unless otherwise agreed in writing by the Environment Agency.

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; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send 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 For the following activities referenced in schedule 1, table S1.1, A1 to A8; a report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.4 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 S4.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.5 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

- 4.3.1 (a) 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—
- (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) in the event of a breach of any permit condition the operator must immediately—
- (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) 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.
- 4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

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

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.

- 4.3.5 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.

- 4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

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 "without delay", in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
A1	S5.3 A(1)(a)(vi)	Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving: recycling or reclamation of inorganic materials other than metals or metal compounds (R5, D8).	Soil Treatment Facility: Bioremediation of hazardous waste materials. All treatment must take place on an impermeable surface with sealed drainage. Hazardous waste types only as per table S2.2.
A2	S5.4 A(1)(b)(i)	Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving: biological treatment (R3, R5, D8).	Soil Treatment Facility: Bioremediation of non-hazardous waste materials. All treatment must take place on an impermeable surface with sealed drainage. Non-hazardous waste types only as per table S2.2
A3	S5.3 A(1)(a)(ii)	Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving: physico-chemical treatment (R3, R5, D9).	Asphalt Plant: Treatment involving sorting, separation, screening and crushing of waste. Hazardous waste types only as per table S2.3.
A4	S5.3 A(1)(a)(iii)	Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving: blending or mixing (R3, R5, D13)	Soil Treatment Facility: blending and mixing of hazardous waste. All treatment must take place on an impermeable surface with sealed drainage. Hazardous waste types only as per table S2.2

A5	S5.6 A(1)(a)	Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes (R13, D15).	Soil Treatment Facility and Asphalt Plant: All storage must take place on an impermeable surface with sealed drainage. Hazardous waste types only as per tables S2.2 & S2.3.
A6	S5.3 A(1)(a)(ii)	Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving: physico-chemical treatment (R3, R5, D9).	Chemical stabilisation: Mechanical mixing of treated soils with dry additives. Only where bioremediation (activities A1 or A2) results in material still containing metal contamination that lies above the acceptance threshold concentration of the receiving site or contains a residual / persistent hydrocarbon species. Each chemical stabilisation occurrence must be fully documented including details of receiving site and records should be available for Environment Agency inspection at any time.
Directly Associated Activity			
A7	Blending or mixing of non-hazardous waste soils.	R5: Recycling / reclamation of inorganic materials other than metals and metal compounds.	All treatment must take place on an impermeable surface with sealed drainage. Non-hazardous waste only as per table S2.3.
A8	Temporary storage at soil treatment facility of non-hazardous waste pending recovery.	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).	All storage must take place on an impermeable surface with sealed drainage. Non-hazardous waste only as per table S2.3.

	Description of activities for waste operations	Limits of activities
A9 Aggregate Recycling Facility inc. Asphalt plant	R13: Storage of wastes pending any of the operations numbered R3 and R5. R3: Recycling/reclamation of organic substances which are not used as solvents; R5: Recycling or reclamation of other inorganic materials	Treatment of wastes consisting only of washing [non-hazardous waste only], sorting, separation, screening, crushing and blending of waste for recovery as a soil, soil substitute, aggregate or manufacture of foamed bitumen road base. Waste types and quantities as specified in table S2.3
A10 Deposit for Recovery	R13: Storage of wastes pending any of the operations numbered R3 and R5. R3: Recycling/reclamation of organic substances which are not used as solvents; R5: Recycling or reclamation of other inorganic materials	Secure storage and use of wastes listed in table S2.4 for the purposes of the construction work as detailed in the approved waste recovery plan. The activities shall not be carried out other than in accordance with the approved waste recovery plan

Table S1.2 Operating techniques

Description	Parts	Date Received
How to comply with your Environmental Permit (EPR 1.00)	All sections	N/A
Application	Approved waste recovery plan document reference 412.01009.00063/WRP	28/03/13
Additional Information	Confirmation of conversion rate of waste from m ³ to tonnes	11/06/13
Variation application EPR/AB3006CE/V002	Application Form Part C3, part 3 operating techniques; BATOT document Feb 2014 Rev 1. Odour Management Plan.	07/03/14
Admin variation request	details of Admin variation re waste codes	29/04/14
Schedule 5 response	Responses to questions 1 – 7.	19/05/14
Schedule 5 follow up response	Responses referring to toxic metals, maximum limits and sampling regime	27/06/14
Chemical stabilisation supplementary details	All sections: Soil Treatment Facility – Chemical Stabilisation Process	18/08/14; 18/09/14

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 1	The operator shall submit to the Environment Agency for approval written details of the specific operating parameters for the biofilter and the optimal operating condition ranges which will be maintained.	Prior to the commencement of operation of the Soil Treatment Facility.
IC 2	The operator shall submit a written monitoring programme to the Environment Agency for approval. The monitoring programme shall contain proposals for; - Monitoring volatile organic compounds and odour emissions from the biofilter - Monitoring biofilter operating parameters The operator shall provide details of monitoring methods, monitoring frequency and dates for the implementation of any individual measures.	Prior to commencement of operation of the Soil Treatment Facility.

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels

Raw materials and fuel description	Specification
-	-

Table S2.2 Permitted waste types and quantities for the Soil Treatment Facility

Maximum quantity	The total quantity of waste accepted at the site shall be less than 250,000 tonnes per year.
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Exclusions

Wastes having any of the following characteristics shall not be accepted:

- Consisting solely or mainly of dusts, powders or loose fibres
- Wastes in liquid form
- Asbestos

Waste code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 09	waste sand and clays
01 05	drilling muds and other drilling wastes
01 05 04	freshwater drilling muds and wastes
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing dangerous substances
05	WASTES FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION AND PYROLYTIC TREATMENT OF COAL
05 01	wastes from petroleum refining
05 01 03*	tank bottom sludges
05 01 05*	oil spills
05 01 06*	other tars
05 01 09*	sludges from on-site effluent treatment containing dangerous substances
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 01 13	boiler feedwater sludges
05 01 14	wastes from cooling columns
13	OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05,12 and 19)
13 05	oil/water separator contents
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	interceptor sludges
13 05 08*	mixtures of wastes from grit chambers and oil/water separators
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 07	wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)
16 07 08*	wastes containing oil
16 07 09*	wastes containing other dangerous substances
17	CONSTRUCTION AND DEMOLITION WASTES (including excavated soil from contaminated sites)

17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing dangerous substances
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 05*	dredging spoil containing dangerous substances
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 07*	track ballast containing dangerous substances
17 05 08	track ballast other than those mentioned in 17 05 07
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 05	wastes from aerobic treatment of solid wastes
19 05 03	off-specification compost
19 08	wastes from waste water treatment plants not otherwise specified
19 08 01	screenings
19 08 02	waste from desanding
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	wood other than that mentioned in 19 12 06
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing dangerous substances
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 03*	sludges from soil remediation containing dangerous substances
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 38	wood other than that mentioned in 20 01 37
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste (civic amenity waste, bark, parks and garden wastes, trees, trimmings – hedge and tree, wood)

Table S2.3 Permitted waste types and quantities for the Recycling Facility / Asphalt Plant

Maximum quantity The total quantity of waste accepted at the site shall be less than 250,000 tonnes per year.

Exclusions

Wastes having any of the following characteristics shall not be accepted:

- Consisting solely or mainly of dusts, powders or loose fibres
- Hazardous wastes (other than chapter 17 03 codes)
- Wastes in liquid form

Waste code	Description
1	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 01	wastes from mineral excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
2	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 02	shellfish shells from which the soft tissue or flesh has been removed only
10	WASTES FROM THERMAL PROCESSES
10 01	wastes from power stations and other combustion plants (except 19)
10 01 01	bottom ash and slag only
10 01 02	pulverised fuel ash only
10 01 05	gypsum (solid) only
10 01 07	gypsum (sludge) only
10 01 15	bottom ash and slag only from co-incineration other than those mentioned in 10 01 14
10 02	wastes from the iron and steel industry
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 11	wastes from manufacture of glass and glass products
10 11 12	clean glass other than those mentioned in 10 11 11
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 11	wastes from cement-based composite materials; comprising only surplus mortar from a dry silo mortar plant
10 13 14	wastes comprising solid waste concrete and mixtures of aggregates, silt, and cement from ready mixed concrete batching plants
15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 07	clean glass only
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)

17 01	concrete, bricks, tiles and ceramics
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	wood, glass and plastic
17 02 02	clean glass only
17 03	bituminous mixtures, coal tar and tarred products
17 03 01*	bituminous mixtures containing coal tar
17 03 02	road base and road planings (other than those containing coal tar) only
17 03 03*	coal tar and tarred products
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
17 08	gypsum-based construction material
17 08 02	gypsum only other than that mentioned in 17 08 01
17 09	other construction and demolition wastes
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 01	wastes from incineration or pyrolysis of waste
19 01 12	bottom ash and slag from biomass plant
19 05	wastes from aerobic treatment of solid wastes
19 05 03	compost from source segregated biodegradable waste only
19 08	wastes from waste water treatment plants not otherwise specified
19 08 02	washed sewage grit (waste from desanding) free from sewage contamination only
19 08 99	stone filter media if free from sewage contamination only
19 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 02	sludges from water clarification
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 05	clean glass only
19 12 09	minerals (for example sand, stones)
19 12 12	other wastes (including mixtures of materials listed in table S2.3) from mechanical treatment of wastes; other than those mentioned in 19 12 11.
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 02	clean glass only
20 02	garden and park wastes (including cemetery waste)

20 02 02	soil and stones
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Table S2.4 Permitted waste types and quantities for the Deposit for Recovery activity

Maximum quantity	The total quantity of waste accepted at the site shall be less than 250,000 tonnes per year. The total quantity of waste to be deposited under the deposit for recovery activity shall be less than 65,600 tonnes.
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Exclusions

Wastes having any of the following characteristics shall not be accepted:

- Consisting solely or mainly of dusts, powders or loose fibres
- Hazardous wastes
- Wastes in liquid form

Waste code	Description
1	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 01	wastes from mineral excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 09	waste sand and clays
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	soil and stones other than those mentioned in 17 05 03
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	minerals (for example sand, stones)
19 12 12	soil substitutes other than that containing dangerous substances only
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
A1 Biofilter on Soil Treatment Pad [when operational]	-	Biofilter	-	As agreed by IC 2	As per frequencies agreed by completion of IC 2	As per monitoring standard agreed by completion of IC 2

Table S3.2 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
A1 – biofilter on Soil Treatment Pad [when operational]	Temperature	As per	As per	Biofilter should be checked and maintained to ensure appropriate temperature and moisture content on a daily basis. Monitoring equipment shall be available on-site and used as required to ensure compliance with this permit.
	Moisture content	frequencies	monitoring	
	Flow rate	agreed by IC	standard	
	Nutrient levels	2	agreed IC 2	
	Contaminant elimination			

Table S3.3 Other Monitoring requirements – contaminated soil

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Soil biopiles	Total Petroleum Hydrocarbons (TPH) Polycyclic Aromatic Hydrocarbons (PAHs) Pentachlorophenol (PCP) Note 1 Total Volatile Organic Compounds (VOCs) Phenols pH	Each completed batch of treated soil shall be sampled	Samples to be obtained using standard sampling procedures as per BS 812.	Laboratory must be accredited to EN ISO/IEC ISO17025:2000 for the analysis specified.

Note 1: Only if PCP contaminated soils are received for treatment

Schedule 4 - Reporting

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Process monitoring requirements Parameters as required by condition 3.5.1.	Biofilter – temperature, moisture content, flow rate, nutrient levels, contaminant elimination.	Every 3 months	08/10/14

Table S4.2: Annual production/treatment for activities A1 to A8.

Parameter	Units
Remediated soil for recovery	tonnes
Remediated soil for disposal	tonnes
Material subject to post treatment chemical stabilisation	tonnes
Material classed as non-waste removed off site (to include destination / status of material)	tonnes

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
Energy usage	Annually	MWh
Water usage	Annually	tonnes

Table S4.4 Reporting Forms

Media/parameter	Reporting Format	Date of Form
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	08/10/14
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	08/10/14
Performance indicators	Form performance 1 or other form as agreed in writing with the Environment Agency	08/10/14

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 activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified Immediately	
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 permit condition	
To be notified immediately	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period
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:	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 - Interpretation

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

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

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

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

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

“D” means a disposal operation provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“disposal” means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

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

“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 property” has the meaning given in Schedule 3 of the Hazardous Waste (England and Wales) Regulations 2005 No.894 and the Hazardous Waste (Wales) Regulations 2005 No. 1806 (W.138).

“Industrial Emissions Directive” means Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“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.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“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.

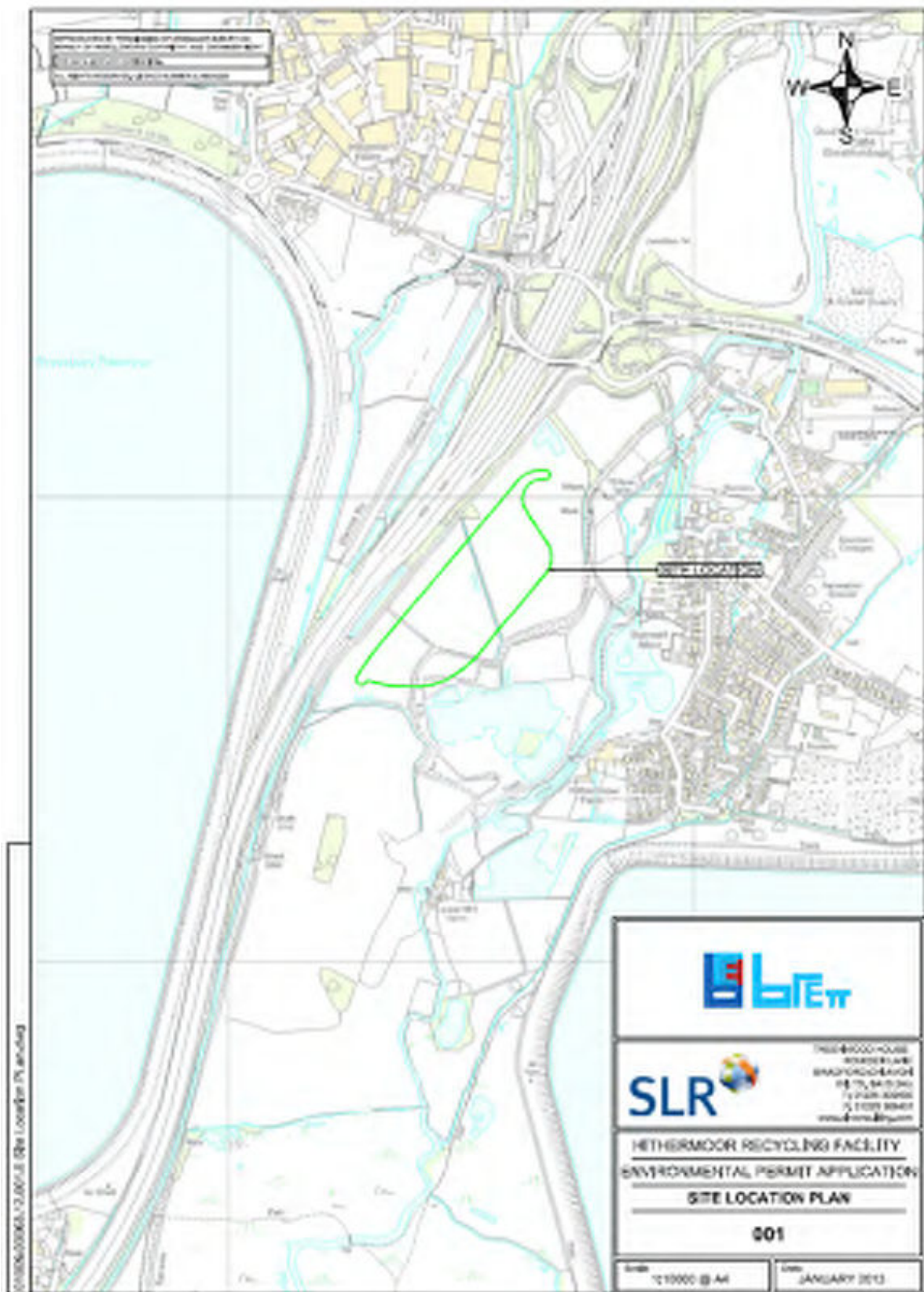
"year" means calendar year ending 31 December.

Schedule 7 – Site Plan

Site layout:



Site location:



Permit

The Environmental Permitting (England & Wales) Regulations 2010

O'Malley Haulage Limited

Hollybush Lane Aggregate Recycling Facility

Land Adjacent to Hollybush Lane

Tatling End

Denham

Buckinghamshire

UB9 4HF

Permit number

EPR/CB3706SQ

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/CB3706SQ

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

O'Malley Haulage Limited ("the operator"),

whose registered office is

The Brickfields

Oxhey Lane

Watford

WD19 5RF

company registration number 05487485

to operate waste operation described in standard rules **SR2010No12** at

Hollybush Lane Aggregate Recycling Facility

Land Adjacent to Hollybush Lane

Tatling End

Denham

Buckinghamshire

UB9 4HF

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

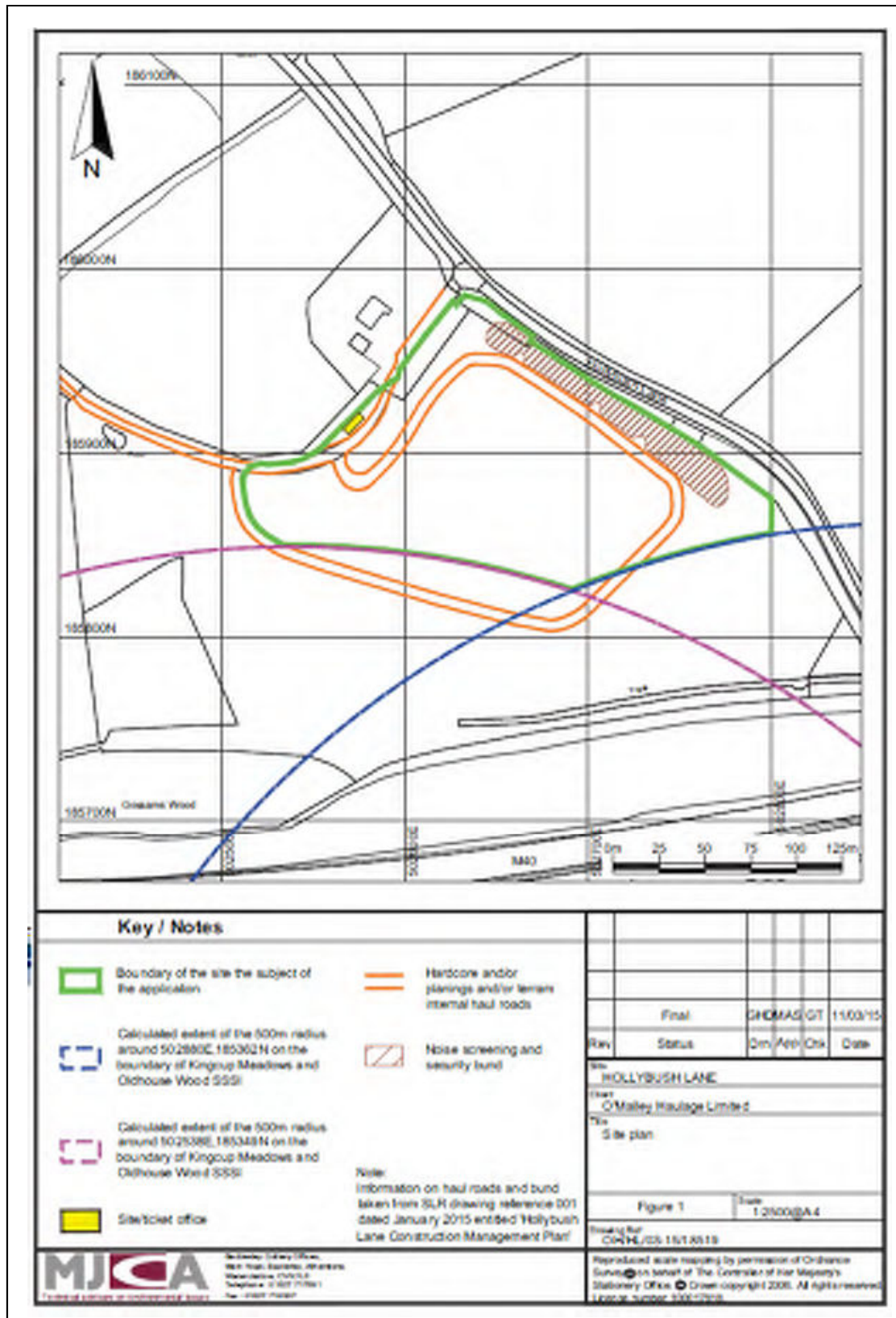
Under regulation 27(2) of the Regulations, standard rules **SR2010No12** are conditions of this permit.

Name	Date
Helen Smith	01/05/15

Authorised on behalf of the Environment Agency

Schedule 1 – Site plan

This is the plan referred to in the standard rules SR2010No12.



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Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Cappagh Public Works Limited

Stanwell 111 Aggregate Recycling
Facility
Stanwell Moor Road
Stanwell
Staines
Middlesex
TW19 6AB

Permit number
EPR/MB3139RU

Stanwell 111 Aggregate Recycling Facility

Permit number EPR/MB3139RU

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

This is a bespoke permit for the transfer and treatment of non – hazardous and inert wastes to produce recycled aggregates. A maximum of 220,000 tonnes per year of waste will be recycled through the facility.

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

Status log of the permit		
Description	Date	Comments
Application EPR/MB3139RU/A001	Duly made 12/12/12	Application for non-hazardous and inert waste treatment and transfer station facility.
Additional information received received in response to Schedule 5 notice dated 15/01/13	31/01/13	Applicant submitted the following documents: - a dust management plan - amendments to operating techniques and risk assessment - Description and plans of site drainage system
Permit determined	15/02/13	Permit issued to Cappagh Public Works Limited.

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number
EPR/MB3139RU

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

Cappagh Public Works Limited (“the operator”),

whose registered office is

114 Hamlet Court Road
Westcliff-On-Sea
Essex
SS0 7LP

company registration number 02329116

to operate waste operations at

Stanwell 111 Aggregate Recycling Facility
Stanwell Moor Road
Stanwell
Staines
Middlesex
TW19 6AB

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

Name	Date
Ian Sinclair	15/02/13

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

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

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

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

2 Operations

2.1 Permitted activities

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

2.2 The site

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

2.3 Operating techniques

- 2.3.1 (a) 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.
- (b) 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 specified in schedule 1, table S1.2 or otherwise required under this permit, 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.
- 2.3.2 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.1; and
- (b) it conforms to the description in the documentation supplied by the producer and holder.

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;
- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2 Odour

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

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

3.3 Noise and vibration

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

4 Information

4.1 Records

- 4.1.1 All records required to be made by 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; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send 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.

4.3 Notifications

- 4.3.1 The Environment Agency shall be notified without delay following the detection of:
- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
 - (b) the breach of a limit specified in the permit; or
 - (c) any significant adverse environmental effects.
- 4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- 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.

- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “without delay”, 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 the waste is produced)	Treatment of wastes listed in table S2.1 consisting only of sorting, separation, screening, crushing and blending of waste
R3: Recycling/reclamation of organic substances which are not used as solvents	Secure storage of wastes listed in table S2.1 pending treatment.
R4: Recycling/reclamation of metals and metal compounds	Storage of wastes listed in table S2.1 shall not exceed 50,000 tonnes in total at any one time.
R5: Recycling/reclamation of other inorganic compounds	Waste types as specified in Table 2.1
D9: Physico-chemical treatment not specified elsewhere which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12	
D15: Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	

Table S1.2 Operating techniques

Description	Parts	Date Received
Application Form B4	Table 1a – Waste operations which do not form part of an installation Table 3a – Technical Standards, Question 3 Operating Techniques and Table 3b – General requirements document ref “Cap.Stan.10” and ‘How to comply with your environmental permit’	12/12/12
Response to Schedule 5 Notice dated 15/01/13	Dust Management Plan document ref ‘Dust and Particulate emission management plan Version Number 2.0’	31/01/13

Table S1.2 Operating techniques

Description	Parts	Date Received
Additional information	Amended H1 Risk Assessment – “Cap.Stan.07 amended 31 January 2013”	31/01/13
	Amended Operating Techniques – “Document Cap.Stan.10 Version 1.1 amended on 31/01/13”	
	Site drainage plan document ref ‘Drainage Plan & Details’ dated January 2013	
	Site drainage operating techniques doc ref ‘Addendum to Document Cap.Stan.10 Operating Techniques Drainage Proposals’	

Schedule 2 - Waste types for non-hazardous and inert waste treatment and transfer facility

Table S2.1 Permitted waste types and quantities

Maximum quantity	The total quantity of waste accepted at the site shall be less than 220,000 tonnes a year
Waste code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 01	Wastes from mineral excavation
01 01 02	Wastes from mineral non-metalliferous excavation
01 04	Wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	Waste sand and clays
01 04 12	Tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	Concrete, bricks, tiles and ceramics`
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	Wood, glass and plastic
17 02 02	Glass
17 03	Bituminous mixtures, coal tar and tarred products
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	Soil and stones other than those mentioned in 17 05 03
17 05 08	Track ballast other than those mentioned in 17 05 07
17 09	Other construction and demolition wastes
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	Minerals (for example sand, stones)
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 02	Garden and park wastes (including cemetery waste)
20 02 02	Soil and stones

Schedule 3 – Emissions and monitoring

There are no emission limits or associated monitoring requirements.

Schedule 4 - Reporting

There is no reporting under this schedule.

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	
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.

“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.

“D” means a disposal operation provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“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..

“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.

“groundwater protection zones 1 and 2” have the meaning given in the document titled "Groundwater Protection: Policy and Practice" published by the Environment Agency in 2006.

“hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 No.894, the Hazardous Waste (Wales) Regulations 2005 No. 1806 (W.138), the List of Wastes (England) Regulations 2005 No.895 and the List of Wastes (Wales) Regulations 2005 No. 1820 (W.148).

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

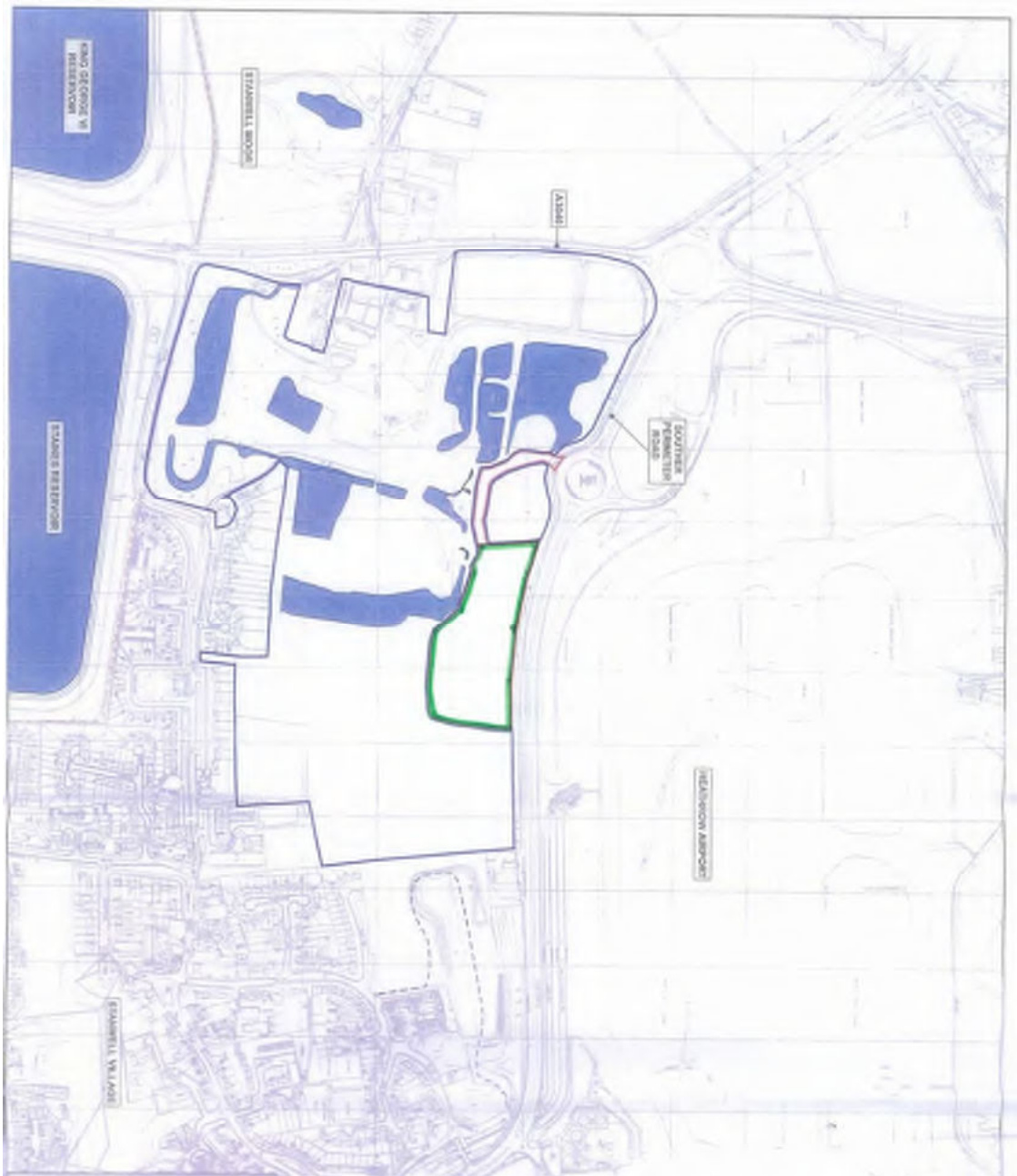
“R” means a recovery operation provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“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.

Schedule 7 - Site plan



END OF PERMIT

Variation notice with introductory note

Environmental Permitting (England & Wales) Regulations 2007

Sutton Courtenay Landfill Site

Waste Recycling Group (Central) Ltd
Sutton Courtenay Office
Appleford Sidings
Abingdon
Oxfordshire
OX14 4PW

Variation notice number
EPR/BV7100IK/V005

Permit number
EPR/BV7001IK

Sutton Courtenay Landfill Site

Permit number EPR/BV7001IK

Introductory note

This introductory note does not form a part of the permit

The following notice, which is issued pursuant to regulation 20 and Part 1 of Schedule 5 of the Environmental Permitting (England and Wales) Regulations S.I.2007 No. 3538 (the Regulations), gives notice of the variation of an environmental permit to operate a regulated facility.

This variation increases the pre-settlement contours of Phase 4 of the landfill site in order to take account of increased settlement rates of 25%. The final landform is also designed to shed water more effectively. In addition to this a number of waste types have been added. These were unintentionally omitted following a variation of the original permit. The waste types are very similar to wastes already permitted at the site and therefore represent no additional risks. As part of this variation, the Hydrogeological Risk Assessment, Stability Risk Assessment and Landfill Gas Risk Assessment have been assessed and consequently monitoring of leachate and groundwater have been amended.

Schedule 1 of this notice lists any deleted conditions, Schedule 2 lists any amended conditions and Schedule 3 lists any conditions that have been added. Schedule 4 shows the amended pre-settlement contours plan.

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

Status Log of the permit		
Detail	Date	Response Date
Application BV7001IK	Received 09/10/03	
Requests for further information	Letter dated 4 March 2004 requesting additional technical information;	Letter responses dated 23 April 2004 and 6th August 2004;
	Letter dated 7 May 2004 requesting further information on the expenditure plan;	E mail response dated 6 August 2004;
	Meeting held 18 June 2004 to discuss outstanding issues on technical information;	Letter response dated 6 August 2004 detailing responses to all issues except information on the surface water discharge consents;
	Letter dated 21 July 2004 requesting response to final outstanding issues.	E mail response on surface water discharge consents dated 11 August 2004
Permit determined	21/09/04	
Variation Notice SP3833MC issued	22/01/07	
Variation Notice UP3832UD issued	07/06/07	
Variation Notice MP3735XR issued	10/03/09	
Variation application EPR/BV7001IK/V005	Duly made 19/08/09	

End of Introductory Note

Notice of variation

Environmental Permitting
(England and Wales) Regulations 2007

Permit number

EPR/BV7001IK

The Environment Agency in exercise of its powers under Regulation 20 of the Environmental Permitting (England and Wales) Regulations 2007 (SI 2000 No 3538) varies the permit as set out below.

Waste Recycling Group (Central) Limited ("the operator"),

whose registered office is

**Ground Floor West
900 Pavilion Drive
Northampton Business Park
Northampton
NN4 7RG**

company registration number 4000033

holds a permit to operate a regulated facility at

**Sutton Courtenay Landfill Site
Sutton Courtenay Office
Appleford Sidings
Abingdon
Oxfordshire
OX14 4PW**

and that permit is varied to the extent set out in Schedules 1 to 4 of this notice.

The notice shall take effect from 23rd February 2010

Name	Date
	23 rd February 2010

Authorised on behalf of the Environment Agency

Schedule 1 – conditions to be deleted

None

Schedule 2 – conditions to be amended

The following conditions are amended as follows:

Condition 2.8.5 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing ref. 427P185

Table S1.2 Operating Techniques

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application documents	The responses to questions 1.2, 2.1, 2.2, 2.3, 2.4 and 2.5 in part B of the Application Form excluding sub section 2.3.12 to which improvement condition no. 10 applies; and response given in Letter received 23 April 2004 excluding sub sections 1, 5, 9 and 11; and letter received 6 August 2004 excluding sub section 3 and 4.	Permit application: 09 October 2003. Letters dated: 23 April 2004 and 6 August 2004.
Permit Variation application EPR/BV7001IK/V005	Recontouring Management Plan	19/08/09

Table S4.2 Point Source Emissions to Air – emissions limits and monitoring requirements

Table S4.2 Point source emissions to air – emission limits and monitoring requirements							
Emission point Ref. & Location	Parameter	Source	Limit (mg/m ³)		Reference Period	Monitoring Frequency	Monitoring Standard or Method
Landfill Gas Flares as shown on Drawing 'no. 003 Rev B' or as otherwise agreed	Oxides of Nitrogen	Gas utilisation plant	150 ¹	150 ²	Hourly mean	Annually*	ISO 10849: 1996
	CO		100 ¹	50 ²			ISO 12039: 2001
	Total VOCs		10 ¹	10 ²			BS EN 12619: 1999 or BS EN 13526: 2002
	Non Methane Volatile Organic Compounds (NMVOCs)		5 ¹	5 ²			BS EN 13649
Landfill Gas Engines as shown on Drawing 'no. 003 Rev B' or as otherwise agreed	Oxides of Nitrogen	Landfill Gas Engines	650 ³	500 ⁴	Hourly mean	Annually	ISO 10849
	CO		1500 ³	1400 ⁴			ISO 12039
	Total VOCs		1750 ³	1000 ⁴			BS EN 12619 or BS EN 13526
	NMVOCs		150 ³	75 ⁴			BS EN 13649

*Footnote: Annual monitoring is only required when flares operate in excess of 10% of the time, taken on an annual assessment period.

¹ Emission limits applicable for a relocated flare originally commissioned prior to 31st December 2003.

² Emission limits applicable for a new flare that has not been previously commissioned / operated (other than for factory testing), or for a relocated flare originally commissioned after 31st December 2003.

³ Emission limits applicable for a relocated engine originally commissioned prior to 31st December 2005.

⁴ Emission limits applicable for a new engine that has not been previously commissioned / operated (other than for factory testing), or for a relocated engine originally commissioned after 31st December 2005.

Table S4.4 Trigger levels for emission into groundwater and monitoring requirements

Table S4.4 Trigger levels for emissions into groundwater and monitoring requirements					
Monitoring point reference	Parameter	Limit mg/l	Reference Period	Monitoring frequency	Monitoring standard or method
GW1	Ammoniacal Nitrogen	1.8	Spot Sample	Quarterly	Unless otherwise agreed in writing with the Agency monitoring methods used shall be in accordance with Agency document 'Guidance on monitoring of landfill leachate, groundwater and surface water' (LFTGN02).
	Chloride	196		Quarterly	
	Nickel	0.04		Quarterly	
	Iron	0.54		Quarterly	
	Zinc	0.041		Quarterly	
	Cadmium	0.001		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	
GW2	Ammoniacal Nitrogen	1.24	Spot Sample	Quarterly	
	Chloride	35		Quarterly	
	Iron	0.2		Quarterly	
	Zinc	0.041		Quarterly	
	Nickel	0.03		Quarterly	
	Cadmium	0.001		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	
GW3	Ammoniacal Nitrogen	1.08	Spot Sample	Quarterly	
	Chloride	152		Quarterly	
	Iron	0.2		Quarterly	
	Zinc	0.041		Quarterly	
	Nickel	0.06		Quarterly	
	Cadmium	0.001		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	
GW4	Ammoniacal Nitrogen	2.94	Spot Sample	Quarterly	
	Chloride	165		Quarterly	
	Iron	0.2		Quarterly	
	Zinc	0.041		Quarterly	
	Nickel	0.033		Quarterly	
	Cadmium	0.001		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	

Table S4.4 Trigger levels for emissions into groundwater and monitoring requirements

Monitoring point reference	Parameter	Limit mg/l	Reference Period	Monitoring frequency	Monitoring standard or method
GW5	Ammoniacal Nitrogen	1.1	Spot Sample	Quarterly	
	Chloride	73		Quarterly	
	Nickel	0.03		Quarterly	
	Iron	0.35		Quarterly	
	Zinc	0.041		Quarterly	
	Cadmium	0.001		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	
H19	Ammoniacal Nitrogen	1.1	Spot Sample	Quarterly	
	Chloride	45		Quarterly	
	Nickel	0.033		Quarterly	
	Cadmium	0.001		Quarterly	
	Iron	0.2		Quarterly	
	Zinc	0.041		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	
H21	Ammoniacal Nitrogen	8	Spot Sample	Quarterly	
	Chloride	51		Quarterly	
	Nickel	0.033		Quarterly	
	Iron	0.2		Quarterly	
	Zinc	0.041		Quarterly	
	Cadmium	0.001		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	
GW18	Ammoniacal Nitrogen	3.45	Spot Sample	Quarterly	
	Chloride	4059		Quarterly	
	Nickel	0.02		Quarterly	
	Iron	2.32		Quarterly	
	Zinc	5		Quarterly	
	Cadmium	0.001		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	

Table S4.4 Trigger levels for emissions into groundwater and monitoring requirements

Monitoring point reference	Parameter	Limit mg/l	Reference Period	Monitoring frequency	Monitoring standard or method
GW21	Ammoniacal Nitrogen	1.72		Quarterly	
	Chloride	121		Quarterly	
	Nickel	0.033		Quarterly	
	Iron	1		Quarterly	
	Zinc	0.041		Quarterly	
	Cadmium	0.0015		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	
GW22	Ammoniacal Nitrogen	2.145		Quarterly	
	Chloride	146		Quarterly	
	Nickel	0.04279		Quarterly	
	Iron	1		Quarterly	
	Zinc	0.041		Quarterly	
	Cadmium	0.0038		Quarterly	
	Phenol	0.1		Six-monthly	
	Mecoprop	0.000151		Six-monthly	
GW23	Ammoniacal Nitrogen	7.843		Quarterly	
	Chloride	61		Quarterly	
	Nickel	0.033		Quarterly	
	Iron	1		Quarterly	
	Zinc	0.041		Quarterly	
	Cadmium	0.013		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.0001		Six-monthly	
GW24	Ammoniacal Nitrogen	1.892		Quarterly	
	Chloride	83		Quarterly	
	Nickel	0.22		Quarterly	
	Iron	1		Quarterly	
	Zinc	0.13		Quarterly	
	Cadmium	0.005		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.00026		Six-monthly	

Table S4.4 Trigger levels for emissions into groundwater and monitoring requirements

Monitoring point reference	Parameter	Limit mg/l	Reference Period	Monitoring frequency	Monitoring standard or method
GW25	Ammoniacal Nitrogen	4.345		Quarterly	
	Chloride	304.7		Quarterly	
	Iron	1		Quarterly	
	Zinc	0.041		Quarterly	
	Nickel	0.05		Quarterly	
	Cadmium	0.0038		Quarterly	
	Phenol	0.0005		Six-monthly	
	Mecoprop	0.000137		Six-monthly	
GW26	Ammoniacal Nitrogen	2.948		Quarterly	
	Chloride	299.2		Quarterly	
	Nickel	0.05		Quarterly	
	Iron	1		Quarterly	
	Zinc	0.041		Quarterly	
	Cadmium	0.024		Quarterly	
	Phenol	0.0022		Six-monthly	
	Mecoprop	0.0001		Six-monthly	

Table S4.8 Leachate – other monitoring requirements

Table S4.8 Leachate -Other Monitoring Requirements				
Monitoring Point Reference		Parameter	Monitoring Frequency	Monitoring Standard or Method
E5, D1, B2, C3, C7, D4, D9, E9, B10, B1, A8, A1, Z4	Phase 2A	BOD, COD, Chloride, Conductivity, pH, TDS, Ammoniacal Nitrogen, TON, Sulphate, Alkalinity, Sodium, Potassium, Magnesium, Calcium, Copper, Nickel, Chromium, Zinc, Cadmium, Lead, Boron, Iron, Manganese	Six-Monthly	Monitoring to be carried out in accordance with Environment Agency Document LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water" unless otherwise agreed in writing with the Agency.
		List I screen, phenol	Annually	
L1a, L2a, L3a, L4a, L5a, L6a, L7a, L8b, L9a, L10a and L11a	Phase 2B	pH, Chloride, Conductivity, Ammoniacal Nitrogen, TON, Sulphate, Alkalinity, COD, TOC, Sodium, Potassium, Magnesium, Calcium	Six-Monthly	
		Iron, Manganese, Cadmium, Copper, Nickel, Zinc, Lead, Boron, Chlorobenzene, Mecoprop, Xylene, Napthalene, Phenol, List I screen	Annually	
STL1a, STL2a, STL3a, STL4a, STL5a and STL6a	1996, 1997 and 1998 summer tipping areas	pH, Chloride, Conductivity, pH, Ammoniacal Nitrogen, TON, Sulphate, Alkalinity, COD, TOC, Sodium, Potassium, Magnesium, Calcium	Six-Monthly	
		Iron, Manganese, Cadmium, Copper, Nickel, Zinc, Lead, Boron, Chlorobenzene, Mecoprop, Xylene, Napthalene, Phenol, List I screen	Annually	
All abstraction points/sump locations (minimum one per cell)	Phase 4	pH, Chloride, Conductivity, pH, Ammoniacal Nitrogen, TON, Sulphate, Alkalinity, COD, TOC, Sodium, Potassium, Magnesium, Calcium	Six-Monthly	
		Iron, Manganese, Cadmium, Copper, Nickel, Zinc, Lead, Boron, Chlorobenzene, Mecoprop, Xylene, Napthalene, Phenol, List I Screen	Annually	

Table S4.10 Groundwater - other monitoring requirements

Table S4.10 Groundwater– other monitoring requirements				
Emission point reference or source or description of point of measurement as shown on Drawing 427/M072 dated 04.08.06, or such later version agreed in writing with the Agency		Parameter	Monitoring frequency	Monitoring standard or method
GW1, GW2, GW3, GW4, GW5, H19, H21	Phases 2A and 2B	Ammoniacal-Nitrogen, Chloride, Nickel, Iron, Cadmium, COD, Conductivity, pH, TDS, TON, Sulphate, Alkalinity, Sodium, Potassium, Magnesium, Calcium, Copper, Chromium, Zinc, Lead, Boron, Iron, Manganese	Quarterly	Monitoring to be carried out in accordance with Environment Agency Document LFTGN02 “Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water” unless otherwise agreed in writing with the Agency.
		Phenol Mecoprop	Six Monthly	
		Xylene, Napthalene Other List I substances*	Annually	
PPC102, PPC103 GW7, GW8, GW18, GW20 to GW26	Phase 4	Ammoniacal-Nitrogen, Chloride, Nickel, Iron, Cadmium, COD, Conductivity, pH, TDS, TON, Sulphate, Alkalinity, Sodium, Potassium, Magnesium, Calcium, Copper, Chromium, Zinc, Lead, Boron, Iron, Manganese	Quarterly	
		Phenol Mecoprop	Six Monthly	
		Xylene, Napthalene Other List I substances*	Annually	

* “Other List I substances” are defined as a suitably representative range of List I substances as detected in leachate and agreed in writing with the Agency

Schedule 3 – amended waste types

01 01 wastes from mineral excavation

01 01 01 wastes from mineral metalliferous excavation

01 01 02 wastes from mineral non-metalliferous excavation

01 03 wastes from physical and chemical processing of metalliferous minerals

01 03 06 tailings other than those mentioned in 01 03 04 and 01 03 05

01 03 08 dusty and powdery wastes other than those mentioned in 01 03 07

01 03 09 red mud from alumina production other than the wastes mentioned in 01 03 07

01 04 wastes from physical and chemical processing of non-metalliferous minerals

01 04 08 waste gravel and crushed rocks other than those mentioned in 01 04 07

01 04 09 waste sand and clays

01 04 10 dusty and powdery wastes other than those mentioned in 01 04 07

01 04 11 wastes from potash and rock salt processing other than those mentioned in 01 04 07

01 04 12 tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11

01 04 13 wastes from stone cutting and sawing other than those mentioned in 01 04 07

01 05 drilling muds and other drilling wastes

01 05 04 freshwater drilling muds and wastes

01 05 07 barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06

01 05 08 chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06

02 01 wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing

02 01 01 sludges from washing and cleaning

02 01 02 animal-tissue waste

02 01 03 plant-tissue waste

02 01 04 waste plastics (except packaging)

02 01 06 animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site

02 01 07 wastes from forestry

02 01 09 agrochemical waste other than those mentioned in 02 01 08

02 01 10 waste metal

02 02 wastes from the preparation and processing of meat, fish and other foods of animal origin

02 02 01 sludges from washing and cleaning

02 02 02 animal-tissue waste

02 02 03 materials unsuitable for consumption or processing

02 02 04 sludges from on-site effluent treatment

02 03 wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation

02 03 01 sludges from washing, cleaning, peeling, centrifuging and separation

02 03 02 wastes from preserving agents

02 03 03 wastes from solvent extraction

02 03 04 materials unsuitable for consumption or processing

02 03 05 sludges from on-site effluent treatment

02 04 wastes from sugar processing

02 04 01 soil from cleaning and washing beet

02 04 02 off-specification calcium carbonate

02 04 03 sludges from on-site effluent treatment

02 05 wastes from the dairy products industry

02 05 01 materials unsuitable for consumption or processing

02 05 02 sludges from on-site effluent treatment

02 06 wastes from the baking and confectionery industry

02 06 01 materials unsuitable for consumption or processing

02 06 02 wastes from preserving agents

02 06 03 sludges from on-site effluent treatment

02 07 wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)

02 07 01 wastes from washing, cleaning and mechanical reduction of raw materials

02 07 02 wastes from spirits distillation

02 07 03 wastes from chemical treatment

02 07 04 materials unsuitable for consumption or processing

02 07 05 sludges from on-site effluent treatment

03 01 wastes from wood processing and the production of panels and furniture

03 01 01 waste bark and cork

03 01 05 sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04

03 03 wastes from pulp, paper and cardboard production and processing

03 03 01 waste bark and wood

03 03 02 green liquor sludge (from recovery of cooking liquor)

03 03 05 de-inking sludges from paper recycling

03 03 07 mechanically separated rejects from pulping of waste paper and cardboard

03 03 08 wastes from sorting of paper and cardboard destined for recycling

03 03 09 lime mud waste

03 03 10 fibre rejects, fibre-, filler- and coating-sludges from mechanical separation

03 03 11 sludges from on-site effluent treatment other than those mentioned in 03 03 10

04 01 wastes from the leather and fur industry

04 01 01 fleshings and lime split wastes

04 01 02 liming waste

04 01 06 sludges, in particular from on-site effluent treatment containing chromium

04 01 07 sludges, in particular from on-site effluent treatment free of chromium
04 01 08 waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09 wastes from dressing and finishing.

04 02 wastes from the textile industry

04 02 09 wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10 organic matter from natural products (for example grease, wax)
04 02 15 wastes from finishing other than those mentioned in 04 02 14
04 02 17 dyestuffs and pigments other than those mentioned in 04 02 16
04 02 20 sludges from on-site effluent treatment other than those mentioned in 04 02 19
04 02 21 wastes from unprocessed textile fibres
04 02 22 wastes from processed textile fibres

05 01 wastes from petroleum refining

05 01 10 sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 01 13 boiler feedwater sludges
05 01 14 wastes from cooling columns
05 01 16 sulphur-containing wastes from petroleum desulphurisation
05 01 17 bitumen

05 06 wastes from the pyrolytic treatment of coal

05 06 04 waste from cooling columns

05 07 wastes from natural gas purification and transportation

05 07 02 wastes containing sulphur

06 03 wastes from the MFSU of salts and their solutions and metallic oxides

06 03 14 solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
06 03 16 metallic oxides other than those mentioned in 06 03 15

06 05 sludges from on-site effluent treatment

06 05 03 sludges from on-site effluent treatment other than those mentioned in 06 05 02

06 06 wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes

06 06 03 wastes containing sulphides other than those mentioned in 06 06 02

06 09 wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes

06 09 02 phosphorous slag
06 09 04 calcium-based reaction wastes other than those mentioned in 06 09 03

06 11 wastes from the manufacture of inorganic pigments and opacifiers

06 11 01 calcium-based reaction wastes from titanium dioxide production

06 13 wastes from inorganic chemical processes not otherwise specified

06 13 03 carbon black

07 01 wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals

07 01 12 sludges from on-site effluent treatment other than those mentioned in 07 01 11

07 02 wastes from the MFSU of plastics, synthetic rubber and man-made fibres

07 02 12 sludges from on-site effluent treatment other than those mentioned in 07 02 11

07 02 13 waste plastic

07 02 15 wastes from additives other than those mentioned in 07 02 14

07 02 17 wastes containing silicones other than those mentioned in 07 02 16

07 03 wastes from the MFSU of organic dyes and pigments (except 06 11)

07 03 12 sludges from on-site effluent treatment other than those mentioned in 07 03 11

07 04 wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides

07 04 12 sludges from on-site effluent treatment other than those mentioned in 07 04 11

07 05 wastes from the MFSU of pharmaceuticals

07 05 12 sludges from on-site effluent treatment other than those mentioned in 07 05 11

07 05 14 solid wastes other than those mentioned in 07 05 13

07 06 wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics

07 06 12 sludges from on-site effluent treatment other than those mentioned in 07 06 11

07 07 wastes from the MFSU of fine chemicals and chemical products not otherwise specified

07 07 12 sludges from on-site effluent treatment other than those mentioned in 07 07 11

08 01 wastes from MFSU and removal of paint and varnish

08 01 12 waste paint and varnish other than those mentioned in 08 01 11

08 01 14 sludges from paint or varnish other than those mentioned in 08 01 13

08 01 16 aqueous sludges containing paint or varnish other than those mentioned in 08 01 15

08 01 18 wastes from paint or varnish removal other than those mentioned in 08 01 17

08 02 wastes from MFSU of other coatings (including ceramic materials)

08 02 01 waste coating powders

08 02 02 aqueous sludges containing ceramic materials

08 03 wastes from MFSU of printing inks

08 03 07 aqueous sludges containing ink

08 03 13 waste ink other than those mentioned in 08 03 12

08 03 15 ink sludges other than those mentioned in 08 03 14

08 03 18 waste printing toner other than those mentioned in 08 03 17

08 04 wastes from MFSU of adhesives and sealants (including waterproofing products)

08 04 10 waste adhesives and sealants other than those mentioned in 08 04 09

08 04 12 adhesive and sealant sludges other than those mentioned in 08 04 11 substances

08 04 14 aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13

09 01 wastes from the photographic industry

09 01 07 photographic film and paper containing silver or silver compounds

09 01 08 photographic film and paper free of silver or silver compounds

09 01 10 single-use cameras without batteries

09 01 12 single-use cameras containing batteries other than those mentioned in 09 01 11

10 01 wastes from power stations and other combustion plants (except 19)

10 01 01 bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)

10 01 02 coal fly ash

10 01 03 fly ash from peat and untreated wood

10 01 05 calcium-based reaction wastes from flue-gas desulphurisation in solid form

10 01 07 calcium-based reaction wastes from flue-gas desulphurisation in sludge form

10 01 15 bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14

10 01 17 fly ash from co-incineration other than those mentioned in 10 01 16

10 01 19 wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18

10 01 21 sludges from on-site effluent treatment other than those mentioned in 10 01 20

10 01 23 aqueous sludges from boiler cleansing other than those mentioned in 10 01 22

10 01 24 sands from fluidised beds

10 01 25 wastes from fuel storage and preparation of coal-fired power plants

10 01 26 wastes from cooling-water treatment

10 02 wastes from the iron and steel industry

10 02 01 wastes from the processing of slag

10 02 02 unprocessed slag

10 02 08 solid wastes from gas treatment other than those mentioned in 10 02 07

10 02 10 mill scales

10 02 12 wastes from cooling-water treatment other than those mentioned in 10 02 11

10 02 14 sludges and filter cakes from gas treatment other than those mentioned in 10 02 13

10 02 15 other sludges and filter cakes

10 03 wastes from aluminium thermal metallurgy

10 03 02 anode scraps

10 03 05 waste alumina

10 03 16 skimmings other than those mentioned in 10 03 15

10 03 18 carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17

10 03 20 flue-gas dust other than those mentioned in 10 03 19

10 03 22 other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21

10 03 24 solid wastes from gas treatment other than those mentioned in 10 03 23

10 03 26 sludges and filter cakes from gas treatment other than those mentioned in 10 03 25

10 03 28 wastes from cooling-water treatment other than those mentioned in 10 03 27

10 03 30 wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29

10 05 wastes from zinc thermal metallurgy

10 05 01 slags from primary and secondary production

10 05 04 other particulates and dust

10 05 09 wastes from cooling-water treatment other than those mentioned in 10 05 08

10 05 11 dross and skimmings other than those mentioned in 10 05 10

10 06 wastes from copper thermal metallurgy

10 06 01 slags from primary and secondary production

10 06 02 dross and skimmings from primary and secondary production

10 06 04 other particulates and dust

10 06 10 wastes from cooling-water treatment other than those mentioned in 10 06 09

10 07 wastes from silver, gold and platinum thermal metallurgy

10 07 01 slags from primary and secondary production

10 07 02 dross and skimmings from primary and secondary production

10 07 03 solid wastes from gas treatment

10 07 04 other particulates and dust

10 07 05 sludges and filter cakes from gas treatment

10 07 08 wastes from cooling-water treatment other than those mentioned in 10 07 07

10 08 wastes from other non-ferrous thermal metallurgy

10 08 04 particulates and dust

10 08 09 other slags

10 08 11 dross and skimmings other than those mentioned in 10 08 10

10 08 13 carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12

10 08 14 anode scrap

10 08 16 flue-gas dust other than those mentioned in 10 08 15

10 08 18 sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17

10 08 20 wastes from cooling-water treatment other than those mentioned in 10 08 19

10 09 wastes from casting of ferrous pieces

10 09 03 furnace slag

10 09 06 casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05

10 09 08 casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07

10 09 10 flue-gas dust other than those mentioned in 10 09 09

10 09 12 other particulates other than those mentioned in 10 09 11

10 09 14 waste binders other than those mentioned in 10 09 13

10 09 16 waste crack-indicating agent other than those mentioned in 10 09 15

10 10 wastes from casting of non-ferrous pieces

10 10 03 furnace slag

10 10 06 casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05

10 10 08 casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07

10 10 10 flue-gas dust other than those mentioned in 10 10 09

10 10 12 other particulates other than those mentioned in 10 10 11

10 10 14 waste binders other than those mentioned in 10 10 13

10 10 16 waste crack-indicating agent other than those mentioned in 10 10 15

10 11 wastes from manufacture of glass and glass products

10 11 03 waste glass-based fibrous materials

10 11 05 particulates and dust

10 11 10 waste preparation mixture before thermal processing, other than those mentioned in 10 11 09

tubes)

10 11 12 waste glass other than those mentioned in 10 11 11

10 11 14 glass-polishing and -grinding sludge other than those mentioned in 10 11 13

10 11 16 solid wastes from flue-gas treatment other than those mentioned in 10 11 15

10 11 18 sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17

10 11 20 solid wastes from on-site effluent treatment other than those mentioned in 10 11 19

10 12 wastes from manufacture of ceramic goods, bricks, tiles and construction products

10 12 01 waste preparation mixture before thermal processing

10 12 03 particulates and dust

10 12 05 sludges and filter cakes from gas treatment

10 12 06 discarded moulds

10 12 08 waste ceramics, bricks, tiles and construction products (after thermal processing)

10 12 10 solid wastes from gas treatment other than those mentioned in 10 12 09

10 12 12 wastes from glazing other than those mentioned in 10 12 11

10 12 13 sludge from on-site effluent treatment

10 13 wastes from manufacture of cement, lime and plaster and articles and products made from them

10 13 01 waste preparation mixture before thermal processing

10 13 04 wastes from calcination and hydration of lime

10 13 06 particulates and dust (except 10 13 12 and 10 13 13)

10 13 07 sludges and filter cakes from gas treatment

10 13 10 wastes from asbestos-cement manufacture other than those mentioned in 10 13 09

10 13 11 wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10

10 13 13 solid wastes from gas treatment other than those mentioned in 10 13 12

10 13 14 waste concrete and concrete sludge

11 01 wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphatising, alkaline degreasing, anodising)

11 01 10 sludges and filter cakes other than those mentioned in 11 01 09

11 01 14 degreasing wastes other than those mentioned in 11 01 13

11 02 wastes from non-ferrous hydrometallurgical processes

11 02 03 wastes from the production of anodes for aqueous electrolytical processes

11 02 06 wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05

11 05 wastes from hot galvanising processes

11 05 02 zinc ash

12 01 wastes from shaping and physical and mechanical surface treatment of metals and plastics

12 01 01 ferrous metal filings and turnings

12 01 02 ferrous metal dust and particles

12 01 03 non-ferrous metal filings and turnings

12 01 04 non-ferrous metal dust and particles

12 01 05 plastics shavings and turnings

12 01 13 welding wastes

12 01 15 machining sludges other than those mentioned in 12 01 14

12 01 17 waste blasting material other than those mentioned in 12 01 16

12 01 21 spent grinding bodies and grinding materials other than those mentioned in 12 01 20

15 01 packaging (including separately collected municipal packaging waste)

15 01 01 paper and cardboard packaging

15 01 02 plastic packaging

15 01 03 wooden packaging

15 01 04 metallic packaging

15 01 05 composite packaging

15 01 06 mixed packaging

15 01 07 glass packaging

15 01 09 textile packaging

15 02 absorbents, filter materials, wiping cloths and protective clothing

15 02 03 absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02

16 01 end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)

16 01 03 end-of-life tyres

16 01 06 end-of-life vehicles, containing neither liquids nor other hazardous components

16 01 12 brake pads other than those mentioned in 16 01 11

16 01 17 ferrous metal

16 01 18 non-ferrous metal

16 01 19 plastic

16 01 20 glass

16 01 22 components not otherwise specified

16 03 off-specification batches and unused products

16 03 04 inorganic wastes other than those mentioned in 16 03 03

16 03 06 organic wastes other than those mentioned in 16 03 05

16 05 gases in pressure containers and discarded chemicals

16 05 09 discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

16 06 batteries and accumulators

16 06 04 alkaline batteries (except 16 06 03)

16 06 05 other batteries and accumulators

16 08 spent catalysts

16 08 01 spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)

16 08 03 spent catalysts containing transition metals or transition metal compounds not otherwise specified

16 11 waste linings and refractories

16 11 02 carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01

16 11 04 other linings and refractories from metallurgical processes other than those mentioned in 16 11 03

16 11 06 linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05

17 01 concrete, bricks, tiles and ceramics

17 01 01 concrete

17 01 02 bricks

17 01 03 tiles and ceramics

17 01 07 mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06

17 02 wood, glass and plastic

17 02 01 wood

17 02 02 glass

17 02 03 plastic

17 03 bituminous mixtures, coal tar and tarred products

17 03 02 bituminous mixtures other than those mentioned in 17 03 01

17 04 metals (including their alloys)

17 04 01 copper, bronze, brass

17 04 02 aluminium

17 04 03 lead

17 04 04 zinc

17 04 05 iron and steel

17 04 06 tin

17 04 07 mixed metals

17 04 11 cables other than those mentioned in 17 04 10

17 05 soil (including excavated soil from contaminated sites), stones and dredging spoil

17 05 04 soil and stones other than those mentioned in 17 05 03

17 05 06 dredging spoil other than those mentioned in 17 05 05

17 05 08 track ballast other than those mentioned in 17 05 07

17 06 insulation materials and asbestos-containing construction materials

17 06 04 insulation materials other than those mentioned in 17 06 01 and 17 06 03

17 09 other construction and demolition wastes

17 09 04 mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03

18 01 wastes from natal care, diagnosis, treatment or prevention of disease in humans

18 01 04 wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)

18 01 07 chemicals other than those mentioned in 18 01 06

18 02 wastes from research, diagnosis, treatment or prevention of disease involving animals

18 02 03 wastes whose collection and disposal is not subject to special requirements in order to prevent infection

18 02 06 chemicals other than those mentioned in 18 02 05

19 01 wastes from incineration or pyrolysis of waste

19 01 02 ferrous materials removed from bottom ash

19 01 12 bottom ash and slag other than those mentioned in 19 01 11

19 01 14 fly ash other than those mentioned in 19 01 13

19 01 16 boiler dust other than those mentioned in 19 01 15

19 01 18 pyrolysis wastes other than those mentioned in 19 01 17

19 01 19 sands from fluidised beds

19 02 wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)

19 02 03 premixed wastes composed only of non-hazardous wastes

19 02 06 sludges from physico/chemical treatment other than those mentioned in 19 02 05

19 02 10 combustible wastes other than those mentioned in 19 02 08 and 19 02 09

19 03 stabilised/solidified wastes

19 03 05 stabilised wastes other than those mentioned in 19 03 04

19 03 07 solidified wastes other than those mentioned in 19 03 06

19 04 vitrified waste and wastes from vitrification

19 04 01 vitrified waste

19 05 wastes from aerobic treatment of solid wastes

19 05 01 non-composted fraction of municipal and similar wastes

19 05 02 non-composted fraction of animal and vegetable waste

19 05 03 off-specification compost

19 06 wastes from anaerobic treatment of waste

19 06 04 digestate from anaerobic treatment of municipal waste

19 06 06 digestate from anaerobic treatment of animal and vegetable waste

19 07 landfill leachate

19 07 03 Landfill leachate other than those mentioned in 19 07 02

19 08 wastes from waste water treatment plants not otherwise specified

19 08 01 screenings

19 08 02 waste from desanding

19 08 05 sludges from treatment of urban waste water

19 08 09 grease and oil mixture from oil/water separation containing only edible oil and fats

19 08 12 sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11

19 08 14 sludges from other treatment of industrial waste water other than those mentioned in 19 08 13

19 09 wastes from the preparation of water intended for human consumption or water for industrial use

19 09 01 solid waste from primary filtration and screenings

19 09 02 sludges from water clarification

19 09 03 sludges from decarbonation

19 09 04 spent activated carbon

19 09 05 saturated or spent ion exchange resins

19 09 06 solutions and sludges from regeneration of ion exchangers

19 10 wastes from shredding of metal-containing wastes

19 10 01 iron and steel waste

19 10 02 non-ferrous waste

19 10 04 fluff-light fraction and dust other than those mentioned in 19 10 03

19 10 06 other fractions other than those mentioned in 19 10 05

19 11 wastes from oil regeneration

19 11 06 sludges from on-site effluent treatment other than those mentioned in 19 11 05

19 12 wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified

19 12 01 paper and cardboard

19 12 02 ferrous metal

19 12 03 non-ferrous metal

19 12 04 plastic and rubber
19 12 05 glass
19 12 07 wood other than that mentioned in 19 12 06
19 12 08 textiles
19 12 09 minerals (for example sand, stones)
19 12 10 combustible waste (refuse derived fuel)
19 12 12 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

19 13 wastes from soil and groundwater remediation

19 13 02 solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04 sludges from soil remediation other than those mentioned in 19 13 03
19 13 06 sludges from groundwater remediation other than those mentioned in 19 13 05

20 01 separately collected fractions (except 15 01)

20 01 01 paper and cardboard
20 01 02 glass
20 01 08 biodegradable kitchen and canteen waste
20 01 10 clothes
20 01 11 textiles
20 01 25 edible oil and fat
20 01 28 paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30 detergents other than those mentioned in 20 01 29
20 01 34 batteries and accumulators other than those mentioned in 20 01 33
20 01 36 discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38 wood other than that mentioned in 20 01 37
20 01 39 plastics
20 01 40 metals
20 01 41 wastes from chimney sweeping

20 02 garden and park wastes (including cemetery waste)

20 02 01 biodegradable waste
20 02 02 soil and stones
20 02 03 other non-biodegradable wastes

20 03 other municipal wastes

20 03 01 mixed municipal waste
20 03 02 waste from markets
20 03 03 street-cleaning residues
20 03 04 septic tank sludge
20 03 06 waste from sewage cleaning
20 03 07 bulky waste

Schedule 3 – conditions to be added

The following conditions are added to the permit

3.4.2 The operator shall:

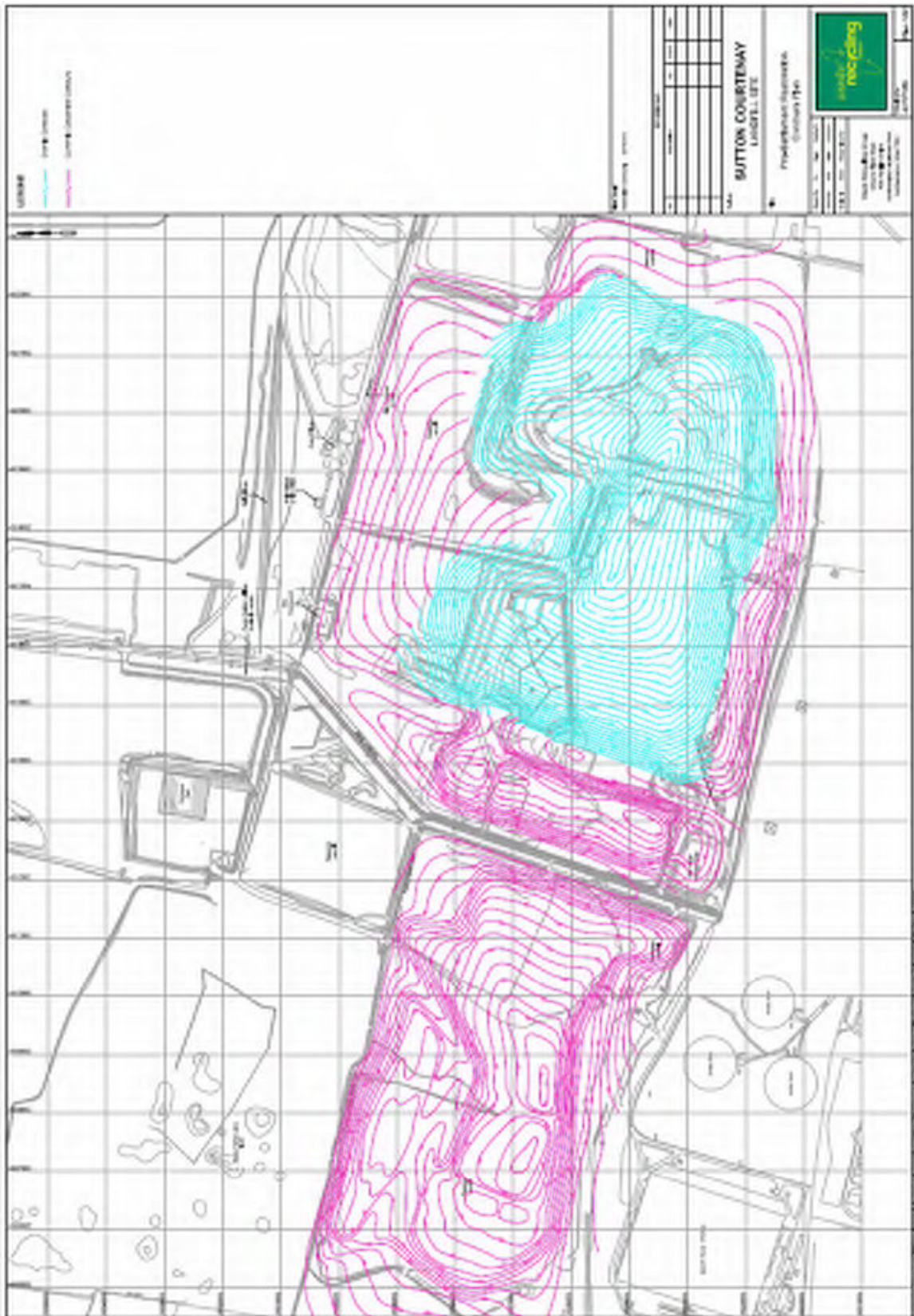
- (a) if notified by the Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Agency for approval within the period specified, an odour management plan;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed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

Improvement Condition 7 in table S1.3

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
7	Submit a report detailing the results of an investigation into elevated levels in groundwater boreholes GW21-26. The investigation shall be an assessment of the suitability of boreholes GW21-26 and the appropriateness of applying trigger levels to these boreholes. If any or all the boreholes are deemed appropriate for trigger levels, the operator shall submit new trigger levels for approval by the Environment Agency. If necessary, proposals for the drilling of replacement down-gradient boreholes will be submitted for approval by the Environment Agency.	6 months from variation issue

Schedule 4 – amended plan

Amended plan Drawing ref. 427P185 attached



Notice of variation and consolidation with introductory note

Environmental Permitting (England & Wales) Regulations 2010

Henry Streeter (Sand and Ballast)
Limited

Sipson Lane Combined Inert Landfill
Sipson Lane
Off Sipson Road
Sipson
West Drayton
UB7 0JG

Variation and consolidation application
number

EPR/BT7183IA/V004

Consolidated permit number

EPR/BT7183IA

Sipson Lane Combined Inert Landfill

Consolidated permit number EPR/BT7183IA

Introductory note

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

The following notice gives notice of the variation of environmental permits BT7183IA (Sipson North East Inert Landfill) and TP3597NJ (South of Sipson Lane II) referred to in the status logs below and the replacement of those permits with a consolidated environmental permit.

This variation consolidates the permit for Sipson North East Inert Landfill and the permit South of Sipson Lane II into a single new permit.

The Schedules specify the changes made to the original permits.

Schedule 1 of this notice lists any changes to the original permits. Schedule 2 of this notice contains the varied and consolidated environmental permit, including any site plan.

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

Status Log of permit A: BT7183IA		
Detail	Date	Response date
Permit application BT7183IA	Received 20/11/2002	
Permit BT7183IA Issued	04/06/2004	
Permit BT7183IA Varied	09/02/2007	
Variation application EPR/BT7183IA/V003 Duly Made	08/04/2010	
Variation application EPR/BT7183IA Issued	28/03/2011	
Variation application EPR/BT7183IA/V004 Duly Made	08/04/2010	
Variation determined EPR/BT7183IA (varied and consolidated permit issued)	29/03/2011	

Status Log of permit B: TP3597NJ		
Detail	Date	Response date
Permit Application EAWML 80531 Received	10/08/2000	
Permit EAWML 80531 Issued	24/12/2001	
Application EPR/TP3597NJ/V002	Duly made 08/04/2010	
Variation determined EPR/TP3597NJ	28/03/2011	
Variation Application EPR/TP3597NJ/V003	Duly made 08/04/2010	
Variation determined EPR/BT7183IA (varied and consolidated permit issued)	29/03/2011	

End of Introductory note

Notice of variation and consolidation

Environmental Permitting (England and Wales) Regulations 2010

Permit number
EPR/BT7183IA

The Environment Agency in exercise of its powers under regulations 18 and 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates the environmental permits issued to

Henry Streeter (Sand and Ballast) Limited (“the operator”)

whose registered office is

14-16 Station Road West
Oxted
Surrey
RH8 9EP

company registration number 543481

to operate a regulated facility at

Sipson Lane Combined Inert Landfill
Sipson Lane
Off Sipson Road
Sipson
West Drayton
Middlesex UB7 0JG

to the extent set out in the schedules.

The notice shall take effect from 29/03/2011

Name

Date

Jane McNamara

29/03/2011

Authorised on behalf of the Environment Agency

Schedule 1

Permit A:

All conditions have been replaced by the consolidated permit ERP/BT7183IA as a result of the application made by the operator.

Permit B:

All conditions have been replaced by the consolidated permit ERP/BT7183IA as a result of the application made by the operator.

Schedule 2 – varied and consolidated permit

Please see attached.

Schedule 2

1 Management

1.1 General management

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

1.2 Finance

- 1.2.1 The financial provision for meeting the obligations under this permit set out in the agreement made between the operator and the Environment Agency dated 29/03/2011 shall be maintained by the operator throughout the subsistence of this permit and the operator shall produce evidence of such provision whenever required by the Environment Agency.
- 1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:
- (a) the costs of setting up and operating the landfill;
 - (b) the costs of the financial provision required by condition 1.2.1; and
 - (c) the estimated costs for the closure and aftercare of the landfill.

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 (a) 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.
- (b) 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 specified in schedule 1, table S1.2 or otherwise required under this permit, 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 Landfill Engineering

- 2.4.1 (a) No construction of any new cell 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
- 2.4.2 The construction of a new cell 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.
- 2.4.3 The operator shall submit a CQA Validation Report to the Environment Agency as soon as practicable following the construction of the new cell.
- 2.4.4 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.4.5 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:
- (a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or
- (b) a change has otherwise been agreed in writing by the Environment Agency.
- 2.4.6 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the landfill infrastructure.

- 2.4.7 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.4.4 and 2.4.5 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.
- 2.4.8 For the purposes of conditions 2.4.1, 2.4.3 and 2.4.4, the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either:
- (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.
- 2.4.9 Where the Environment Agency has required further information under condition 2.4.8(a), the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:
- (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.

2.5 Waste acceptance

- 2.5.1 Wastes shall only be accepted for disposal if:
- (a) they are listed in schedule 2, and
 - (b) they are inert waste, and
 - (c) they are not liquid waste (including waste waters but excluding sludge), and
 - (d) all the relevant waste acceptance procedures have been completed, and
 - (e) they fulfil the relevant waste acceptance criteria, and
 - (f) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria, and
 - (g) they are wastes which have been treated, except for wastes for which treatment is not technically feasible.
- 2.5.2 The operator shall visually inspect:
- (a) without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill; and
 - (b) waste at the point of deposit;
- and shall satisfy itself that it conforms to the basic characterisation documentation submitted by the holder.
- 2.5.3 Where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.
- 2.5.4 The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.
- 2.5.5 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawings PA-1107-13D , PA-1205-16E and SLC/SIPNEEXT/12.

- 2.5.6 The quantity of waste that is deposited in the landfill in any year shall not exceed the limits in schedule 1 table S1.3.
- 2.5.7 The operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin of any waste that is received for disposal or recovery and of the identity of the producer, or in the case of multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

2.6 Closure and aftercare

- 2.6.1 The operator shall maintain a closure and aftercare management plan.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land.
- 3.1.2 There shall be no emission from the activities into groundwater of any hazardous substances contrary to the EP Regulations.
- 3.1.3 There shall be no emission from the activities into groundwater of any non-hazardous pollutants so as to cause pollution.
- 3.1.4 The trigger levels for emissions into groundwater for the parameter(s) and monitoring point(s) set out in schedule 3 table S3.1 shall not be exceeded.
- 3.1.5 The limits for landfill gas arising from the facility set out in schedule 3, tables S3.3 shall not be exceeded.
- 3.1.6 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:
- (a) between nine and six months prior to the sixth anniversary of the granting of the permit, and
 - (b) between nine and six months prior to every subsequent six years after the sixth anniversary of the granting of the permit.

3.2 Emissions of substances not controlled by emission limits

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

- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 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.

3.3 Noise and vibration

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

3.4 Monitoring

- 3.4.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring and any other actions for the parameters specified in the following tables in schedule 3 to this permit:
 - (a) Groundwater specified in table S3.1 and 3.2;
 - (b) Landfill gas specified in table S3.3 and S3.4;
- 3.4.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.4.3 A topographical survey of the site referenced to Ordnance Datum shall be carried out:
 - (a) annually, or prior to the disposal of waste in any new cell or new development area of the landfill whichever is the shorter period, and
 - (b) following closure of the landfill or part of the landfill.

The topographical survey shall be used to produce a plan of a scale adequate to show the surveyed features of the site.

4 Information

4.1 Records

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

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) the results of groundwater monitoring;
 - (ii) landfill gas monitoring;
 - (iii) waste types and quantities;
 - (iv) the specification and as built drawings of the basal and sidewall engineering systems

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

4.2 Reporting

4.2.1 The operator shall send 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 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this installation and any agreed amendments thereto;
- (b) the topographical surveys required by condition 3.4.3 other than those submitted as part of a CQA validation report;
- (c) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;
- (d) an assessment of the settlement behavior of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;
- (e) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;

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

4.3 Notifications

- 4.3.1 The Environment Agency shall be notified without delay following the detection of:
- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
 - (b) the breach of a limit specified in the permit; or
 - (c) any significant adverse environmental effects.
- 4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- 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.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
 - (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities	
Description of activities	Limits of activities
D1: Deposit into or on to land	The deposit of inert waste into or onto land.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Site Operating Plan	All Parts and associated documents	26/03/2010

Table S1.3 Annual waste input limits	
Category	Limit Tonnes/ Year
Inert Waste	250,000

Schedule 2 - List of permitted wastes

Table S2.3 Permitted waste types and quantities	
Maximum quantity	1,869,000 tonnes
Waste code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 01	Wastes from mineral extraction
01 01 02	Wastes from mineral 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 mentioned in 01 04 07
01 04 09	Waste sand and clays
01 04 12	Tailings and other wastes from washing and cleaning of minerals other than those mentioned on 01 04 07 and 01 04 11
01 05	Drilling muds and other drilling wastes
01 05 04	Firewater drilling muds and wastes
10	WASTES FROM THERMAL PROCESSES
10 11	Wastes from manufacture of glass and glass products
10 11 03	Waste glass-based fibrous materials
10 12	Wastes from manufacture of ceramic goods, brick, tiles and construction products
10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)
15	WASTE PACKAGING; ABSORBENT, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	Packaging (including separately collected municipal packaging waste)
15 01 07	Glass packaging
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01	End-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 20	Glass
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	Concrete, bricks tiles and ceramics
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	Wood, glass and plastic
17 02 02	Glass
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	Soil and stones
17 05 06	Dredging spoil other than those mentioned in 17 05 05
17 05 08	Track ballast other than those mentioned in 17 05 07
17 09	Other construction and demolition wastes
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02, 17 09 03
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified

Table S2.3 Permitted waste types and quantities	
Maximum quantity	1,869,000 tonnes
Waste code	Description
19 12 05	Glass
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	Separately collected fractions (except 15 01)
20 01 02	Glass
20 02	Garden and park wastes (including cemetery waste)
20 02 02	Soil and stones

Schedule 3 – Emissions and monitoring

Table S3.1 Trigger levels for emissions into groundwater and monitoring requirements

Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
WG40	Ammoniacal Nitrogen	5.0 mg/l	Spot Sample	Quarterly	Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water TGN02
WG40	Total Organic Carbon	25 mg/l	Spot Sample	Quarterly	As above
WG45	Ammoniacal Nitrogen	5.0 mg/l	Spot Sample	Quarterly	As above
WG45	Total Organic Carbon	25 mg/l	Spot Sample	Quarterly	As above
WG47	Ammoniacal Nitrogen	5.0 mg/l	Spot Sample	Quarterly	As above
WG47	Total Organic Carbon	25 mg/l	Spot Sample	Quarterly	As above
BH15	Ammoniacal Nitrogen	2.5 mg/l	Spot Sample	Quarterly	As above
BH15	Total Organic Carbon	25 mg/l	Spot Sample	Quarterly	As above
BH15	Chloride	400 mg/l	Spot Sample	Quarterly	As above
BH16	Ammoniacal Nitrogen	2.5 mg/l	Spot Sample	Quarterly	As above
BH16	Total Organic Carbon	25 mg/l	Spot Sample	Quarterly	As above
BH16	Chloride	400 mg/l	Spot Sample	Quarterly	As above
BH19	Ammoniacal Nitrogen	0.8 mg/l	Spot Sample	Quarterly	As above
BH19	Total Organic Carbon	15 mg/l	Spot Sample	Quarterly	As above
BH19	Chloride	250 mg/l	Spot Sample	Quarterly	As above
BH20	Ammoniacal Nitrogen	0.8 mg/l	Spot Sample	Quarterly	As above
BH20	Total Organic Carbon	15 mg/l	Spot Sample	Quarterly	As above
BH20	Chloride	250 mg/l	Spot Sample	Quarterly	As above
BH21	Ammoniacal Nitrogen	0.8 mg/l	Spot Sample	Quarterly	As above
BH21	Total Organic Carbon	15 mg/l	Spot Sample	Quarterly	As above
BH21	Chloride	250 mg/l	Spot Sample	Quarterly	As above
BH22	Ammoniacal Nitrogen	0.8 mg/l	Spot Sample	Quarterly	As above
BH22	Total Organic Carbon	15 mg/l	Spot Sample	Quarterly	As above
BH22	Chloride	250 mg/l	Spot Sample	Quarterly	As above
BH23	Ammoniacal Nitrogen	0.8 mg/l	Spot Sample	Quarterly	As above
BH23	Total Organic Carbon	15 mg/l	Spot Sample	Quarterly	As above
BH23	Chloride	250 mg/l	Spot Sample	Quarterly	As above
BH24	Ammoniacal Nitrogen	0.8 mg/l	Spot Sample	Quarterly	As above
BH24	Total Organic Carbon	15 mg/l	Spot Sample	Quarterly	As above
BH24	Chloride	250 mg/l	Spot Sample	Quarterly	As above
BH25	Ammoniacal Nitrogen	0.8 mg/l	Spot Sample	Quarterly	As above
BH25	Total Organic Carbon	15 mg/l	Spot Sample	Quarterly	As above
BH25	Chloride	250 mg/l	Spot Sample	Quarterly	As above
BH26	Ammoniacal Nitrogen	5 mg/l	Spot Sample	Quarterly	As above
BH26	Total Organic Carbon	30 mg/l	Spot Sample	Quarterly	As above
BH26	Chloride	250 mg/l	Spot Sample	Quarterly	As above

Table S3.2 Groundwater – other monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28	Water level,	Monthly	Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water TGN02	
G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28	Water level, pH Conductivity Ammoniacal Nitrogen Chloride Sulphate Alkalinity as CaCO ₃ TON (Total Oxidised Nitrogen) as N TOC Potassium Sodium Calcium Magnesium	Quarterly	As above	
G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28	Iron Manganese Cadmium Chromium Copper Lead Nickel Zinc	Annually	As above	

Table S3.3 Landfill gas in external monitoring boreholes – limits and monitoring requirements

Monitoring point Ref. /description	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
WG37 – WG43	Methane Carbon Dioxide Oxygen Atmospheric pressure Differential Pressure Meteorological data	1 %v/v 9 %v/v [no limit] [no limit] [no limit] [no limit]	Monthly	Guidance on the management of landfill gas (LFTGN03)
G44, WG45, G46, WG47	Methane Carbon Dioxide Oxygen Atmospheric pressure Differential Pressure Meteorological data	1 %v/v 8.3 %v/v [no limit] [no limit] [no limit] [no limit]	Monthly	Guidance on the management of landfill gas (LFTGN03)
BH06, BH05	Methane Carbon Dioxide Oxygen Atmospheric pressure Differential Pressure Meteorological data	1 %v/v 5 %v/v [no limit] [no limit] [no limit] [no limit]	Monthly	Guidance on the management of landfill gas (LFTGN03)
BH13, BH14	Methane Carbon Dioxide Oxygen Atmospheric pressure Differential Pressure Meteorological data	1 %v/v 6 %v/v [no limit] [no limit] [no limit] [no limit]	Monthly	Guidance on the management of landfill gas (LFTGN03)
BH15, BH17	Methane Carbon Dioxide Oxygen Atmospheric pressure Differential Pressure Meteorological data	1 %v/v 6.5 %v/v [no limit] [no limit] [no limit] [no limit]	Monthly	Guidance on the management of landfill gas (LFTGN03)
BH16	Methane Carbon Dioxide Oxygen Atmospheric pressure Differential Pressure Meteorological data	1 %v/v 7 %v/v [no limit] [no limit] [no limit] [no limit]	Monthly	Guidance on the management of landfill gas (LFTGN03)
BH18 – BH28	Methane Carbon Dioxide Oxygen Atmospheric pressure Differential Pressure Meteorological data	1 %v/v 7 %v/v [no limit] [no limit] [no limit] [no limit]	Monthly	Guidance on the management of landfill gas (LFTGN03)

Table S3.4 Landfill gas – other monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
In waste monitoring boreholes INW01, INW02, INW03, INW04, INW05, INW06, INW07, INW08, INW09, INW10, INW11, INW12	Methane Carbon Dioxide Oxygen Differential Pressure Gas flow Rate Barometric Pressure Liquid Level	Monthly	Guidance on the management of landfill gas (LFTGN03)	

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	Emission or monitoring point/reference	Reporting period	Period begins
Water Level pH Conductivity Ammoniacal Nitrogen Chloride Sulphate Alkalinity as CaCO ₃ TON (Total Oxidised Nitrogen) as N TOC Potassium Sodium Calcium Magnesium	G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28	Quarterly	
Iron Manganese Cadmium Chromium Copper Lead Nickel Zinc	G11, WG37, WG38, WG40, WG41, WG45, WG47, G44, G46, BH05, BH06, BH13, BH14, BH15, BH16, BH18, BH19, BH20, BH21, BH22, BH23, BH24, BH25, BH26, BH27, BH28	Annually	
Methane Carbon Dioxide Oxygen Differential Pressure Barometric Pressure Flow Rate	WG37-43, G44, WG45, G46, WG47, In waste monitoring boreholes INW01, INW02, INW03, INW04, BH5, BH6, BH13 – BH28, In waste monitoring boreholes INW05, INW06, INW07, INW08, INW09, INW10, INW11, INW12	Quarterly	

Table S4.2 Reporting forms		
Media/parameter	Reporting Format	Date of Form
Groundwater	Form groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	DD/MM/YY
Landfill gas	Form Gas 1 or other reporting format to be agreed in writing with the Environment Agency	DD/MM/YY
Waste Return	Waste Return Form RATS2E	DD/MM/YY
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	DD/MM/YY

Schedule 5 - Notification

This page outlines the information that the operator must provide.

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

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

Part A

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

(a) Notification requirements for any 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	
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 supplied as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of *Henry Streeter (Sand and Ballast) Ltd.*

Schedule 6 - Interpretation

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

“annually” means once every year.

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

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

“Construction Proposals”;

- for new cells, means written information at a level of detail appropriate to the complexity and pollution risk, on stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the new cell.
- for landfill infrastructure, means the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the landfill infrastructure.

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

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

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“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..

“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.

“Landfill Infrastructure” means any specified element of the:

- surface water drainage systems;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes;

within the Site.

“Liquids” means any liquid other than leachate within the landfill.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“New Cell” means any new cell, part of a cell or other similar new area of the Site where waste deposit is to commence after issue of this permit and can comprise:

- groundwater under-drainage system;
- sub-grade;
- artificially established geological barriers;
- cell or area surface water drainage system;
- side wall subgrade and containment systems;

for the new cell.

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

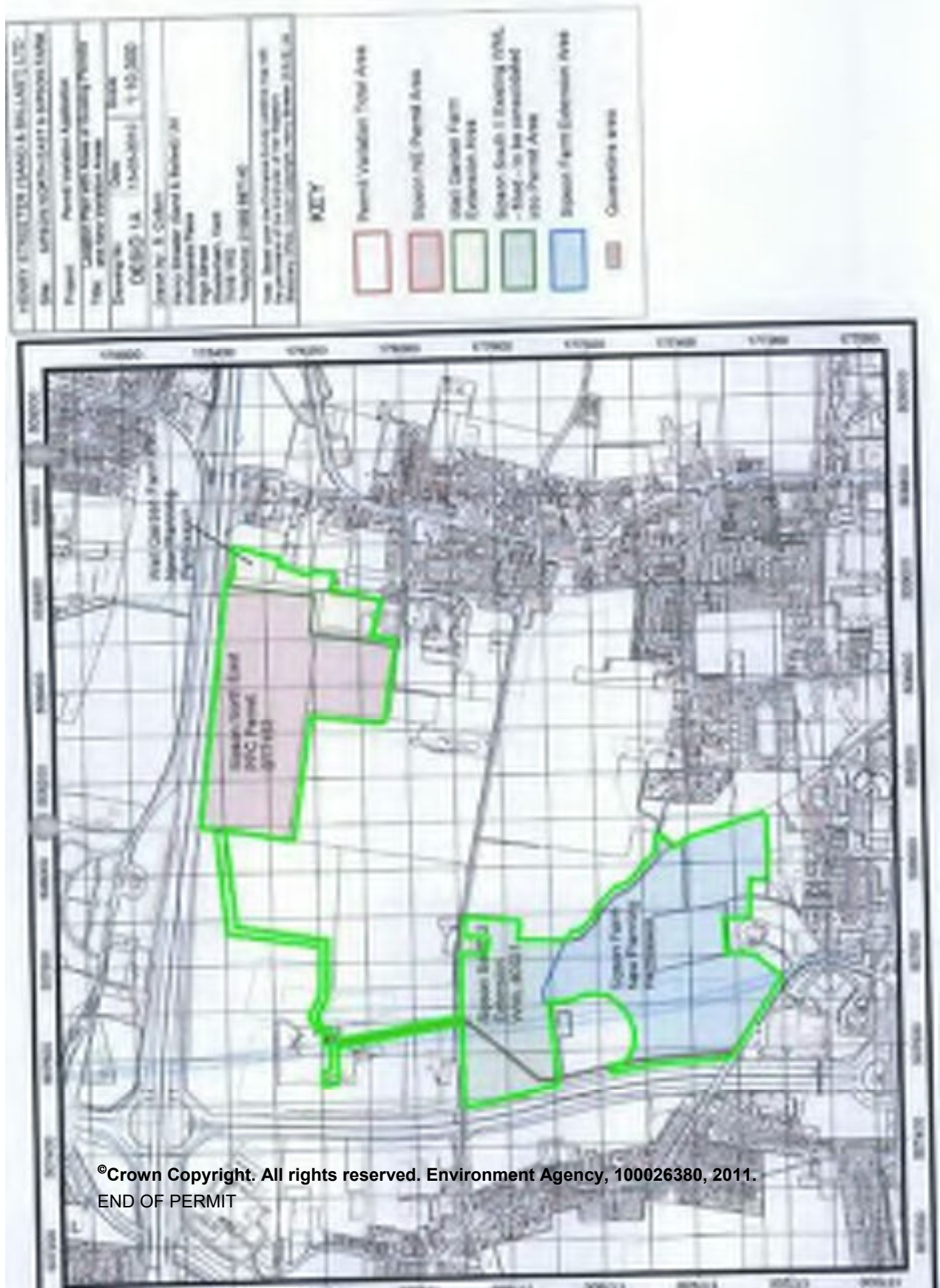
“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“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.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than the limit.

“year” means calendar year ending 31 December.

Schedule 7 - Site plan



Operator: [Operator name]

Form Number: Groundwater1 / DD/MM/YY

Reporting of groundwater monitoring for the period from DD/MM/YYYY to DD/MM/YYYY

[illegible]

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

The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed Date.....
(Authorised to sign as representative of Operator)

Operator: [Operator name]

Form Number: LFG1 / DD/MM/YY

Reporting of landfill gas monitoring for the period from DD/MM/YYYY to DD/MM/YYYY

[illegible]

The result given is 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, the result is given as the 'minimum – maximum' measured values.

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

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

The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Date.....

APPENDIX E – ASBESTOS MANAGEMENT PLAN

Asbestos Management Plan

101212/ R001

Vistry Group

Asbestos Management Plan Emmbrook, Wokingham February 2024

Project Quality Assurance Information Sheet

Report Type : Asbestos Management Plan

Site Location : Emmbrook, Wokingham

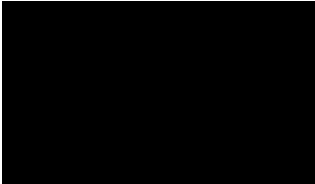
Report Number : 101212

Report Status : R001

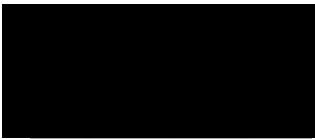
Report Date : 15th February 2024

Prepared for : Vistry Group

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David Harman
Director, Risk Management

This report is produced solely for the use of Vistry Group and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

Provectus reserve the right to amend the conclusions and recommendations contained in this report in the light of any further or more detailed information that may become available.

All recommendations made are subject to any relevant statutory regulations in force concerning design methods and safe construction practice.

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1 INTRODUCTION

1.1 Background

Provectus Remediation Limited (Provectus) has been appointed by Vistry Group Ltd (VG) to prepare an Asbestos Management Plan (AMP) for their development site at Emmbrook, Wokingham. The overall objective of the project is to achieve regulatory approvals of the remediation and to deliver an earthworks formation platform to enable VG to redevelop the site. To ensure risks relating to asbestos are appropriately managed, controls are detailed within this Asbestos Management Plan (AMP). The AMP is required to support the development of Emmbrook, Final Lot.

This AMP provides a summary of the asbestos contamination identified at the site, with the following sections detailing the roles and responsibilities of the project team. Provectus produced a Remediation Plan (15/02/24 letter to local Planning Authority, ref 101212/L102/EHO) documenting mitigation measures relating to soils contamination issues on the final Lot.

This AMP is intended to provide health and safety guidance, highlight constraints on the works and detail the subsequent management of potentially asbestos containing material. The AMP provides guidance on complete task specific risk assessments and working plans, and control measures. This document will ensure that safe systems of work are implemented by Provectus and our appointed sub-contractors in line with the Control of Asbestos Regulations 2012 (CAR) and in accordance with best practice including CIRIA Report C733 Asbestos in Soils and Made Ground and JIWG CAR Soil Guidance 2016.

As a matter of good practice and to limit the potential risk associated with windblown asbestos fibres, the generation of dust during development earthworks should be kept to a minimum by damping down work areas during dry periods.

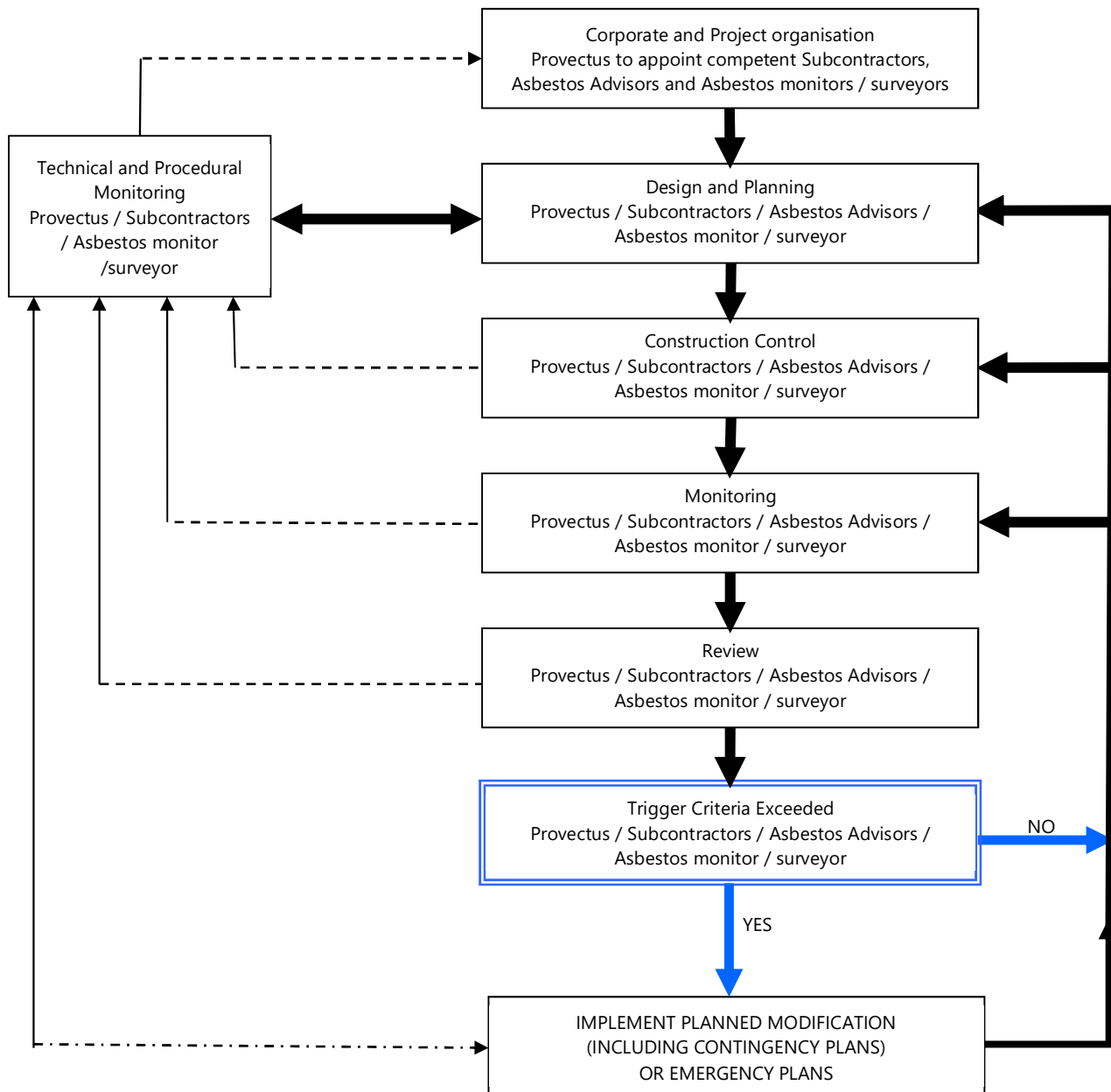
This document is a live document and will be reviewed during the works and updated to ensure a safe, managed approach to working with materials containing asbestos.

The scope of this AMP is limited to those activities undertaken by Provectus and our appointed sub-contractors. Provectus has been appointed to undertake earthworks including excavation/processing/treatment of materials with the potential to contain asbestos fibres and fragments of Asbestos Containing Materials (ACMs). Provectus will maintain a watching brief of our activities on site.

1.2 Proposed Management Strategy

Provectus will manage potential asbestos risks associated with asbestos in soils during remediation and earthworks through design, control, compliance monitoring and review. An outline strategy indicating the proposed planning and management process is presented in Figure 1 below.

Figure 1 Proposed Asbestos Management Strategy



2 SUMMARY OF THE SITE

2.1 Site Location

The works will be carried out at the Emmbrook Place residential development, Wokingham. For the purposes of this document the site is referred to as "Final Lot".

The site address is: Emmbrook Place, Trinder Rd, Wokingham RG41 1BN

2.2 Site Description

The subject site is located on Emmbrook Place, Trinder Rd, Wokingham. The National Grid Reference for the site is 480515 , 169937. A Location Plan and Subject Site boundary is presented in **Appendix A**. The site covers an area of approximately 0.75 hectares. The area is within the jurisdiction of Wokingham Borough Council.

2.3 Proposed Development

The site is subject to remediation works being implemented prior to being prepared for redevelopment for Residential land use. The proposed Residential development is a combination of hard cover and soft cover so risks to human health are expected to be low and managed by stringent remediation targets and an appropriate cover solution in soft landscaped areas.

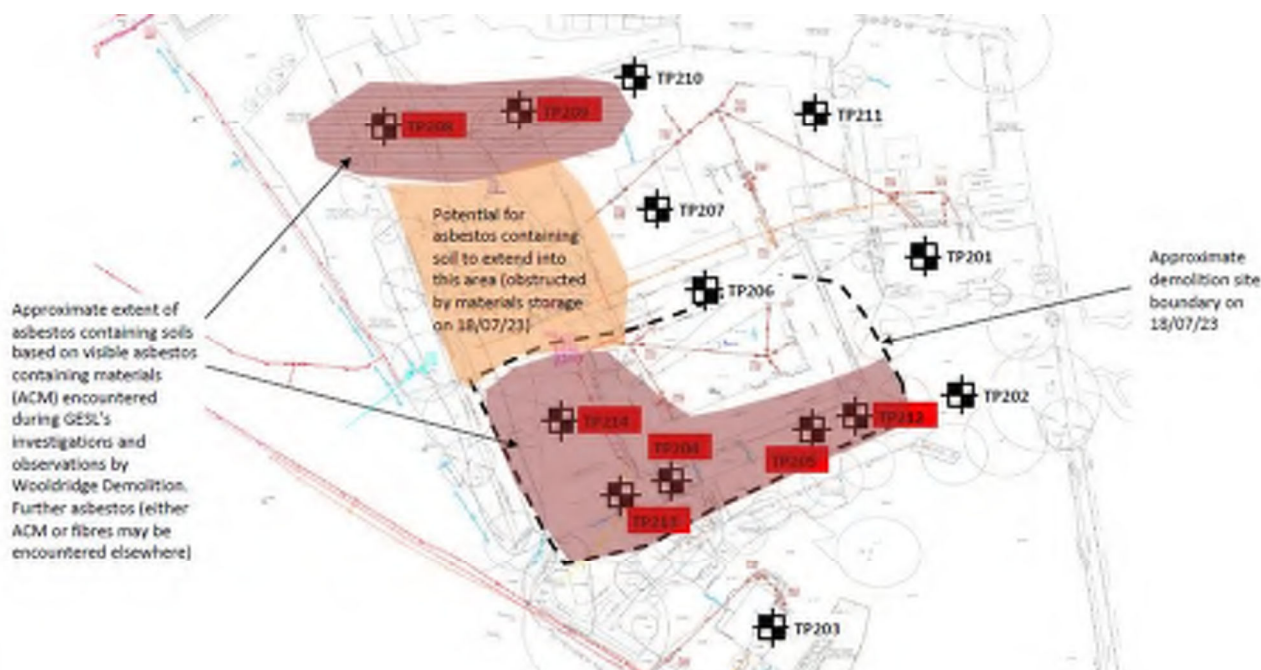
2.4 Site History

The site is currently bordered to the west, north, and east by the newly completed or soon-to-be-completed Emmbrook Place development, with Mathewsgreen Road marking its southern boundary. Some of the residences are situated within the Emmbrook Place development. Additionally, there are residences located south of Mathewsgreen Road.

Historically, the broader site consists of arable and pasture land, featuring fields with both internal and external hedged boundaries. Notably, the subject site was previously occupied by Matthewsgreen Farm, which was demolished as part of the Emmbrook Place development

2.5 Summary of Asbestos Contamination

With reference to asbestos only, a Geo-Environmental Site Investigation, Report Ref: GE19507-GIRv2.0-AUG22, GE19507-GIRv3.0-Jan24 was undertaken by Geo-Environmental. In summary, the following soil samples recorded asbestos at shallow depth within the Made Ground, plus across the ground surface. In addition, 2023 reporting from Geo-Environmental (GE20647 extracts, trial pit logs, test results) also indicated



Extract from Geo-Environmental (GE20647).

Table 1. Summary of Asbestos.

Location	Depth (m bgl)	Type	Aspect	Concentration (%w/w)
Sitewide	surface	Chrysotile	Cement	Visible fragments
SP101	0.2	Chrysotile	Cement	0.624%
TP208, TP209, TP214	GL to up to 0.8	Geo-Environmental suspect ACM	Cement	Visible fragments,
TP204, TP205	0.6, up to 0.7	Chrysotile	Loose fibres	<0.001
TP212	0.5	Geo-Environmental suspect ACM	Cement	Visible fragments
TP213	0.5	Chrysotile and amosite	Loose fibres and cement	0.951%

2.6 Scope of Works/Programme

For the purposes of the Asbestos Management Plan and subject to the approved Remediation Strategy and Materials Management Plan an outline of the scope of works is as follows:

- Excavation of made ground containing fragments of cement bound Asbestos for treatment and reuse on site (where cut and fill earthworks balances, and logistical constraints allow);
- Onsite treatment or disposal of soils to ensure compliance with the Approved Remediation Design Statement.

It should be noted that the above scope of works is not exhaustive, and any works undertaken on site prior to the remediation being completed and / or below the capping layer once the remediation has been completed should refer to this document. A site plan showing the key work areas is provided in this report as Appendix A.

2.7 Limitations

This AMP is based on information gained during intrusive ground investigations by Geo-Environmental and a walkover survey by Provectus. It should be noted that not all the investigation locations were tested for the presence of Asbestos and therefore asbestos bearing soils may be present elsewhere on site.

This AMP aims to identify and minimise the risks posed during the ground disturbance works undertaken as part of the earthworks activities on site.

This AMP addresses the safe handling and management of the site materials with respect to asbestos risk only. This scope of this AMP **does not** include any works which would be classified as Licensed by the Health and Safety Executive. Should site conditions change or additional information become available, then the control measures detailed within this AMP should be reviewed.

3 ROLES AND RESPONSIBILITIES

Provectus regard asbestos management of the works as a key aspect of the remediation and earthworks scheme. Before starting any work that is likely to disturb asbestos, a suitable and sufficient risk assessment and plan of works must be arranged by Provectus.

Provectus will seek to ensure that whomever carries out and reviews the plan of works and risk assessment is competent and has sufficient knowledge, training and expertise to complete the task. Provectus will ensure that enough time is allowed to put appropriate control measures in place before the works start.

All staff and subcontractors have a responsibility to ensure that the measures detailed in this AMP are implemented during the works and demonstrate compliance with the requirements of relevant environmental and health and safety legislation.

All works should be undertaken in such a way to ensure a safe environment is maintained for site staff and offsite receptors.

3.1 Management Review

This AMP is a live document and will be reviewed during the site works as required. It is anticipated that the plan would be updated should there be:

- Changes to the schedule of works;
- Changes in materials identified during the works/updated information;
- Changes in weather conditions i.e. prolonged periods of dry weather;
- Any changes made to the Master plan by the client's project team;
- Comments from the regulators or other stakeholders; and
- Changes in legislation.
- Results of onsite Air Monitoring

The risk of asbestos fibre release from soils during earthworks/remediation works will be reviewed at key stages of the works and / or when the working activities change. The review will include an assessment of the level of control measures required including, both engineering and PPE/RPE.

The resources required for individual tasks will be reviewed throughout the duration of the works with appropriate additional resource utilised as needed.

3.2 Risk Assessment of works – CAR 2012 compliance with Regulation 6

Prior to undertaking site works Provectus will ensure that a suitable risk assessment for each specified activity is completed.

The risk assessment will include:

- Description of work including time and duration;
- Type quantity and condition of ACMs likely to be encountered;
- Steps to reduce the exposure to the lowest level reasonably practicable;
- The reasons for the chosen work methods;
- Steps taken to control the release of asbestos into the environment;
- Details of the expected exposure period and number of people affected;
- Details on the type and use of RPE and PPE;
- Details of decontamination procedures;
- Procedures for waste packaging and removal;
- Emergency Action Plan;
- Quarantine Procedure should unforeseen ACM materials be encountered;
- Other info relating to site working.

The risk assessments will be reviewed regularly and revised to reflect changes to work activities and site monitoring. The task specific risk assessment will be undertaken by competent persons i.e. NNLW training for NNLW works, additional support / review of the plan of works may be provided by Provectus and or Sure Environmental as required.

3.3 Plans of Works – CAR 2012 compliance with Regulation 7

Before commencing any work on asbestos containing materials (ACMs) Provectus will ensure that a short plan of works is prepared (method statement).

The plan of works will include the following:

- what the work is, and how long it is likely to last;
- when the work will be done;
- the procedures to follow to reduce exposure and prevent the spread of asbestos,
- the order the control measures will be implemented
- the plant and equipment needed,
- PPE and RPE requirements;
- decontamination procedures and waste disposal arrangements;
- emergency procedures.

The plan of works will be reviewed regularly and revised to reflect changes to work activities and site monitoring. The plan of works will be undertaken by competent persons i.e. NNLW training for NNLW works, additional support / review of the plan of works may be provided by Provectus and or Provectus as required.

3.4 Licensing of Works with Asbestos – CAR 2012 compliance with Regulation 8

This AMP does not detail control measures required for Licensed works. Any work on licensed asbestos products will be undertaken by a Licensed Asbestos Removal Contractor (LARC) with the appropriate plan of works and notification.

Based on the records currently available, the proposed works are not 'Licensed' under CAR 2012, nor are they 'Notifiable, Non-Licensed Works'.

3.5 Notification of Works – CAR 2012 compliance with Regulation 9

The scope of works detailed within this Asbestos Management Plan is limited to **Non Licensed Works** (NLW) and **Notifiable Non Licensed Works** (NNLW).

Based on the records currently available, and the JIWG DST Work category assessment, the proposed works are not 'Licensed' under CAR 2012, nor are they 'Notifiable, Non-Licensed Works'.

The JIWG DST Work Category Risk assessment is included as Appendix C. The assessment is based on a reasonable 'worst case' scenario, based on asbestos containing material reported in the previous site investigations. The output of the JIWG DST Work Category Risk assessment recommends localised dust suppression, localised and enhanced personal decontamination facilities, and respiratory protection to EN140 with a P3 filter half mask.

3.6 Reassurance Air Monitoring

Details of respirable fibre air monitoring including asbestos are presented in Section 9.

4 CONSTRUCTION MANAGEMENT

The proposed works and potential impacts have been reviewed by Provectus in order to determine appropriate asbestos management and monitoring procedures.

4.1 Site Layout

The site layout plan will be displayed on the site notice board and reference to this plan will be made Provectus at all site inductions.

4.2 Security and Site Access

Site access will be controlled by Provectus, the site will be securely fenced and monitored by Provectus. Appropriate prohibition and warning signs are displayed on the site boundary fencing.

4.3 Site Segregation and Signage

Should asbestos be encountered during works, the areas will be fenced by Provectus to prevent unauthorised access. The fencing will be continuous and signed around all working areas / excavations where there is a potential for ACMs to be present. Access and egress into the work area for personnel will be via the changing facilities as detailed in Section 5.

The signage on the fencing and entrance to the work area will carry the following information:

- Relevant contact details for the Principal Contractor (Provectus) site management team, including sub contractor site management;
- Details of the required PPE/RPE to be worn when entering the work area;
- Prohibition notices warning that access can only be made by authorised personnel.

4.4 Designation of Clean areas and construction phase

Placement of materials must be in accordance with the approved Remediation Strategy and MMP for the site. A site plan depicting the asbestos control zone will be drawn up should asbestos be encountered on site.

5 ASBESTOS WORKS SPECIFIC INDUCTION/TRAINING – CAR 2012 COMPLIANCE WITH REGULATION 10

5.1 Site Induction

All staff and visitors will be required to attend a site induction by Provectus, the site induction will include an overview of the asbestos risks on site and outline the training levels required by operatives / subcontractors to undertake their works on site.

All environmental issues relating to this site will be clearly outlined and all operatives / subcontractors will be required to demonstrate a level of understanding appropriate to their roles and responsibilities.

The site induction will include information on the following which will be contained within the Risk Assessments and Method Statements for the tasks to be undertaken:

- Risks associated with asbestos and general asbestos awareness training;
- Overview of historical asbestos information;
- Overview of the works required and measures implemented across the site to manage the risk;
- How to identify potential Asbestos Containing Material within the ground;
- Controls and notifications to be followed when visible ACM is identified;
- Nature of operations which could result in exposure to ACM;
- Spill prevention and contamination reduction techniques;
- Establishing control zones, methodology of excavation including wetting down of material's and emergency decontamination facilities;
- Training in the selection, use and wearing of the required PPE;
- Responsibilities of technical support and monitoring;
- Standard operations and procedures including Safe Systems of Work;
- Emergency procedures including reporting of incidents;
- Equipment and plant decontamination procedures; and
- Vehicular movement controls

5.2 Training Requirements

All persons working on the site will be a minimum of Asbestos Awareness (AA) Trained (UKATA Cat A / IATP AA) and have received the site induction. Asbestos Awareness training, would be appropriate for visitors to site and plant operators under the direction of trained non-licensed works supervisors.

Supervisory staff and all persons undertaking Notifiable Non-Licensed Works (NNLW) will be as a minimum NNLW trained (UKATA Cat B / IATP NLW) have an in date Asbestos Medical and received the site induction. This level of competence would be appropriate for the person preparing the Plan of Works and Risk Assessment, ACM Monitor and works supervisor.

However, based on the records to date, the conditions are non-licensed under CAR and not notifiable; this will be kept under review as the works progress.

All training is to be current and copies of certificates are to be retained on site. In addition to the above health surveillance screening may be required in accordance with CAR 2012.

5.3 Daily Safety Meetings

Provectus will communicate site safety information via the site hazard board prior to commencing works.

In addition weekly safety meetings will be attended by supervisors from all parties on site involved in the works to ensure no health and safety conflicts due to activities could arise. A positive safety culture for the site will be encouraged.

Prior to work starting each day the following topics will be discussed as a minimum:

- Establishment of specific work zones for each day's activities;
- Prevailing weather conditions;
- Neighbouring activities;
- Safe transit routes and correct site access procedures;
- Equipment mobilisation and planned movements;
- Environmental emission controls of dust, particulates or fibres;
- Identification of utilities which could potentially affect any works, both above and below ground;
- Checks to perimeter fencing and site security.

A Provectus appointed Health and Safety manager will attend the site regularly and ensure procedures are being followed and hazard spots are being followed up and rectified.

6 SITE ESTABLISHMENT AND GENERAL HEALTH AND SAFETY REQUIREMENTS – CAR 2012 COMPLIANCE WITH REGULATION 23

6.1 Site Set-Up & Compound Welfare Facilities

Suitable welfare facilities will be provided by the Principal Contractor prior to works commencing.

The Principal Contractor will ensure maintenance and cleanliness of the decontamination / welfare facilities.

Welfare facilities comprise:

- Site compound to be segregated by suitable fencing from the work areas.
- Drying room and decontamination area complete with boot wash, mirror and suitable disposal facilities for contaminated PPE;
- Canteen/ welfare unit, with hand-washing facilities, first aid and eye wash;
- Toilet block with hand-washing facilities;
- All working areas to be delineated by marked fencing on site and adequately signed with site rules/restrictions.

Welfare Unit/ Decontamination facilities - Required for>NNLW Works

Whilst current recorded conditions are non-licensed and non-notifiable, we will nevertheless adopt>NNLW level of control measures for welfare and decontamination, such that if unexpected conditions arise, we have adequate control measures in place.

Changing facilities will be provided to allow adequate decontamination facilities for personnel exiting the work area, this unit will:

- Have a clean area, cleaning area and dirty area;
- Contain a mirror, hand washing facilities which allow the thorough washing of hands and forearms with mixer taps which can be operated by elbows or feet;
- Contain designated storage areas for PPE and RPE and for the collection of used PPE prior to disposal;
- Contain a boot washing facility for the use of all site personnel and visitors at the (work area side) entrance to the unit;
- Be of a suitable size for the number of persons involved in the works;
- Clearly marked ingress/egress routes from clean areas/control zone.

7 PPE AND RPE FOR ASBESTOS WORKS AND DECONTAMINATION PROCEDURE – CAR 2012 COMPLIANCE WITH REGULATION 14 - CONTROLLED WORK AREA

The Principal Contactor will ensure that before starting any work that is likely to disturb asbestos, all control measures including PPE / RPE and decontamination facilities are in place. Provectus are responsible for ensuring that the measures are adhered to and that all protective clothing is stored and disposed of correctly.

The chemical analysis undertaken by Geo-Environmental has confirmed the presence of asbestos fibres and ACMs in the soil matrix within the working areas, see summary results contained in Appendix B.

With appropriate control measures the risk of exposure to asbestos fibres is considered to be very low. However, to ensure suitable protection of site workers the required level of PPE/RPE will be assessed on a task specific basis. As required the Risk Assessment will be updated to reflect changes in site circumstances or new work activities.

All persons working on the site are required to wear appropriate PPE (subject to Asbestos Risk Assessment/control level) and will be informed of its correct usage and its limitations. The objective of the works is to minimise the potential exposure to asbestos fibres by minimising persons on site outside of closed cab machines.

The PPE/RPE requirements are detailed in Table 1 below, two levels of PPE requirements are proposed, in this case, only Level 1 PPE is required for works in the Front Lot. However, should asbestos containing material be encountered during works, upon review, may become>NNLW, then Level 2 protection will apply. The principal contractor will provide Level 2 PPE in preparation for the scenario where asbestos containing material is encountered on site. The requirements are detailed in Table 1 below.

Table 1: PPE/RPE Requirements – For the current works and potential>NNLW Works

Level 1 – PPE Requirements	Level 2 –PPE Requirements
All operatives working in covered plant (Excludes walking to plant compound from welfare along designated clean route)	All operatives working in direct contact with the contaminated material/not in a closed Cab e.g. hand picking ACMs from soils. Applicable during periods of dry weather with increased potential for fugitive dust emissions.
• Hard hat; • Work gloves*; • Hi-visibility vest; • Appropriate protective footwear e.g. Wellingtons/non-lace boots with insole / toe protection • Disposable protective hooded suit, Cat 3 Type 5, suit legs must be over/on the outside of the boots and taped down to the boots.	• Hard hat; • Half-face fitted mask rated protection FFP3; • Disposable protective hooded suit, Cat 3 Type 5, suit legs must be over/on the outside of the boots and taped down to the boots. • Work gloves, to protect against cuts*; • Wellingtons/non-lace boots with insole/toe protection.

The Provectus appointed site supervisor must regularly inspect all site operatives within the work area to ensure they continue to be adequately protected by the PPE / RPE during all work elements, any damaged or defective PPE / RPE must be replaced immediately within the decontamination area.

To ensure correct fitment of RPE qualitative face fit testing will be undertaken for all persons required to wear RPE. Daily inspection records of RPE will be maintained on site. Details of the inspection templates are included as Appendix D.

- * Light eye protection, work gloves and other PPE requirement to be based on task specific assessment. Where laced boots are worn laces must be covered with tape to facilitate cleaning.

For>NNLW and subject to risk assessment it is proposed that plant operators within enclosed cabs fitted with a Type H filter would wear Level 1 PPE. To exit the work area plant would traffic to a designated clean compound area (outside the work area and adjacent to the decontamination unit). A clean transit route from the plant compound to the decontamination facilities would be maintained. All plant operators would wash boots using the boot wash and change footwear prior to exiting the clean side of the decontamination facilities.

Any deviation from the above methodology will require Level 2 PPE requirements. A detailed site plan of which areas require level 1 PPE and Level 2/3 PPE will be prepared and displayed on the site notice board. This will include any designated clean routes to and from the working area. The plan will be updated as works progress and areas of the site are verified as free from asbestos fibres/clean cover system in place.

7.1 Decontamination procedure

The decontamination/changing area will be provided at the entrance/exit to the works area. The PPE/RPE Requirements are detailed in Table 1 above.

The procedure to be followed is outlined below:

Level one

- Clean boots using boot wash at the outside of works area/entrance to the decontamination facilities;
- Clean (non site) footwear to be worn when exiting the decontamination facilities Area on the clean side.

Level two

- Clean boots using boot wash at the outside of works area/entrance to the decontamination facilities;
- Clean Coveralls with damp rags with a patting action;
- Peel disposable overalls (inside out) and place in asbestos waste bag (Red);
- Remove RPE and rinse out and dry with a clean cloth and place in storage box/holster
- All cleaning materials to be disposed of as asbestos waste;
- Clean (non site) foot ware to be worn when exiting the decontamination facilities Area on the clean side.

8 INCIDENT RESPONSE PLAN – CAR 2012 COMPLIANCE WITH REGULATION 15

In order to reduce or eliminate potential spillage incidents involving impacted soils/ACMs the following procedures will be followed:

- All materials transported will follow designated routes and remain within the work area where practical;
- Materials to be transported across the wider site will follow designated transport routes in accordance with the controls detailed in Section 8;
- Dust levels will be monitored and the production of dust controlled as detailed in section 9 and;
- Upon encountering previously unidentified ACM the decision flowchart produced by the HSE (Appendix C) will be followed along with guidance from the site based Asbestos Monitor. As required additional advice will be sought from Provectus/ Licensed Asbestos Removal Contractor. Works in the area will cease and Site Management will be consulted to determine appropriate actions, this includes all licensed asbestos works.

8.1 Emergencies and Unforeseen Disturbances of Asbestos

Responses to emergencies and first aid will be in accordance with the PRL Construction Phase Site Health and Safety Plan.

Should an unknown quantity or type of asbestos and or other potentially harmful material be discovered on site that has not been appropriately risked assessed all works will cease pending review by the competent site supervisor. In this scenario there may be a requirement to increase control measures and change in working practices. As a minimum all personnel within the affected area must:

- Walk immediately away from the area to an upwind location without going through the affected area.
- Not attempt to recover machinery or plant until it is safe to do so.
- The affected area will wetted down if required under instruction and covered if required.
- The area will also be fenced off and clearly signed for no entry.
- The affected area may only be entered once a competent and qualified person has undertaken an appropriate risk assessment for the control and handling of the material.
- If required samples of the suspected ACM will be recovered by Provectus;
- Should there be concern that operatives have been exposed to contamination they should follow the decontamination procedure detailed below.
- Provectus site management to be informed to confirm next actions.

Should a spillage of soil from the working area occur outside of the work area the following steps will be followed;

- Halt any traffic and personnel movements in the area of the spillage to prevent further spreading/exposure of the contamination;
- The ACM Monitor and if required the LARC will assess the size and extent of the spillage and determine the best course of action to remove the contamination in the safest and most thorough way;
- Details of the spillage will be recorded with a photographic record of the remediation taken.

8.2 Asbestos Decontamination Procedure following suspected accidental exposure.

Assumes exposed persons are wearing type 5 coveralls and RPE. Should site personnel discover what is believed to be asbestos during the works, they must stop all works and proceed immediately to the welfare unit/drying room and undertake the following steps:

- Clean boots using boot wash at the outside of works area;
- Clean Coveralls with damp rags with a patting action, place used rags in asbestos waste bag (Red);
- Peel off disposable overalls and gloves (inside out) and place in asbestos waste bag (Red);
- Remove RPE and rinse out and dry with a clean cloth and place in storage box/holster;
- Place red bag in a second clear bag and place in bin provided, all waste PPE and cleaning materials to be disposed of as asbestos waste.
- Inform Provectus Site Management.

The incident will be reviewed and if exposure has occurred and it is confirmed that asbestos fibres have been released and workers exposed to this in an uncontrolled manner, it will be reported to the HSE under the Reporting of Injuries, Diseases and Dangerous Occurrences (RIDDOR) Regulations, as a dangerous occurrence. This would be classed as 'accidental release of any substance that may damage health'.

8.3 Sampling of suspect ACM

If required samples of the suspected ACM will be recovered by a suitably trained analyst.

8.4 Licensed Works

Where Licensable work with Asbestos is required a Licensed Asbestos Removal Contractor (LARC) will be appointed. The LARC will undertake works to ensure compliance with CAR 2012 including the notification of works under ASB5 (at least 14 days prior to undertaking licensable works) and production of a suitable and sufficient plan of works.

9 MANAGEMENT OF SOILS - CAR 2012 COMPLIANCE WITH REGULATION 11, 12, 13, 16 AND 17 – CONTROLLED WORK AREA

9.1 Planned Soil Disturbance Activities

The potential for risks to human health exist on all construction sites, these risks can affect anyone, be they directly or indirectly involved in the processes occurring on site as a result the following work methods will be implemented to reduce any risks arising from the development works, with particular attention paid to potential release of airborne asbestos fibres from soil.

9.2 Permit to Work

Provectus will work to a Permit to Work system which will reduce the risk of uncontrolled exposure to asbestos containing soils and ensure the following:

- No soil disturbance works will be undertaken prior to being issued with a Permit to Break ground;
- The permit can only be issued by authorised Provectus staff;
- The permit will identify the working arrangements for each particular task once the potential risk has been thoroughly assessed.

9.3 Supervision and Labour

Due to the nature of the site and identified asbestos present within the soils, all excavation works will be supervised by competent CAT B trained Asbestos supervisors including the Asbestos Monitor. The minimum training/competency requirements for all personnel on site are specified in Section 5.2.

9.4 Prevention of Physical Spreading of Contaminated Soils/Decontamination of plant

Traffic movements have the potential to mobilise ACMs on the site and during offsite disposal. The following mitigation measures will be implemented to control the potential mobilisation of ACMs:

- Where possible all traffic (including 'yellow plant') will remain within the controlled work area throughout the duration of the works;
- Should any plant be required to leave the designated work area they must be thoroughly cleaned (using a jet wash) and inspected by the Asbestos Monitor/competent person prior to leaving the work area;
- Where soils are being transferred using a dumper or road wagon the vehicle will be inspected prior to leaving the work area to ensure loose debris is not discharged. All road going wagons will be sheeted prior to leaving the site.;
- Suitable and appropriate signage will ensure that site traffic is correctly directed and informed;
- On-site speed limits of 10mph;
- Haul roads will be inspected throughout the day and dust suppression used as required;
- For further information on the site wide controls on the movement of traffic reference should be made to the site specific Traffic Management Plan.

9.5 Inspection and control of Transit Routes

Visual inspection of transit routes will be undertaken throughout the day by the Asbestos Monitor. All operatives will be briefed on what to look out for and required to report spillages. Where vehicle movements are required

into/out of the asbestos controlled zone i.e. for clean import or disposal a "clean" access route will be prepared. This will comprise of a designated route (as per traffic management plan) and the running surface will be hard standing/clean cover over any asbestos impacted soils. The interaction between the "clean" access route and controlled working area will be managed to ensure there is no cross contamination. All plant/vehicles deviating from the "clean" access route will be required to follow the decontamination procedure detailed in Section 8.2.

9.6 Dust /Fibre Emissions Control Measures

Dust generated during soil disturbance activities presents a potential impact to air quality. Soils contaminated with ACM's present a greater risk due to the potential for fibre release posing a threat to human health and the environment as a result the following will be observed during the works:

Dust and fibre emission controls are critical elements in the management of impacted soils, the type of emission controls are job specific and will be appropriate to the required level of control;

Potential dust/fibre emissions from soils will be mitigated by the application of water (using a water bowser with spray bar and / or cannon mister). This will include the use of tractors and dust bowsers on haul roads and misting spays in and around excavation and processing areas. Ensuring materials are suitably wetted prior to excavation or processing is critical for dust/fibre control.

Further mitigation measures which will be deployed as required include: stabilising agents or by covering/enclosing the soils with impermeable cover material.

9.7 Horizontal and Vertical Extent of Excavation

To minimise potential exposure to contaminants only soils which are required to be disturbed as part of the specification of the works will be removed and appropriately managed.

9.8 Soil Disturbance Techniques

Soil disturbance activities will be conducted in a manner which minimises soil handling in order to reduce as far as reasonably practicable any potential asbestos fibre release and dust emissions.

Specific Control Measures for soils movement include:

- Potential dust/fibre emissions from soils will be mitigated by the application of water (using a water bowser and misting spays), stabilising agents or by covering/enclosing the soils with impermeable cover material.
- All persons to undertake excavation work in closed cabin excavators fitted with Type H filters;
- Restrict/minimise site access to any foot traffic on site, all foot traffic to be authorised persons only via the decontamination facilities;
- Excavators to not over fill buckets and dumper/wagon bodies to avoid material spilling out.
- Where possible designated "clean" loading areas should be maintained.
- All plant to be cleaned and inspected prior to leaving a contaminated work area.

9.9 Storm and Surface Water Run Off Management

The Principal Contractor will consider how dust suppression water, storm water and / or surface water run-off will be managed within the works area to prevent the spread to clean areas. Further details for each working area will be included within the task specific plan of works and risk assessment.

10 AIR MONITORING – CAR 2012 COMPLIANCE WITH REGULATION 19

10.1 Ambient Air Monitoring - Respirable Fibres including Asbestos

When working in areas or known or suspected asbestos fibres, Provectus will appoint an independent certified analyst (UKAS) to carry out ambient air monitoring and personal monitoring for the presence of airborne asbestos fibres. Asbestos air monitoring will be undertaken in accordance with HSG 248 Asbestos: The analysts' guide for sampling, analysis and clearance procedures. On site analysis of asbestos fibres will be undertaken to ensure information is available in a timely manner.

During the excavation/disturbance works of asbestos contaminated soils a comprehensive asbestos fibre specific air monitoring regime will be implemented as detailed below.

- Confirmation that the RPE chosen is appropriate for the tasks undertaken
- Confirmation that the appropriate control limit and or WEL is not exceeded
- Check the validity and effectiveness of the control measures implemented

Air samples are to be collected inside each disturbance area. These will be made up of static asbestos monitoring stations placed in close proximity and be representative of the works atmosphere and personal air monitoring;

Perimeter static air monitoring will take place to give background readings, these will be placed around the works area including up and down wind, with targeted monitoring in any areas where human occupation is taking place, walkways/offices/offsite residents/adjacent to receptors etc. The location of the air monitoring points will be discussed with the analyst on site to ensure a representative sample is obtained.

In all cases the monitoring equipment will be placed to capture the worst-case emissions during a particular activity;

Frequent and random static air monitoring will be conducted along the designated transit routes, in addition to personal air monitoring for the operatives involved with the transport of asbestos contaminated soils;

Exposure measurements will be retained to validate the risk assessment which does not currently anticipate exposure levels to exceed the clearance indicator level of $<0.01\text{f}/\text{cm}^3$ for static samples, and all personal samples should be below the lowest detectable level.

Site wide perimeter environmental monitoring will be undertaken in accordance with the Provectus Environmental Management Plan.

Static air monitoring will be carried out within the site cabins and welfare facilities to ensure asbestos contamination has not spread via site footwear or other means. This will be undertaken a minimum of weekly for the duration of the works.

Copies of all calibration certificates and equipment serial numbers will be audited and recorded.

The above strategy can be revised based on the results obtained during the air monitoring. In the event that an unacceptable elevated reading is detected all asbestos related works on site will cease until further investigations have been conducted and the Site Manager and Asbestos Manager provide clearance for the works to recommence

In addition to a combination of instrument monitoring and laboratory testing (as above), visual assessment will also be required to ensure general and specific site works are being undertaken appropriately and not giving rise to fugitive dust emissions. Site monitoring locations are presented in Provectus EMP.

10.2 Air Monitoring Frequency

Monitoring will be reviewed throughout the works and may be subject to change. It is initially proposed to undertake monitoring at the following intervals:

- Once per week during general soils excavation works;
- Frequency will be increased to daily for higher risk activities i.e. excavation of soils with an asbestos fibre concentration greater than 0.1% w/w.

10.3 Weather Monitoring

Information obtained from a weather station will be used to collate weather data for the site.

Weather parameters which are likely to affect fibre release from within the site will be recorded. This data will be used to understand the implications for fugitive dust and particulate matter emissions. These parameters include:

- Rainfall
- Temperature;
- Humidity;
- Wind Speed and Direction

General weather observations and visual assessments of the air quality will be recorded on a daily basis during the remediation works. Site observations will be recorded alongside the monitoring results. All air monitoring records will be retained on site.

11 SITE RECORDS - CONTROLLED

The ACM Monitor is responsible for ensuring accurate time and exposure records are maintained for all personnel entering the controlled work area. A sign in record sheet will be positioned within the decontamination facilities to allow all personnel to sign in and out of the work area. An example of the time and exposure record is included in Appendix D.

All RPE will be maintained and inspected by a competent person prior to each use and with a thorough monthly inspection in accordance with HSG 43. Records of inspections will be maintained. An example of the record form is included in Appendix D.

The following records will be maintained by Provectus/Earthworks Contractors throughout the works.

- Daily site activity log;
- Materials Tracking Sheet completed during all excavation and disposal operations;
- Environmental Monitoring information;
- Excavation inspections register;
- Copies of all waste transfer/consignment notes;
- Photographic record of works.
- Record of operative's exposure times

On completion of works the following information will be compiled by Provectus for inclusion within the site validation report:

- Summary of works completed, excavation extents, materials audit showing areas of reinstated materials, and as built information;
- As built topographical survey of completed site formation;
- Environmental Monitoring records;
- Records of reassurance asbestos air monitoring;
- Photographic works record;
- Copies of all waste transfer/consignment notes;
- Validation chemical analysis for reinstated soils;
- Results of chemical analysis for waste classification and imported materials;
- Details of any unexpected conditions encountered and mitigation measures.

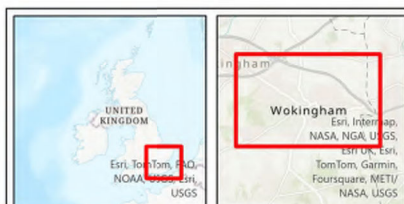
12 WASTE AND MATERIALS: CAR 2012 COMPLIANCE WITH REGULATION 24

12.1 Asbestos Waste Storage and Handling

Where asbestos waste is generated during the works (including Asbestos PPE) it will be stored and disposed of in accordance with current legislation. Provectus will ensure as a minimum that:

- Asbestos designated skips are in good condition (no holes to the atmosphere);
- Skips are stored on an area of hard-standing or on a suitably prepared area;
- Appropriate signage and warnings are displayed on the skips along with fencing to prevent unauthorised access to the waste storage area;
- All skips will be have lockable secure covers and will remain locked at all times when not in direct use;
- All asbestos waste collected will be double bagged in UN approved and labelled asbestos waste sacks (Red inner and clear outer);
- Bagged asbestos waste will be stored securely in the locked asbestos skips prior to removal from site by a licenced asbestos carrier and to certified licenced disposal facility under hazardous waste duty of care paperwork;
- Any suspect ACM samples taken for chemical laboratory analysis will be treated as asbestos until proved otherwise;
- Prior to offsite disposal of soils appropriate waste classification and (if required) Waste Acceptance Criteria chemical testing will be undertaken. In relation to asbestos content only any soils containing visible ACM's or a fibre concentration greater than 0.1% w/w will be consigned as hazardous waste.
- Copies of waste transfer data will be retained including:
 - Waste Carriers License
 - Receiving Facility Permit
 - Hazardous Waste Consignment Note

APPENDIX A. Drawings and Figures



- Legend**
- Phase Boundaries**
- Phase**
- Phase 1
 - Phase 2
 - Phase 3
 - Phase 4
- Development clip
- Site Boundary

Client: Vistry
Project: Ennbrook
Location: Wokingham, Berkshire
Job No: 101212
Date: 10/05/2024
Ref:
c/o: National Grid - 050395
Reported by: Simon Jagger



Title: PRL Phase drawing

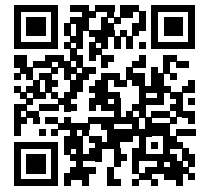
Sketch No: 101212-PRL-SK-002-REV1

APPENDIX B. Asbestos Data Summary

Waste Classification Report

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

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



EKYF0-CYPUA-UVM2Q

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

Job name

GE20647 Waste Soils Assessment Jul-23 (Park Farm Area, post demolition)

Description/Comments

Based on i2 Analytical Report Numbers: 23-46051 & 23-46053

Where visible fragments of asbestos containing material were identified the concentration of fibres within the material is based on Appendix 2 of 'HSG264 Asbestos: The Survey Guide'

Project

GE20647

Site

Emmbrook Place, Wokingham

Classified by

Name: **Shaun Armitage**
 Date: **11 Aug 2023 12:28 GMT**
 Telephone:
 Company: **Geo-Environmental Services**
Unit 7, Danworth Farm, Cuckfield Rd
Hurstpierpoint
BN6 9GL

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

HazWasteOnline™ Certification:

CERTIFIED

Course
 Hazardous Waste Classification

Date
 09 Jun 2022

Next 3 year Refresher due by Jun 2025

Purpose of classification

2 - Material Characterisation

Address of the waste

Trinder Road and Matthewsgreen Road, Wokingham Phase 4C, Wokingham, Berkshire,

Post Code RG41 1JZ

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment of former farm buildings for residential development

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

Potential waste created from excavation of soils during construction of residential development

Description of the waste

Made Ground comprising variously: mixture of sandy clay and clayey gravelly sand with frequent gravel and cobble sized brick and concrete occasional gravel and cobble sized asbestos cement; silty gravelly sand with brick and concrete, occasional gravel sized asbestos cement fragments; sandy gravelly clay and clayey gravelly sand with frequent gravel and cobble sized brick, slate, concrete and glass bottles; very clayey gravelly sand with occasional gravel and cobble sized brick and concrete and two gravel sized asbestos cement fragments.

Natural soils comprising light brown very sandy gravelly CLAY.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	WAC Results			Page
					Inert	SNRHW	Hazardous	
1	TP204--18072023-0.70	0.70	Hazardous	HP 5, HP 7	N/A	Pass	Pass	3
2	TP205--18072023-0.60	0.60	Hazardous	HP 5, HP 7	N/A	Pass	Pass	7
3	TP213--18072023-0.50	0.50	Hazardous	HP 7	N/A	Pass	Pass	11
4	TP213--18072023-1.00	1.00	Non Hazardous		-	-	-	15
5	TP213--18072023-1.30	1.30	Non Hazardous		-	-	-	18
6	TP214--18072023-0.40	0.40	Hazardous	HP 5, HP 7	-	-	-	21

Related documents

#	Name	Description
1	23-46051_HWOL_Results.hwol	i2 Analytical .hwol file used to populate the Job
2	GESL Soils Waste Stream Template	waste stream template used to create this Job

WAC results

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate the samples in this Job: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

Report

Created by: Shaun Armitage

Created date: 11 Aug 2023 12:28 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	24
Appendix B: Rationale for selection of metal species	25
Appendix C: Version	26

Classification of sample: TP204--18072023-0.70

 **Hazardous Mixed Waste**
 Classified as **17 05 04**
 and **17 06 05 ***
 in the List of Waste

Sample details

Sample name:	LoW Code:	
TP204--18072023-0.70	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.70 m	Entry:	17 06 05 * (Construction materials containing asbestos) }
Moisture content:		
20%		
(wet weight correction)		

Hazard properties

HP 5: Specific Target Organ Toxicity (STOT)/Aspiration Toxicity "waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration"

Hazard Statements hit:

STOT RE 1; H372 "Causes damage to organs [or state all organs affected, if known] through prolonged or repeated exposure [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

asbestos in identifiable pieces of suspected ACM: (conc.: 25%)

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

asbestos in identifiable pieces of suspected ACM: (conc.: 25%)

Determinands

Moisture content: 20% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number									
1	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		19	mg/kg	1.32	20.069	mg/kg	0.00201 %	✓	
2	 beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		3	mg/kg	2.775	6.661	mg/kg	0.000666 %	✓	
3	 boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.2	mg/kg	3.22	<0.644	mg/kg	<0.0000644 %		<LOD
4	 cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
5	 chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19	mg/kg	1.462	22.216	mg/kg	0.00222 %	✓	
6	 chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<1.8	mg/kg	2.27	<4.086	mg/kg	<0.000409 %		<LOD
7	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		85	mg/kg	1.126	76.56	mg/kg	0.00766 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
8	lead { lead chromate }			1	100 mg/kg	1.56	124.785 mg/kg	0.008 %		✓	
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				56 mg/kg	2.976	133.337 mg/kg	0.0133 %		✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				48 mg/kg	1.785	68.551 mg/kg	0.00686 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
13	zinc { zinc chromate }				180 mg/kg	2.774	399.477 mg/kg	0.0399 %		✓	
	024-007-00-3	236-878-9	13530-65-9								
14	TPH (C6 to C40) petroleum group		TPH		162 mg/kg		129.6 mg/kg	0.013 %		✓	
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
16	benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
17	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
18	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
19	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
21	pH		PH		6.7 pH		6.7 pH	6.7 pH			
22	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
23	acenaphthylene				0.09 mg/kg		0.072 mg/kg	0.0000072 %		✓	
		205-917-1	208-96-8								
24	acenaphthene				0.33 mg/kg		0.264 mg/kg	0.0000264 %		✓	
		201-469-6	83-32-9								
25	fluorene				0.24 mg/kg		0.192 mg/kg	0.0000192 %		✓	
		201-695-5	86-73-7								
26	phenanthrene				3.1 mg/kg		2.48 mg/kg	0.000248 %		✓	
		201-581-5	85-01-8								
27	anthracene				0.62 mg/kg		0.496 mg/kg	0.0000496 %		✓	
		204-371-1	120-12-7								
28	fluoranthene				4.7 mg/kg		3.76 mg/kg	0.000376 %		✓	
		205-912-4	206-44-0								
29	pyrene				4.2 mg/kg		3.36 mg/kg	0.000336 %		✓	
		204-927-3	129-00-0								
30	benzo[a]anthracene				2.7 mg/kg		2.16 mg/kg	0.000216 %		✓	
	601-033-00-9	200-280-6	56-55-3								
31	chrysene				2.5 mg/kg		2 mg/kg	0.0002 %		✓	
	601-048-00-0	205-923-4	218-01-9								
32	benzo[b]fluoranthene				2.9 mg/kg		2.32 mg/kg	0.000232 %		✓	
	601-034-00-4	205-911-9	205-99-2								
33	benzo[k]fluoranthene				1.3 mg/kg		1.04 mg/kg	0.000104 %		✓	
	601-036-00-5	205-916-6	207-08-9								

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
34		benzo[a]pyrene; benzo[def]chrysene 601-032-00-3 200-028-5 50-32-8				2 mg/kg		1.6 mg/kg	0.00016 %	✓	
35	●	indeno[123-cd]pyrene 									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	asbestos in identifiable pieces of suspected ACM					250000 mg/kg		250000 mg/kg	25%		
			ACM_FRAG								
Total:									25%		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Non-flammable material

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.013%)

WAC results for sample: TP204--18072023-0.70

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

The sample **PASSES** the Hazardous (Hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	2.9	3	5	6
2	LOI (loss on ignition)	%	6.2	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<5	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.007	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	100	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	22.9	100	-	-
7	pH	pH	7.7	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	2	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	0.0342	0.5	2	25
10	barium	mg/kg	0.188	20	100	300
11	cadmium	mg/kg	<0.0008	0.04	1	5
12	chromium	mg/kg	0.0047	0.5	10	70
13	copper	mg/kg	0.19	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	0.0204	0.5	10	30
16	nickel	mg/kg	0.031	0.4	10	40
17	lead	mg/kg	0.1	0.5	10	50
18	antimony	mg/kg	<0.017	0.06	0.7	5
19	selenium	mg/kg	<0.04	0.1	0.5	7
20	zinc	mg/kg	1.4	4	50	200
21	chloride	mg/kg	23	800	15,000	25,000
22	fluoride	mg/kg	2.6	10	150	500
23	sulphate	mg/kg	230	1,000	20,000	50,000
24	phenol index	mg/kg	<0.1	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	59	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	820	4,000	60,000	100,000

Key

	User supplied data
	Not applicable

Classification of sample: TP205--18072023-0.60

 **Hazardous Mixed Waste**
 Classified as **17 05 04**
 and **17 06 05 ***
 in the List of Waste

Sample details

Sample name:	LoW Code:	
TP205--18072023-0.60	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.60 m	Entry:	17 06 05 * (Construction materials containing asbestos) }
Moisture content:		
9.2%		
(wet weight correction)		

Hazard properties

HP 5: Specific Target Organ Toxicity (STOT)/Aspiration Toxicity "waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration"

Hazard Statements hit:

STOT RE 1; H372 "Causes damage to organs [or state all organs affected, if known] through prolonged or repeated exposure [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

asbestos in identifiable pieces of suspected ACM: (conc.: 25%)

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

asbestos in identifiable pieces of suspected ACM: (conc.: 25%)

Determinands

Moisture content: 9.2% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1		arsenic { arsenic trioxide }				9.1 mg/kg	1.32	10.91 mg/kg	0.00109 %	✓	
		033-003-00-0	215-481-4	1327-53-3							
2		beryllium { beryllium oxide }				0.93 mg/kg	2.775	2.344 mg/kg	0.000234 %	✓	
		004-003-00-8	215-133-1	1304-56-9							
3		boron { diboron trioxide; boric oxide }				<0.2 mg/kg	3.22	<0.644 mg/kg	<0.0000644 %		<LOD
		005-008-00-8	215-125-8	1303-86-2							
4		cadmium { cadmium oxide }				0.4 mg/kg	1.142	0.415 mg/kg	0.0000415 %	✓	
		048-002-00-0	215-146-2	1306-19-0							
5		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				15 mg/kg	1.462	19.906 mg/kg	0.00199 %	✓	
			215-160-9	1308-38-9							
6		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
		024-017-00-8									
7		copper { dicopper oxide; copper (I) oxide }				29 mg/kg	1.126	29.647 mg/kg	0.00296 %	✓	
		029-002-00-X	215-270-7	1317-39-1							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
8	lead { lead chromate }			1	85 mg/kg	1.56	120.387 mg/kg	0.00772 %		✓	
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				9.7 mg/kg	2.976	26.214 mg/kg	0.00262 %		✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				25 mg/kg	1.785	40.524 mg/kg	0.00405 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
13	zinc { zinc chromate }				120 mg/kg	2.774	302.271 mg/kg	0.0302 %		✓	
	024-007-00-3	236-878-9	13530-65-9								
14	TPH (C6 to C40) petroleum group		TPH		82 mg/kg		74.456 mg/kg	0.00745 %		✓	
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
16	benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
17	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
18	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
19	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
21	pH		PH		7.3 pH		7.3 pH	7.3 pH			
22	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
23	acenaphthylene				0.19 mg/kg		0.173 mg/kg	0.0000173 %		✓	
		205-917-1	208-96-8								
24	acenaphthene				0.09 mg/kg		0.0817 mg/kg	0.00000817 %		✓	
		201-469-6	83-32-9								
25	fluorene				0.29 mg/kg		0.263 mg/kg	0.0000263 %		✓	
		201-695-5	86-73-7								
26	phenanthrene				2.4 mg/kg		2.179 mg/kg	0.000218 %		✓	
		201-581-5	85-01-8								
27	anthracene				0.64 mg/kg		0.581 mg/kg	0.0000581 %		✓	
		204-371-1	120-12-7								
28	fluoranthene				4.4 mg/kg		3.995 mg/kg	0.0004 %		✓	
		205-912-4	206-44-0								
29	pyrene				3.9 mg/kg		3.541 mg/kg	0.000354 %		✓	
		204-927-3	129-00-0								
30	benzo[a]anthracene				2.2 mg/kg		1.998 mg/kg	0.0002 %		✓	
	601-033-00-9	200-280-6	56-55-3								
31	chrysene				1.9 mg/kg		1.725 mg/kg	0.000173 %		✓	
	601-048-00-0	205-923-4	218-01-9								
32	benzo[b]fluoranthene				2.5 mg/kg		2.27 mg/kg	0.000227 %		✓	
	601-034-00-4	205-911-9	205-99-2								
33	benzo[k]fluoranthene				1.2 mg/kg		1.09 mg/kg	0.000109 %		✓	
	601-036-00-5	205-916-6	207-08-9								

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value		MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number											
34		benzo[a]pyrene; benzo[def]chrysene				2.1	mg/kg		1.907	mg/kg	0.000191 %		✓		
		601-032-00-3	200-028-5	50-32-8											
35	●	indeno[123-cd]pyrene				1.2	mg/kg		1.09	mg/kg	0.000109 %		✓		
			205-893-2	193-39-5											
36		dibenz[a,h]anthracene				0.37	mg/kg		0.336	mg/kg	0.0000336 %		✓		
		601-041-00-2	200-181-8	53-70-3											
37	●	benzo[ghi]perylene				1.3	mg/kg		1.18	mg/kg	0.000118 %		✓		
			205-883-8	191-24-2											
38		asbestos				<10	mg/kg		<10	mg/kg	<0.001 %			<LOD	
		650-013-00-6	-----	12001-28-4											
				132207-32-0											
				12172-73-5											
				77536-66-4											
				77536-68-6											
				77536-67-5											
				12001-29-5											
39	🚫	sulfur { sulphur dichloride }				43	mg/kg	3.211	125.383	mg/kg	0.0125 %		✓		
		016-013-00-X	234-129-0	10545-99-0											
40	●	monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %			<LOD	
				P1186											
Total:												0.0752 %			

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	asbestos in identifiable pieces of suspected ACM					250000 mg/kg		250000 mg/kg	25%		
		ACM_FRAG									
Total:									25%		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Non-flammable material

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00745%)

WAC results for sample: TP205--18072023-0.60

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

The sample **PASSES** the Hazardous (Hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	1.7	3	5	6
2	LOI (loss on ignition)	%	3	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<5	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.007	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	<10	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	27.5	100	-	-
7	pH	pH	7.8	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	5	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	0.0336	0.5	2	25
10	barium	mg/kg	0.191	20	100	300
11	cadmium	mg/kg	<0.0008	0.04	1	5
12	chromium	mg/kg	0.024	0.5	10	70
13	copper	mg/kg	0.4	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	0.0232	0.5	10	30
16	nickel	mg/kg	0.03	0.4	10	40
17	lead	mg/kg	0.072	0.5	10	50
18	antimony	mg/kg	<0.017	0.06	0.7	5
19	selenium	mg/kg	<0.04	0.1	0.5	7
20	zinc	mg/kg	0.33	4	50	200
21	chloride	mg/kg	23	800	15,000	25,000
22	fluoride	mg/kg	3.9	10	150	500
23	sulphate	mg/kg	490	1,000	20,000	50,000
24	phenol index	mg/kg	<0.1	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	119	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	1100	4,000	60,000	100,000

Key

	User supplied data
	Not applicable

Classification of sample: TP213--18072023-0.50

 **Hazardous Waste**
 Classified as **17 05 03 ***
 in the List of Waste

Sample details

Sample name:	LoW Code:
TP213--18072023-0.50	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 03 * (Soil and stones containing hazardous substances)
14%	
(wet weight correction)	

Hazard properties
HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

asbestos: (conc.: 0.818%)

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				17 mg/kg	1.32	19.303	mg/kg	0.00193 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				1.2 mg/kg	2.775	2.864	mg/kg	0.000286 %	✓	
	004-003-00-8	215-133-1	1304-56-9								
3	boron { diboron trioxide; boric oxide }				0.3 mg/kg	3.22	0.831	mg/kg	0.0000831 %	✓	
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27 mg/kg	1.462	33.937	mg/kg	0.00339 %	✓	
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086	mg/kg	<0.000409 %		<LOD
	024-017-00-8										
7	copper { dicopper oxide; copper (I) oxide }				54 mg/kg	1.126	52.286	mg/kg	0.00523 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	370 mg/kg	1.56	496.333	mg/kg	0.0318 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				23 mg/kg	2.976	58.871	mg/kg	0.00589 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	vanadium { ● divanadium pentaoxide; vanadium pentoxide }				45 mg/kg	1.785	69.087 mg/kg	0.00691 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
13	zinc { ● zinc chromate }				340 mg/kg	2.774	811.16 mg/kg	0.0811 %		✓	
	024-007-00-3	236-878-9	13530-65-9								
14	TPH (C6 to C40) petroleum group				389.7 mg/kg		335.142 mg/kg	0.0335 %		✓	
			TPH								
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
16	benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
17	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
18	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
19	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
20	cyanides { ● salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
21	pH				8.3 pH		8.3 pH	8.3 pH			
			PH								
22	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
23	acenaphthylene				0.19 mg/kg		0.163 mg/kg	0.0000163 %		✓	
		205-917-1	208-96-8								
24	acenaphthene				0.31 mg/kg		0.267 mg/kg	0.0000267 %		✓	
		201-469-6	83-32-9								
25	fluorene				0.43 mg/kg		0.37 mg/kg	0.000037 %		✓	
		201-695-5	86-73-7								
26	phenanthrene				5.2 mg/kg		4.472 mg/kg	0.000447 %		✓	
		201-581-5	85-01-8								
27	anthracene				1 mg/kg		0.86 mg/kg	0.000086 %		✓	
		204-371-1	120-12-7								
28	fluoranthene				14 mg/kg		12.04 mg/kg	0.0012 %		✓	
		205-912-4	206-44-0								
29	pyrene				12 mg/kg		10.32 mg/kg	0.00103 %		✓	
		204-927-3	129-00-0								
30	benzo[a]anthracene				6.5 mg/kg		5.59 mg/kg	0.000559 %		✓	
	601-033-00-9	200-280-6	56-55-3								
31	chrysene				5.5 mg/kg		4.73 mg/kg	0.000473 %		✓	
	601-048-00-0	205-923-4	218-01-9								
32	benzo[b]fluoranthene				7.8 mg/kg		6.708 mg/kg	0.000671 %		✓	
	601-034-00-4	205-911-9	205-99-2								
33	benzo[k]fluoranthene				2.7 mg/kg		2.322 mg/kg	0.000232 %		✓	
	601-036-00-5	205-916-6	207-08-9								
34	benzo[a]pyrene; benzo[def]chrysene				6.1 mg/kg		5.246 mg/kg	0.000525 %		✓	
	601-032-00-3	200-028-5	50-32-8								
35	indeno[123-cd]pyrene				3.3 mg/kg		2.838 mg/kg	0.000284 %		✓	
		205-893-2	193-39-5								
36	dibenz[a,h]anthracene				1 mg/kg		0.86 mg/kg	0.000086 %		✓	
	601-041-00-2	200-181-8	53-70-3								
37	benzo[ghi]perylene				3.8 mg/kg		3.268 mg/kg	0.000327 %		✓	
		205-883-8	191-24-2								

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
38		asbestos				9510 mg/kg	8178.6 mg/kg	0.818 %	✓		
		650-013-00-6	-----	12001-28-4							
				132207-32-0							
				12172-73-5							
				77536-66-4							
		77536-68-6			77536-67-5						
				12001-29-5							
39		sulfur { sulphur dichloride }				220 mg/kg	3.211	607.582 mg/kg	0.0608 %	✓	
		016-013-00-X	234-129-0	10545-99-0							
40		monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
				P1186							
Total:									1.056 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Non-flammable material

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0335%)

WAC results for sample: TP213--18072023-0.50

WAC Settings: samples in this Job do not constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

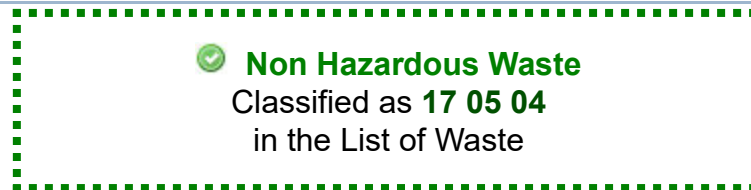
The sample **PASSES** the Hazardous (Hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	2.1	3	5	6
2	LOI (loss on ignition)	%	4	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<5	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.007	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	110	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	55.2	100	-	-
7	pH	pH	7.7	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	19	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	0.0456	0.5	2	25
10	barium	mg/kg	0.32	20	100	300
11	cadmium	mg/kg	<0.0008	0.04	1	5
12	chromium	mg/kg	<0.004	0.5	10	70
13	copper	mg/kg	0.3	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	0.105	0.5	10	30
16	nickel	mg/kg	0.03	0.4	10	40
17	lead	mg/kg	0.14	0.5	10	50
18	antimony	mg/kg	0.19	0.06	0.7	5
19	selenium	mg/kg	<0.04	0.1	0.5	7
20	zinc	mg/kg	0.26	4	50	200
21	chloride	mg/kg	13	800	15,000	25,000
22	fluoride	mg/kg	9.1	10	150	500
23	sulphate	mg/kg	320	1,000	20,000	50,000
24	phenol index	mg/kg	<0.1	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	93.9	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	1200	4,000	60,000	100,000

Key

	User supplied data
	Not applicable

Classification of sample: TP213--18072023-1.00

Sample details

Sample name:	LoW Code:	
TP213--18072023-1.00	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.00 m		
Moisture content:		
29%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 29% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	1	23 mg/kg	1.32	21.561 mg/kg	0.00216 %	✓		
2	 beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.2 mg/kg	2.775	2.365 mg/kg	0.000236 %	✓		
3	 boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	1	0.7 mg/kg	3.22	1.6 mg/kg	0.00016 %	✓		
4	 cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD	
5	 chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9	1	32 mg/kg	1.462	33.207 mg/kg	0.00332 %	✓		
6	 chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD	
7	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	1	120 mg/kg	1.126	95.926 mg/kg	0.00959 %	✓		
8	 lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6		350 mg/kg	1.56	387.614 mg/kg	0.0249 %	✓		
9	 mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	1	<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD	
10	 nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		79 mg/kg	2.976	166.939 mg/kg	0.0167 %	✓		
11	 selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5	1	<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD	
12	 vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		43 mg/kg	1.785	54.502 mg/kg	0.00545 %	✓		
13	 zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	1	410 mg/kg	2.774	807.554 mg/kg	0.0808 %	✓		
14	 TPH (C6 to C40) petroleum group			TPH		438.2 mg/kg		311.122 mg/kg	0.0311 %	✓		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
16	benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
17	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
18	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
19	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				2.6 mg/kg	1.884	3.478 mg/kg	0.000348 %		✓	
	006-007-00-5										
21	pH		PH		6.9 pH		6.9 pH	6.9 pH			
22	naphthalene				0.42 mg/kg		0.298 mg/kg	0.0000298 %		✓	
	601-052-00-2	202-049-5	91-20-3								
23	acenaphthylene				0.75 mg/kg		0.533 mg/kg	0.0000533 %		✓	
		205-917-1	208-96-8								
24	acenaphthene				0.4 mg/kg		0.284 mg/kg	0.0000284 %		✓	
		201-469-6	83-32-9								
25	fluorene				0.68 mg/kg		0.483 mg/kg	0.0000483 %		✓	
		201-695-5	86-73-7								
26	phenanthrene				7 mg/kg		4.97 mg/kg	0.000497 %		✓	
		201-581-5	85-01-8								
27	anthracene				2.2 mg/kg		1.562 mg/kg	0.000156 %		✓	
		204-371-1	120-12-7								
28	fluoranthene				28 mg/kg		19.88 mg/kg	0.00199 %		✓	
		205-912-4	206-44-0								
29	pyrene				26 mg/kg		18.46 mg/kg	0.00185 %		✓	
		204-927-3	129-00-0								
30	benzo[a]anthracene				15 mg/kg		10.65 mg/kg	0.00107 %		✓	
	601-033-00-9	200-280-6	56-55-3								
31	chrysene				14 mg/kg		9.94 mg/kg	0.000994 %		✓	
	601-048-00-0	205-923-4	218-01-9								
32	benzo[b]fluoranthene				23 mg/kg		16.33 mg/kg	0.00163 %		✓	
	601-034-00-4	205-911-9	205-99-2								
33	benzo[k]fluoranthene				6.6 mg/kg		4.686 mg/kg	0.000469 %		✓	
	601-036-00-5	205-916-6	207-08-9								
34	benzo[a]pyrene; benzo[def]chrysene				19 mg/kg		13.49 mg/kg	0.00135 %		✓	
	601-032-00-3	200-028-5	50-32-8								
35	indeno[123-cd]pyrene				10 mg/kg		7.1 mg/kg	0.00071 %		✓	
		205-893-2	193-39-5								
36	dibenz[a,h]anthracene				2.6 mg/kg		1.846 mg/kg	0.000185 %		✓	
	601-041-00-2	200-181-8	53-70-3								
37	benzo[ghi]perylene				11 mg/kg		7.81 mg/kg	0.000781 %		✓	
		205-883-8	191-24-2								
38	sulfur { sulphur dichloride }				850 mg/kg	3.211	1938.032 mg/kg	0.194 %		✓	
	016-013-00-X	234-129-0	10545-99-0								
39	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
Total:									0.381 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Non-flammable material

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0311%)

Classification of sample: TP213--18072023-1.30

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

Sample details

Sample name:	LoW Code:	
TP213--18072023-1.30	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.30 m		
Moisture content:		
12%		
(wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	10	mg/kg	1.32	11.619	mg/kg	0.00116 %	✓	
2	 beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9								
3	 boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	<0.2	mg/kg	3.22	<0.644	mg/kg	<0.0000644 %		<LOD
4	 cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0								
5	 chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		23	mg/kg	1.462	29.582	mg/kg	0.00296 %	✓	
6	 chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8										
7	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	30	mg/kg	1.126	29.723	mg/kg	0.00297 %	✓	
8	 lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6								
9	 mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
10	 nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7								
11	 selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5	<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
12	 vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1								
13	 zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	110	mg/kg	2.774	268.537	mg/kg	0.0269 %	✓	
14	 TPH (C6 to C40) petroleum group		TPH									
					46	mg/kg		40.48	mg/kg	0.00405 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
16	benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
17	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
18	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
19	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
21	pH				8.1 pH		8.1 pH	8.1 pH			
			PH								
22	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
23	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
24	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
25	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
26	phenanthrene				1.1 mg/kg		0.968 mg/kg	0.0000968 %		✓	
		201-581-5	85-01-8								
27	anthracene				0.34 mg/kg		0.299 mg/kg	0.0000299 %		✓	
		204-371-1	120-12-7								
28	fluoranthene				2 mg/kg		1.76 mg/kg	0.000176 %		✓	
		205-912-4	206-44-0								
29	pyrene				1.7 mg/kg		1.496 mg/kg	0.00015 %		✓	
		204-927-3	129-00-0								
30	benzo[a]anthracene				0.9 mg/kg		0.792 mg/kg	0.0000792 %		✓	
	601-033-00-9	200-280-6	56-55-3								
31	chrysene				0.91 mg/kg		0.801 mg/kg	0.0000801 %		✓	
	601-048-00-0	205-923-4	218-01-9								
32	benzo[b]fluoranthene				1.3 mg/kg		1.144 mg/kg	0.000114 %		✓	
	601-034-00-4	205-911-9	205-99-2								
33	benzo[k]fluoranthene				0.35 mg/kg		0.308 mg/kg	0.0000308 %		✓	
	601-036-00-5	205-916-6	207-08-9								
34	benzo[a]pyrene; benzo[def]chrysene				0.9 mg/kg		0.792 mg/kg	0.0000792 %		✓	
	601-032-00-3	200-028-5	50-32-8								
35	indeno[123-cd]pyrene				0.58 mg/kg		0.51 mg/kg	0.000051 %		✓	
		205-893-2	193-39-5								
36	dibenz[a,h]anthracene				0.15 mg/kg		0.132 mg/kg	0.0000132 %		✓	
	601-041-00-2	200-181-8	53-70-3								
37	benzo[ghi]perylene				0.62 mg/kg		0.546 mg/kg	0.0000546 %		✓	
		205-883-8	191-24-2								
38	sulfur { sulphur dichloride }				29 mg/kg	3.211	81.953 mg/kg	0.0082 %		✓	
	016-013-00-X	234-129-0	10545-99-0								
39	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
			P1186								
Total:									0.0644 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Non-flammable material

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00405%)

Classification of sample: TP214--18072023-0.40

 **Hazardous Mixed Waste**
 Classified as **17 05 04**
 and **17 06 05 ***
 in the List of Waste

Sample details

Sample name:	LoW Code:	
TP214--18072023-0.40	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.40 m	Entry:	17 06 05 * (Construction materials containing asbestos) }
Moisture content:		
8.4%		
(wet weight correction)		

Hazard properties

HP 5: Specific Target Organ Toxicity (STOT)/Aspiration Toxicity "waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration"

Hazard Statements hit:

STOT RE 1; H372 "Causes damage to organs [or state all organs affected, if known] through prolonged or repeated exposure [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

asbestos in identifiable pieces of suspected ACM: (conc.: 25%)

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

asbestos in identifiable pieces of suspected ACM: (conc.: 25%)

Determinands

Moisture content: 8.4% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }				15 mg/kg	1.32	18.141 mg/kg	0.00181 %	✓		
		033-003-00-0	215-481-4	1327-53-3								
2		beryllium { beryllium oxide }				1.5 mg/kg	2.775	3.813 mg/kg	0.000381 %	✓		
		004-003-00-8	215-133-1	1304-56-9								
3		boron { diboron trioxide; boric oxide }				0.6 mg/kg	3.22	1.77 mg/kg	0.000177 %	✓		
		005-008-00-8	215-125-8	1303-86-2								
4		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD	
		048-002-00-0	215-146-2	1306-19-0								
5		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				48 mg/kg	1.462	64.262 mg/kg	0.00643 %	✓		
			215-160-9	1308-38-9								
6		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD	
		024-017-00-8										
7		copper { dicopper oxide; copper (I) oxide }				57 mg/kg	1.126	58.785 mg/kg	0.00588 %	✓		
		029-002-00-X	215-270-7	1317-39-1								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
8	lead { lead chromate }			1	240 mg/kg	1.56	342.91 mg/kg	0.022 %		✓	
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				0.4 mg/kg	1.353	0.496 mg/kg	0.0000496 %		✓	
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				21 mg/kg	2.976	57.251 mg/kg	0.00573 %		✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	vanadium { divanadium pentaoxide; vanadium pentoxide }				37 mg/kg	1.785	60.503 mg/kg	0.00605 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
13	zinc { zinc chromate }				140 mg/kg	2.774	355.757 mg/kg	0.0356 %		✓	
	024-007-00-3	236-878-9	13530-65-9								
14	TPH (C6 to C40) petroleum group		TPH		544 mg/kg		498.304 mg/kg	0.0498 %		✓	
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
16	benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
17	toluene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
18	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
19	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
21	pH		PH		7.8 pH		7.8 pH	7.8 pH			
22	naphthalene				0.71 mg/kg		0.65 mg/kg	0.000065 %		✓	
	601-052-00-2	202-049-5	91-20-3								
23	acenaphthylene				3.4 mg/kg		3.114 mg/kg	0.000311 %		✓	
		205-917-1	208-96-8								
24	acenaphthene				0.79 mg/kg		0.724 mg/kg	0.0000724 %		✓	
		201-469-6	83-32-9								
25	fluorene				5.2 mg/kg		4.763 mg/kg	0.000476 %		✓	
		201-695-5	86-73-7								
26	phenanthrene				34 mg/kg		31.144 mg/kg	0.00311 %		✓	
		201-581-5	85-01-8								
27	anthracene				16 mg/kg		14.656 mg/kg	0.00147 %		✓	
		204-371-1	120-12-7								
28	fluoranthene				41 mg/kg		37.556 mg/kg	0.00376 %		✓	
		205-912-4	206-44-0								
29	pyrene				35 mg/kg		32.06 mg/kg	0.00321 %		✓	
		204-927-3	129-00-0								
30	benzo[a]anthracene				19 mg/kg		17.404 mg/kg	0.00174 %		✓	
	601-033-00-9	200-280-6	56-55-3								
31	chrysene				20 mg/kg		18.32 mg/kg	0.00183 %		✓	
	601-048-00-0	205-923-4	218-01-9								
32	benzo[b]fluoranthene				22 mg/kg		20.152 mg/kg	0.00202 %		✓	
	601-034-00-4	205-911-9	205-99-2								
33	benzo[k]fluoranthene				9.1 mg/kg		8.336 mg/kg	0.000834 %		✓	
	601-036-00-5	205-916-6	207-08-9								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
34	benzo[a]pyrene; benzo[def]chrysene				20 mg/kg		18.32 mg/kg	0.00183 %	✓	
	601-032-00-3	200-028-5	50-32-8							
35	indeno[123-cd]pyrene				12 mg/kg		10.992 mg/kg	0.0011 %	✓	
		205-893-2	193-39-5							
36	dibenz[a,h]anthracene				3.1 mg/kg		2.84 mg/kg	0.000284 %	✓	
	601-041-00-2	200-181-8	53-70-3							
37	benzo[ghi]perylene				13 mg/kg		11.908 mg/kg	0.00119 %	✓	
		205-883-8	191-24-2							
38	sulfur { sulphur dichloride }				98 mg/kg	3.211	288.274 mg/kg	0.0288 %	✓	
	016-013-00-X	234-129-0	10545-99-0							
39	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
Total:								0.187 %		

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	asbestos in identifiable pieces of suspected ACM				250000 mg/kg		250000 mg/kg	25%		
			ACM_FRAG							
Total:								25%		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because Non-flammable material

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0498%)

Appendix A: Classifier defined and non GB MCL determinands

• chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

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

GB MCL index number: 023-001-00-8

Description/Comments: Hazard statements H301, H330, H350 added by HazWasteOnline due to ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List]. Substance has therefore been self-classified.

Additional Hazard Statement(s): Carc. 1B; H350, Acute Tox. 3; H301, Acute Tox. 2; H330

Reason for additional Hazards Statement(s):

20 Sep 2022 - Carc. 1B; H350 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be Carc. 1B; H350. The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].

Substance has therefore been self-classified.

28 Sep 2022 - Acute Tox. 3; H301 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 3; H301". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].

Substance has therefore been self-classified.

28 Sep 2022 - Acute Tox. 2; H330 hazard statement sourced from: ATP 18 (Regulation (EU) 2022/692) considers vanadium pentoxide to be "Acute tox 2; H330". The GB MCL Agency has reached the same opinion [but is yet to formerly make this change to the MCL List].

Substance has therefore been self-classified.

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226, Asp. Tox. 1; H304, STOT RE 2; H373, Muta. 1B; H340, Carc. 1B; H350, Repr. 2; H361d, Aquatic Chronic 2; H411

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

GB MCL index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

• salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

GB MCL index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

• pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

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

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

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

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

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

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

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

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

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

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

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

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

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

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

▪ **monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 £ conc. < 3 % , Eye Irrit. 2; H319 1 £ conc. < 3 % , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

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

beryllium {beryllium oxide}

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

boron {diboron trioxide; boric oxide}

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

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. Worst case

compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history

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

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

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight

copper {dicopper oxide; copper (I) oxide}

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

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight

vanadium {divanadium pentaoxide; vanadium pentoxide}

Worst case species selected

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide]

sulfur {sulphur dichloride}

Worst case species selected

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021

HazWasteOnline Classification Engine Version: 2023.221.5713.10531 (09 Aug 2023)

HazWasteOnline Database: 2023.221.5713.10531 (09 Aug 2023)

This classification utilises the following guidance and legislation:

WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

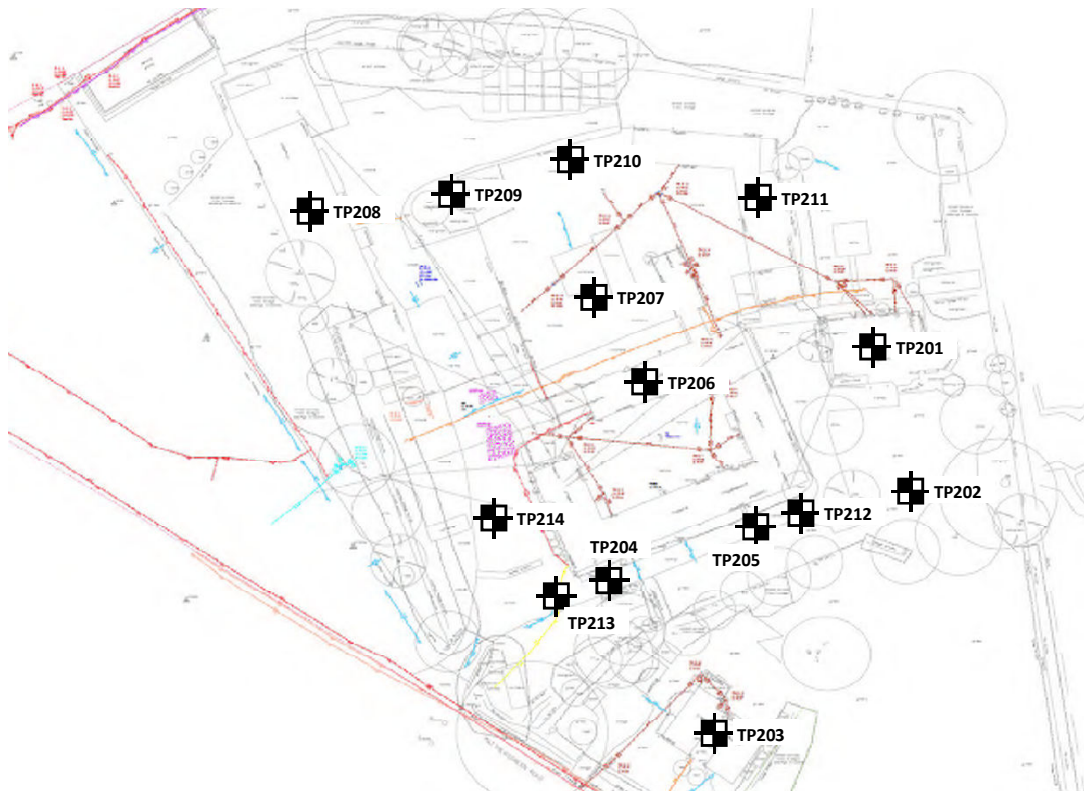
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021



Project:	Land off Trinder Road and Matthewsgreen Road (Wokingham Phase 4C), Wokingham, Berkshire, RG41 1JX			Title	Exploratory Hole Location Plan (post demolition investigation)	
Client:	Vistry Thames Valley			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net		 Geo-Environmental
Ref No:	GE20647	Revision:	3			
Drawn:	SA	Date:	19/07/2023			
Figure:	2	Scale:	Not To Scale			



Project:	Land off Trinder Road and Matthewsgreen Road (Wokingham Phase 4C), Wokingham, Berkshire, RG41 1JX			Title	Approximate Extent of Asbestos Containing Soils	
Client:	Vistry Thames Valley			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net		
Ref No:	GE20647	Revision:	0			
Drawn:	SA	Date:	19/07/2023			
Figure:	3	Scale:	Not To Scale			



Project:	Land off Trinder Road and Matthewsgrreen Road (Wokingham Phase 4C), Wokingham, Berkshire, RG41 1JX			Title	Approximate Extent of Asbestos Containing Soils (over proposed layout)	
Client:	Vistry Thames Valley			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net  Geo-Environmental		
Ref No:	GE20647	Revision:	0			
Drawn:	SA	Date:	19/07/2023			
Figure:	3	Scale:	Not To Scale			

**Shaun Armitage**

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Analytical Report Number : 23-46051

Project / Site name:	Emmbrook Place, Wokingham (Phase 4C)	Samples received on:	20/07/2023
Your job number:	GE20647	Samples instructed on/ Analysis started on:	20/07/2023
Your order number:	PO-6608	Analysis completed by:	26/07/2023
Report Issue Number:	1	Report issued on:	27/07/2023
Samples Analysed:	5 bulk samples - 6 soil samples		

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting

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

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

Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754139	2754140	2754145	2754146	2754147
Sample Reference				TP204	TP205	TP213	TP213	TP213
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.60	0.50	1.00	1.30
Date Sampled				18/07/2023	18/07/2023	18/07/2023	18/07/2023	18/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		
Stone Content				%	0.1	NONE	< 0.1	< 0.1
Moisture Content				%	0.01	NONE	20	9.2
Total mass of sample received				kg	0.001	NONE	1.3	1.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile & Amosite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	0.951	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	0.951	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SPU	SPU	SPU

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.7	7.3	8.3	6.9	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	2.6	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	1000	740	940	2100	750
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.51	0.37	0.47	1	0.37
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	512	370	468	1040	374
Sulphide	mg/kg	1	MCERTS	26	36	46	45	8.5
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	34	26	32	55	18
Elemental Sulphur	mg/kg	5	MCERTS	210	43	220	850	29
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.9	1.7	2.1	4	0.7

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.42	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.09	0.19	0.19	0.75	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.33	0.09	0.31	0.4	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.24	0.29	0.43	0.68	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	3.1	2.4	5.2	7	1.1
Anthracene	mg/kg	0.05	MCERTS	0.62	0.64	1	2.2	0.34
Fluoranthene	mg/kg	0.05	MCERTS	4.7	4.4	14	28	2
Pyrene	mg/kg	0.05	MCERTS	4.2	3.9	12	26	1.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.7	2.2	6.5	15	0.9
Chrysene	mg/kg	0.05	MCERTS	2.5	1.9	5.5	14	0.91
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.9	2.5	7.8	23	1.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.3	1.2	2.7	6.6	0.35
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2	2.1	6.1	19	0.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1	1.2	3.3	10	0.58
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.34	0.37	1	2.6	0.15
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	1.3	3.8	11	0.62

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	27.3	24.5	69.8	167	10.8
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Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754139	2754140	2754145	2754146	2754147
Sample Reference				TP204	TP205	TP213	TP213	TP213
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.60	0.50	1.00	1.30
Date Sampled				18/07/2023	18/07/2023	18/07/2023	18/07/2023	18/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	9.1	17	23	10
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	3	0.93	1.2	1.2	0.99
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	0.7	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	15	27	32	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	85	29	54	120	30
Lead (aqua regia extractable)	mg/kg	1	MCERTS	100	85	370	350	52
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	56	9.7	23	79	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	48	25	45	43	39
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	120	340	410	110

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	9.4	10	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	47	17	77	82	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40 _{EH_CU_1D_AL}	mg/kg	10	NONE	< 10	< 10	15	16	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	52	18	87	93	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	1.3	3.2	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	10	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	21	16	60	62	11
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	78	49	180	240	34
TPH-CWG - Aromatic >EC35 - EC40 _{EH_CU_1D_AR}	mg/kg	10	NONE	16	< 10	37	25	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	99	66	250	310	46

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

Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754149
Sample Reference				TP214
Sample Number				None Supplied
Depth (m)				0.40
Date Sampled				18/07/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	38
Moisture Content	%	0.01	NONE	8.4
Total mass of sample received	kg	0.001	NONE	1.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-
Asbestos Quantification Total	%	0.001	ISO 17025	-
Asbestos Analyst ID	N/A	N/A	N/A	MWI

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	940
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.47
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	472
Sulphide	mg/kg	1	MCERTS	11
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	20
Elemental Sulphur	mg/kg	5	MCERTS	98
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.9

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	0.71
Acenaphthylene	mg/kg	0.05	MCERTS	3.4
Acenaphthene	mg/kg	0.05	MCERTS	0.79
Fluorene	mg/kg	0.05	MCERTS	5.2
Phenanthrene	mg/kg	0.05	MCERTS	34
Anthracene	mg/kg	0.05	MCERTS	16
Fluoranthene	mg/kg	0.05	MCERTS	41
Pyrene	mg/kg	0.05	MCERTS	35
Benzo(a)anthracene	mg/kg	0.05	MCERTS	19
Chrysene	mg/kg	0.05	MCERTS	20
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	22
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	9.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	20
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	12
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	3.1
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	13

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	254
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Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754149
Sample Reference				TP214
Sample Number				None Supplied
Depth (m)				0.40
Date Sampled				18/07/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.5
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	48
Copper (aqua regia extractable)	mg/kg	1	MCERTS	57
Lead (aqua regia extractable)	mg/kg	1	MCERTS	240
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	37
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40 _{EH_CU_1D_AL}	mg/kg	10	NONE	< 10
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	25
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	210
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	290
TPH-CWG - Aromatic >EC35 - EC40 _{EH_CU_1D_AR}	mg/kg	10	NONE	19
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	530

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



Analytical Report Number: 23-46051
Project / Site name: Emmbrook Place, Wokingham (Phase 4C)
Your Order No: PO-6608

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2754139	TP204	0.70	123	Loose Fibres	Chrysotile	< 0.001	< 0.001
2754140	TP205	0.60	158	Loose Fibres	Chrysotile	< 0.001	< 0.001
2754145	TP213	0.50	144	Loose Fibres & Asbestos Cement	Chrysotile & Amosite	0.951	0.951

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



Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754141	2754142	2754143	2754144	2754148
Sample Reference				TP205-ACM01	TP205-ACM02	TP205-ACM03	TP212-ACM04	TP213-ACM05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.50	0.50	0.40	0.00
Date Sampled				18/07/2023	18/07/2023	18/07/2023	18/07/2023	18/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Bulk Analysis)				Units	Limit of detection	Accreditation Status		

Asbestos Identification	Type	N/A	ISO 17025	Chrysotile, Amosite, Crocidolite - Asbestos Cement	Chrysotile-Asbestos Cement	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SPU	SPU	SPU	SPU

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



Analytical Report Number : 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2754139	TP204	None Supplied	0.7	Brown sand with gravel.
2754140	TP205	None Supplied	0.6	Brown sand with gravel.
2754145	TP213	None Supplied	0.5	Brown sand with gravel and stones.
2754146	TP213	None Supplied	1	Brown sand with gravel.
2754147	TP213	None Supplied	1.3	Brown sand with gravel.
2754149	TP214	None Supplied	0.4	Brown sand with gravel and stones.

Analytical Report Number : 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS

Analytical Report Number : 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS



Analytical Report Number : 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

**Shaun Armitage**

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Analytical Report Number : 23-46053

Project / Site name:	Emmbrook Place, Wokingham (Phase 4C)	Samples received on:	20/07/2023
Your job number:	GE20647	Samples instructed on/ Analysis started on:	20/07/2023
Your order number:	PO-6608	Analysis completed by:	26/07/2023
Report Issue Number:	1	Report issued on:	26/07/2023
Samples Analysed:	3 10:1 WAC samples		

Signed:

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

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

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

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

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

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



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Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.

This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



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This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results							
Report No:	23-46053						
					Client: GESL		
Location	Emmbrook Place, Wokingham (Phase 4C)						
Lab Reference (Sample Number)	2754166 / 2754167				Landfill Waste Acceptance Criteria		
					Limits		
Sampling Date	18/07/2023				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP213						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	2.1				3%	5%	6%
Loss on Ignition (%) **	4.0				--	--	10%
BTEX (µg/kg)** ~	< 5.0				6000	--	--
Sum of PCBs (mg/kg)**	< 0.007				1	--	--
Mineral Oil (mg/kg) EH, ID, CU, AL	110				500	--	--
Total PAH (WAC-17) (mg/kg)	55.2				100	--	--
pH (units)**	7.7				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	19				--	To be evaluated	To be evaluated
Eluate Analysis							
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test		
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0046			0.0456	0.5	2	25
Barium *	0.0320			0.320	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	< 0.0004			< 0.0040	0.5	10	70
Copper *	0.030			0.30	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0105			0.105	0.5	10	30
Nickel *	0.0030			0.030	0.4	10	40
Lead *	0.014			0.14	0.5	10	50
Antimony *	0.019			0.19	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.026			0.26	4	50	200
Chloride *	1.3			13	800	15000	25000
Fluoride*	0.91			9.1	10	150	500
Sulphate *	32			320	1000	20000	50000
TDS*	120			1200	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	9.39			93.9	500	800	1000
Leach Test Information							
Stone Content (%)	45						
Sample Mass (kg)	1.3						
Dry Matter (%)	86						
Moisture (%)	14						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		

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



Analytical Report Number : 23-46053

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2754162	TP204	None Supplied	0.7	Brown sand with gravel.
2754164	TP205	None Supplied	0.6	Brown sand with gravel.
2754166	TP213	None Supplied	0.5	Brown sand with gravel and stones.

Analytical Report Number : 23-46053

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025

Analytical Report Number : 23-46053

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031	W	ISO 17025
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

~ - Quality control surrogate recovery outside of limits, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

**Shaun Armitage**

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Analytical Report Number : 23-46051

Project / Site name:	Emmbrook Place, Wokingham (Phase 4C)	Samples received on:	20/07/2023
Your job number:	GE20647	Samples instructed on/ Analysis started on:	20/07/2023
Your order number:	PO-6608	Analysis completed by:	26/07/2023
Report Issue Number:	1	Report issued on:	27/07/2023
Samples Analysed:	5 bulk samples - 6 soil samples		

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting

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

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

Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754139	2754140	2754145	2754146	2754147
Sample Reference				TP204	TP205	TP213	TP213	TP213
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.60	0.50	1.00	1.30
Date Sampled				18/07/2023	18/07/2023	18/07/2023	18/07/2023	18/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		
Stone Content				%	0.1	NONE	< 0.1	< 0.1
Moisture Content				%	0.01	NONE	20	9.2
Total mass of sample received				kg	0.001	NONE	1.3	1.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile & Amosite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	0.951	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	0.951	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SPU	SPU	SPU

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.7	7.3	8.3	6.9	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	2.6	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	1000	740	940	2100	750
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.51	0.37	0.47	1	0.37
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	512	370	468	1040	374
Sulphide	mg/kg	1	MCERTS	26	36	46	45	8.5
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	34	26	32	55	18
Elemental Sulphur	mg/kg	5	MCERTS	210	43	220	850	29
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.9	1.7	2.1	4	0.7

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.42	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.09	0.19	0.19	0.75	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.33	0.09	0.31	0.4	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.24	0.29	0.43	0.68	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	3.1	2.4	5.2	7	1.1
Anthracene	mg/kg	0.05	MCERTS	0.62	0.64	1	2.2	0.34
Fluoranthene	mg/kg	0.05	MCERTS	4.7	4.4	14	28	2
Pyrene	mg/kg	0.05	MCERTS	4.2	3.9	12	26	1.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.7	2.2	6.5	15	0.9
Chrysene	mg/kg	0.05	MCERTS	2.5	1.9	5.5	14	0.91
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.9	2.5	7.8	23	1.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.3	1.2	2.7	6.6	0.35
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2	2.1	6.1	19	0.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1	1.2	3.3	10	0.58
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.34	0.37	1	2.6	0.15
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	1.3	3.8	11	0.62

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	27.3	24.5	69.8	167	10.8
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Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754139	2754140	2754145	2754146	2754147
Sample Reference				TP204	TP205	TP213	TP213	TP213
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.60	0.50	1.00	1.30
Date Sampled				18/07/2023	18/07/2023	18/07/2023	18/07/2023	18/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	9.1	17	23	10
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	3	0.93	1.2	1.2	0.99
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.3	0.7	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	15	27	32	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	85	29	54	120	30
Lead (aqua regia extractable)	mg/kg	1	MCERTS	100	85	370	350	52
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	56	9.7	23	79	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	48	25	45	43	39
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	120	340	410	110

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	9.4	10	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	47	17	77	82	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40 _{EH_CU_1D_AL}	mg/kg	10	NONE	< 10	< 10	15	16	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	52	18	87	93	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	1.3	3.2	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	10	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	21	16	60	62	11
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	78	49	180	240	34
TPH-CWG - Aromatic >EC35 - EC40 _{EH_CU_1D_AR}	mg/kg	10	NONE	16	< 10	37	25	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	99	66	250	310	46

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

Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754149
Sample Reference				TP214
Sample Number				None Supplied
Depth (m)				0.40
Date Sampled				18/07/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	38
Moisture Content	%	0.01	NONE	8.4
Total mass of sample received	kg	0.001	NONE	1.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-
Asbestos Quantification Total	%	0.001	ISO 17025	-
Asbestos Analyst ID	N/A	N/A	N/A	MWI

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	940
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.47
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	472
Sulphide	mg/kg	1	MCERTS	11
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	20
Elemental Sulphur	mg/kg	5	MCERTS	98
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.9

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	0.71
Acenaphthylene	mg/kg	0.05	MCERTS	3.4
Acenaphthene	mg/kg	0.05	MCERTS	0.79
Fluorene	mg/kg	0.05	MCERTS	5.2
Phenanthrene	mg/kg	0.05	MCERTS	34
Anthracene	mg/kg	0.05	MCERTS	16
Fluoranthene	mg/kg	0.05	MCERTS	41
Pyrene	mg/kg	0.05	MCERTS	35
Benzo(a)anthracene	mg/kg	0.05	MCERTS	19
Chrysene	mg/kg	0.05	MCERTS	20
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	22
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	9.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	20
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	12
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	3.1
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	13

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	254
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Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754149
Sample Reference				TP214
Sample Number				None Supplied
Depth (m)				0.40
Date Sampled				18/07/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.5
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	48
Copper (aqua regia extractable)	mg/kg	1	MCERTS	57
Lead (aqua regia extractable)	mg/kg	1	MCERTS	240
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	37
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140

Monoaromatics & Oxygenates

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

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40 _{EH_CU_1D_AL}	mg/kg	10	NONE	< 10
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	25
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	210
TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	290
TPH-CWG - Aromatic >EC35 - EC40 _{EH_CU_1D_AR}	mg/kg	10	NONE	19
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	530

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



Analytical Report Number: 23-46051
Project / Site name: Emmbrook Place, Wokingham (Phase 4C)
Your Order No: PO-6608

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2754139	TP204	0.70	123	Loose Fibres	Chrysotile	< 0.001	< 0.001
2754140	TP205	0.60	158	Loose Fibres	Chrysotile	< 0.001	< 0.001
2754145	TP213	0.50	144	Loose Fibres & Asbestos Cement	Chrysotile & Amosite	0.951	0.951

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



Analytical Report Number: 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Your Order No: PO-6608

Lab Sample Number				2754141	2754142	2754143	2754144	2754148
Sample Reference				TP205-ACM01	TP205-ACM02	TP205-ACM03	TP212-ACM04	TP213-ACM05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.50	0.50	0.40	0.00
Date Sampled				18/07/2023	18/07/2023	18/07/2023	18/07/2023	18/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Bulk Analysis)				Units	Limit of detection	Accreditation Status		

Asbestos Identification	Type	N/A	ISO 17025	Chrysotile, Amosite, Crocidolite - Asbestos Cement	Chrysotile-Asbestos Cement	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SPU	SPU	SPU	SPU

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



Analytical Report Number : 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2754139	TP204	None Supplied	0.7	Brown sand with gravel.
2754140	TP205	None Supplied	0.6	Brown sand with gravel.
2754145	TP213	None Supplied	0.5	Brown sand with gravel and stones.
2754146	TP213	None Supplied	1	Brown sand with gravel.
2754147	TP213	None Supplied	1.3	Brown sand with gravel.
2754149	TP214	None Supplied	0.4	Brown sand with gravel and stones.

Analytical Report Number : 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS

Analytical Report Number : 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS



Analytical Report Number : 23-46051

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

**Shaun Armitage**

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e: reception@i2analytical.com

Analytical Report Number : 23-46053

Project / Site name:	Emmbrook Place, Wokingham (Phase 4C)	Samples received on:	20/07/2023
Your job number:	GE20647	Samples instructed on/ Analysis started on:	20/07/2023
Your order number:	PO-6608	Analysis completed by:	26/07/2023
Report Issue Number:	1	Report issued on:	26/07/2023
Samples Analysed:	3 10:1 WAC samples		

Signed:



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

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

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

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

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

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



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Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.

This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



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This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



Analytical Report Number : 23-46053

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2754162	TP204	None Supplied	0.7	Brown sand with gravel.
2754164	TP205	None Supplied	0.6	Brown sand with gravel.
2754166	TP213	None Supplied	0.5	Brown sand with gravel and stones.

Analytical Report Number : 23-46053

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270.	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025

Analytical Report Number : 23-46053

Project / Site name: Emmbrook Place, Wokingham (Phase 4C)

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031	W	ISO 17025
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

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

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

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

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

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

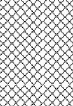
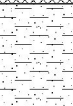
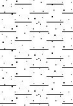
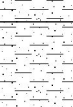
Information in Support of Analytical Results

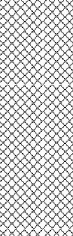
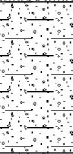
List of HWOL Acronyms and Operators

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

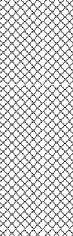
- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

~ - Quality control surrogate recovery outside of limits, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP201			
	Contract Number: GE20647	Date Started: 24/11/2022	Logged By: FG	Checked By: SA	Status: PRELIM	Sheet 1 of 1				
	Easting: 480461.1	Northing: 169889.3	Ground Level:	Plant Used: Tracked excavator	Date Printed: 11/08/2023	Scale: 1:25				
Trial Pit Log				Weather:		Hole Termination: Natural soils confirmed		Stability: Sides stable		
Samples & In Situ Testing			Strata Details						Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description				
0.20	ES1			(0.40)		Made Ground comprised of brown slightly sandy gravelly CLAY with frequent brick fragments, concrete, tile and occasional wood MADE GROUND				
				0.40		Firm bluish grey sandy CLAY. Sand is fine. Organic type odour LONDON CLAY			0.5	
0.90	ES2			(0.80)					1.0	
				1.20		Firm brown grey mottled slightly sandy CLAY. Sand is fine LONDON CLAY			1.5	
				(0.30)					2.0	
				1.50		End of Trial Pit at 1.50m			2.5	
									3.0	
									3.5	
Dimensions:						Photo:				
Final Depth:	1.50m									
Final Width:	2.00m									
Final Length:	1.80m									
Remarks										
						Water Strikes (mbgl)				
						Depth Strike	Rose to	Time Elapsed (mins)		

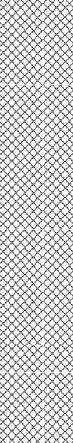
 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP202			
	Contract Number: GE20647	Date Started: 24/11/2022	Logged By: FG	Checked By: SA	Status: PRELIM	Sheet 1 of 1				
	Easting: 480470.4	Northing: 169867.7	Ground Level:	Plant Used: Tracked excavator	Date Printed: 11/08/2023	Scale: 1:25				
Trial Pit Log				Weather: Dry, cool, slight breeze		Hole Termination: Natural soils confirmed		Stability: Sides unstable		
Samples & In Situ Testing			Strata Details						Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description				
0.30	ES1			(0.80)		Made Ground comprised of light slightly clayey gravelly SAND with frequent bricks and brick occasional concrete and rare charcoal MADE GROUND			0.5	
1.00	ES2			(0.50)		Yellowish orange slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to medium sub angular to sub rounded of flint LONDON CLAY			1.0	
				1.30		End of Trial Pit at 1.30m			1.5	
									2.0	
									2.5	
									3.0	
									3.5	
Dimensions:					Photo:					
Final Depth:	1.30m									
Final Width:	2.00m									
Final Length:	1.60m									
Remarks										
					Water Strikes (mbgl)					
					Depth Strike	Rose to	Time Elapsed (mins)			

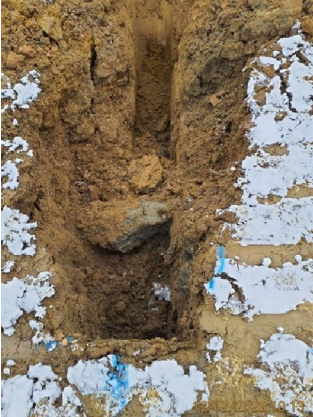
 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP203				
	Contract Number: GE20647	Date Started: 24/11/2022	Logged By: FG	Checked By: SA	Status: PRELIM	Sheet 1 of 1					
	Easting: 480439.1	Northing: 169836.8	Ground Level:	Plant Used: Tracked excavator	Date Printed: 11/08/2023	Scale: 1:25					
Trial Pit Log											
Weather: Dry, still, cool			Hole Termination: Natural soils confirmed			Stability: Sides stable					
Samples & In Situ Testing			Strata Details						Water	Backfill	
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description					
0.15	ES1			(0.30)		Made Ground comprised of brown slightly sandy gravelly CLAY with frequent brick and brick fragments, occasional tile, glass and rootlets MADE GROUND					
0.45	ES2			0.30		Firm orange brown sandy CLAY with rare rootlets. Sand is fine LONDON CLAY			0.5		
				(0.60)							
				0.90		End of Trial Pit at 0.90m			1.0		
									1.5		
									2.0		
									2.5		
									3.0		
									3.5		
Dimensions:						Photo:					
Final Depth:	0.90m										
Final Width:	2.00m										
Final Length:	1.40m										
Remarks											
						Water Strikes (mbgl)					
						Depth Strike	Rose to		Time Elapsed (mins)		

 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP204		
	Contract Number: GE20647	Date Started: 18/07/2023	Logged By: SA	Checked By:	Status: PRELIM	Sheet 1 of 1			
	Easting: 480424.6	Northing: 169852.9	Ground Level:	Plant Used: Tracked excavator	Date Printed: 11/08/2023	Scale: 1:25			
Trial Pit Log		Weather: Warm sunny			Hole Termination:		Stability: Localised spalling		
Samples & In Situ Testing			Strata Details					Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			
0.70	ES1			(0.80)		Brown and black mixture of sandy clay and clayey gravelly sand with frequent gravel and cobble sized brick and concrete. Occasional wire and rootlet clumps. Occasional gravel and cobble sized asbestos cement. Black ashy boulder sized pocket from 0.70m in west end. MADE GROUND		0.5	
				0.80		End of Trial Pit at 0.80m		1.0	
								1.5	
								2.0	
								2.5	
								3.0	
								3.5	
Dimensions:						Photo:			
Final Depth:	0.80m								
Final Width:	1.00m								
Final Length:	3.00m								
Remarks									
No groundwater encountered									
Water Strikes (mbgl)									
Depth Strike		Rose to		Time Elapsed (mins)					
						PhotoofPit PhotoofSpoil			

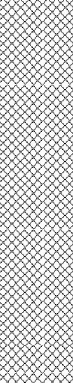
 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP205		
	Contract Number: GE20647	Date Started: 18/07/2023	Logged By: SA	Checked By:	Status: PRELIM	Sheet 1 of 1			
	Easting: 480447.5	Northing: 169862.6	Ground Level:	Plant Used: Tracked excavator	Date Printed: 11/08/2023	Scale: 1:25			
Trial Pit Log		Weather: Warm cloudy		Hole Termination:		Stability: Localised spalling			
Samples & In Situ Testing			Strata Details					Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			
0.40	B1			0.15		Asphalt.		0.5	
0.50	B2			(0.30)		Red sandy gravel and cobble sized brick fragments with some gravel sized asbestos cement fragments [sampled ACM01]. MADE GROUND			
0.50	B3			0.45		Brown slightly silty slightly gravelly sand with some gravel and cobble sized brick and concrete. Occasional timber, metal and broken sewer pipe fragments. Occasional gravel sized asbestos cement fragments [example sampled ACM02]. One gravel sized pocket of non-asbestos fibrous debris [sampled ACM03].			
0.60	ES1			0.70		MADE GROUND			
0.90	ES2			0.95		MADE GROUND <i>Redundant blue water pipe in west end</i> Light grey and orange brown slightly silty gravelly medium SAND. RIVER TERRACE DEPOSITS <i>Redundant gas pipe and black water pipe in east end</i> End of Trial Pit at 0.95m			
Dimensions:					Photo:				
Final Depth:	0.95m								
Final Width:	1.00m								
Final Length:	4.00m								
Remarks									
Moderate seepage of water at 0.9m in west end									
Water Strikes (mbgl)									
Depth Strike		Rose to		Time Elapsed (mins)					
					PhotoofPit		PhotoofSpoil		

 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C		Client: Vistry Thames Valley			Trial Pit ID: TP206	
	Contract Number: GE20647	Date Started: 12/12/2022	Logged By: TM	Checked By: SA	Status: PRELIM	Sheet 1 of 1	
Trial Pit Log	Easting: 480436.2	Northing: 169881.8	Ground Level:	Plant Used: 12t	Date Printed: 11/08/2023	Scale: 1:25	
	Weather: Misty		Hole Termination: Natural soils confirmed		Stability: Sides unstable		

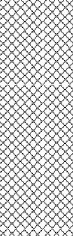
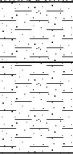
Samples & In Situ Testing			Strata Details				Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description		
0.30	ES1			(1.50)		Brown to dark brown and green sandy gravelly CLAY with frequent bricks, brick fragments pipes, glass and concrete. Sand is fine to coarse. Gravel is fine to medium subangular to sub rounded. MADE GROUND	0.5	
1.80	ES2	PP=1.75kg/cm2		1.50		Orangish brown clayey fine to coarse SAND and fine to medium rounded GRAVEL. RIVER TERRACE DEPOSITS	1.5	
				1.70 (0.30)		Firm orangish brown and grey mottled sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium rounded. RIVER TERRACE DEPOSITS	2.0	
				2.00		End of Trial Pit at 2.00m	2.0	
							2.5	
							3.0	
							3.5	

Dimensions:		Photo:	
Final Depth:	2.00m	 PhotoofPit	 PhotoofSpoil
Final Width:	0.60m		
Final Length:	3.50m		
Remarks			
Made ground is very unstable			
Water Strikes (mbgl)			
Depth Strike	Rose to	Time Elapsed (mins)	

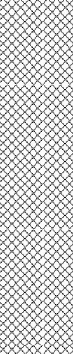
 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP207			
	Contract Number: GE20647	Date Started: 12/12/2022	Logged By: TM	Checked By: SA	Status: PRELIM	Sheet 1 of 1				
	Easting: 480429.6		Northing: 169896.9	Ground Level:	Plant Used: 12t	Date Printed: 11/08/2023	Scale: 1:25			
Trial Pit Log			Weather: Misty			Hole Termination: Natural soils confirmed			Stability: Sides unstable	

Samples & In Situ Testing			Strata Details				Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description		
0.60	ES1			(1.30)		Soft black sand gravelly CLAY with frequent brick, brick fragments, glass and safety glass mixed with soft orangish brown very sandy very gravelly CLAY. Sand is fine to very coarse and gravel is fine to medium rounded. MADE GROUND	0.5	
1.40	ES2			1.30		Brown to orangish brown very sandy, very gravelly CLAY. Sand is fine to coarse gravel is fine to medium	1.0	
				1.50		RIVER TERRACE DEPOSITS	1.5	
						End of Trial Pit at 1.50m	2.0	
							2.5	
							3.0	
							3.5	

Dimensions:			Photo:	
Final Depth:	1.50m		 PhotoofPit	 PhotoofSpoil
Final Width:	0.60m			
Final Length:	3.00m			
Remarks				
Made ground is very unstable				
Water Strikes (mbgl)				
Depth Strike	Rose to	Time Elapsed (mins)		

 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP208						
	Contract Number: GE20647	Date Started: 12/12/2022	Logged By: TM	Checked By: SA	Status: PRELIM	Sheet 1 of 1							
	Easting: 480387.2	Northing: 169909.6	Ground Level:	Plant Used: 12t	Date Printed: 11/08/2023	Scale: 1:25							
Trial Pit Log			Weather: Misty			Hole Termination: Natural soils confirmed			Stability: Sides stable				
Samples & In Situ Testing						Strata Details						Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description							
0.30 0.40 0.50	ES1 ES4 ES5			(0.80)		Very dark brown clayey fine to coarse SAND and fine to medium subangular to rounded GRAVEL with potential ACMs (coarse gravel sized cement board sampled and 40mm length of suspected asbestos fabric, rope sampled), frequent brick fragments, glass, material, plastic, wood and other organic matter, ceramic waste and metal wire. MADE GROUND					0.5		
0.90	ES2			0.80 1.00 (0.30)		Greenish grey sandy CLAY with black organic staining. Sand is fine to coarse. Pockets of very sandy and slightly sandy clay. LONDON CLAY Greenish grey sandy CLAY. Sand is fine to coarse. Pockets of very sandy and slightly sandy clay. LONDON CLAY					1.0		
1.30	ES3	PP=1.25kg/cm2 PP=1.5kg/cm2		1.30		End of Trial Pit at 1.30m					1.5 2.0 2.5 3.0 3.5		
Dimensions:												Photo:	
Final Depth:		1.30m											
Final Width:		0.60m											
Final Length:		3.00m											
Remarks													
Water Strikes (mbgl)													
Depth Strike		Rose to		Time Elapsed (mins)									
													
PhotoofPit						PhotoofSpoil							

 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley		Trial Pit ID: TP210	
	Contract Number: GE20647	Date Started: 12/12/2022	Logged By: TM	Checked By: SA	Status: PRELIM	Sheet 1 of 1	
Trial Pit Log	Easting: 480423.3	Northing: 169917.1	Ground Level:	Plant Used: 12t	Date Printed: 11/08/2023	Scale: 1:25	
Weather: Misty			Hole Termination: Natural soils confirmed		Stability: Sides unstable		

Samples & In Situ Testing			Strata Details				Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description		
0.40	ES1			(1.20)		Soft black sandy gravelly CLAY with frequent brick fragments, brick safety glass, metal pipe tree rootlets to root upto 20mm. Sand is fine to coarse. Gravel is fine to medium subangular to sub rounded. MADE GROUND	0.5	
1.30	ES2	PP=1.25kg/cm2 PP=1.5kg/cm2		1.20 1.40		Soft to firm orangish brown mottled grey sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to medium well rounded. LONDON CLAY	1.0 1.5	
							2.0	
							2.5	
							3.0	
							3.5	

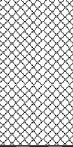
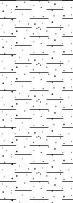
End of Trial Pit at 1.40m

Dimensions:			Photo:	
Final Depth:	1.40m		 	
Final Width:	0.60m			
Final Length:	2.50m			
Remarks				
Made ground is very unstable				
Water Strikes (mbgl)				
Depth Strike	Rose to	Time Elapsed (mins)		

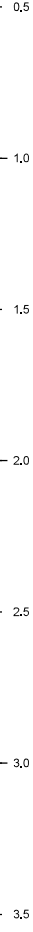
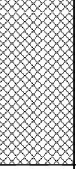

 PhotoofPit


 PhotoofSpoil

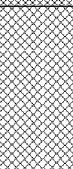
 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP211	
	Contract Number: GE20647	Date Started: 12/12/2022	Logged By: TM	Checked By: SA	Status: PRELIM	Sheet 1 of 1		
Trial Pit Log	Easting: 480444.5	Northing: 169912.6	Ground Level:	Plant Used: 12t	Date Printed: 11/08/2023	Scale: 1:25		
	Weather: Misty		Hole Termination: Natural soils confirmed		Stability: Sides unstable			

Samples & In Situ Testing			Strata Details				Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description		
0.20	ES1			(0.50)		Dark brown to black sandy gravelly CLAY with frequent rootlets, brick and brick fragments, metal and foil. Sand is fine to coarse. Gravel is fine to medium sub angular. MADE GROUND		
0.70	ES2			(0.70)		Green very sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium rounded. RIVER TERRACE DEPOSITS		
1.30	ES3			1.20		Brown and orangish brown clayey to very clayey fine to coarse SAND. RIVER TERRACE DEPOSITS		
				1.40		End of Trial Pit at 1.40m		

Dimensions:		Photo:	
Final Depth:	1.40m	 12/12/2022 12:05 PhotoofPit	 12/12/2022 12:05 PhotoofSpoil
Final Width:	0.60m		
Final Length:	3.00m		
Remarks			
Made ground is very unstable			
Water Strikes (mbgl)			
Depth Strike	Rose to	Time Elapsed (mins)	

 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP212		
	Contract Number: GE20647	Date Started: 18/07/2023	Logged By: SA	Checked By:	Status: PRELIM	Sheet 1 of 1			
	Easting: 480452.2	Northing: 169864.8	Ground Level:	Plant Used: Tracked excavator	Date Printed: 11/08/2023	Scale: 1:25			
Trial Pit Log				Weather: Warm sunny		Hole Termination:		Stability: Localised spalling	
Samples & In Situ Testing			Strata Details					Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			
0.40 0.50	B1 ES1			0.15		Asphalt.			
				(0.65)		Brown and red silty sand and gravel with many gravel sized clay tile. Occasional gravel sized asbestos cement fragments. Three gravel sized fragments of disaggregated non-asbestos fibrous board [sampled ACM04]. MADE GROUND			
				0.80		Firm mottled grey and yellow brown CLAY.			
				0.90		RIVER TERRACE DEPOSITS End of Trial Pit at 0.90m			
Dimensions:						Photo:			
Final Depth:	0.90m								
Final Width:	1.00m								
Final Length:	1.00m								
Remarks									
No groundwater encountered.									
Water Strikes (mbgl)									
Depth Strike		Rose to		Time Elapsed (mins)					

 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP213		
	Contract Number: GE20647	Date Started: 18/07/2023	Logged By: SA	Checked By:	Status: PRELIM	Sheet 1 of 1			
	Easting: 480417.9	Northing: 169851.6	Ground Level:	Plant Used: Tracked excavator	Date Printed: 11/08/2023	Scale: 1:25			
Trial Pit Log		Weather: Warm cloudy		Hole Termination:		Stability: Localised spalling			
Samples & In Situ Testing			Strata Details					Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			
0.00	B1			0.20		Light brown and orange brown slightly gravelly clay with occasional gravel and cobble sized brick fragments. Non-asbestos fibrous board noted on surface [sampled ACM05].			
0.50	ES1			(1.00)		MADE GROUND Dark brown, orange and black sandy gravelly clay and clayey gravelly sand with frequent gravel and cobble sized brick, slate, concrete and glass bottles. Occasional wire and metal.			
1.00	ES2			1.20		MADE GROUND			
1.30	ES3			1.40		Firm light brown very sandy gravelly CLAY. RIVER TERRACE DEPOSITS			
						End of Trial Pit at 1.40m			
Dimensions:					Photo:				
Final Depth:	1.40m								
Final Width:	1.00m								
Final Length:	2.00m								
Remarks									
Moderate seepage of water at 1.0m									
Water Strikes (mbgl)									
Depth Strike		Rose to		Time Elapsed (mins)					
					PhotoofPit				
					PhotoofSpoil				

 Geo-Environmental	Contract Name: Matthewsgreen, Wokingham Phase 4C			Client: Vistry Thames Valley			Trial Pit ID: TP214		
	Contract Number: GE20647	Date Started: 18/07/2023	Logged By: SA	Checked By:	Status: PRELIM	Sheet 1 of 1			
	Easting: 480409.1	Northing: 169864.6	Ground Level:	Plant Used: Tracked excavator	Date Printed: 11/08/2023	Scale: 1:25			
Trial Pit Log		Weather: Warm cloudy		Hole Termination:			Stability: Localised spalling		
Samples & In Situ Testing			Strata Details					Water	Backfill
Depths	Sample ID	Test Result	Reduced Level	Depth (m) (Thickness)	Legend	Strata Description			
0.40	ES1			0.15		Asphalt.		0.5	
				(0.55)		Dark brown very clayey gravelly sand with occasional gravel and cobble sized brick and concrete. Two gravel sized asbestos cement fragments. MADE GROUND			
				0.70		Stiff yellow brown and orange brown sandy CLAY.			
				0.80	RIVER TERRACE DEPOSITS End of Trial Pit at 0.80m				
Dimensions:						Photo:			
Final Depth:	0.80m								
Final Width:	1.00m								
Final Length:	2.00m								
Remarks									
No groundwater encountered									
Water Strikes (mbgl)									
Depth Strike		Rose to		Time Elapsed (mins)					
						PhotoofPit			
						PhotoofSpoil			

APPENDIX C. JIWG DST Work Categories Assessment Tool

Refer to excel document '*JIWG DST work categories_101212*'

APPENDIX D. Asbestos Monitoring Record Forms and Air Monitoring Summary

RPE CHECKLIST



Project Name:		Project Number:										
Project Manager:		Site Manager:										
User name:	Issue date:	Fit test date:	Size: · S · M · M/L · L · Other:									
Respirator Make:	Model:	Manufacture date:	· ½ mask · Full mask									
Log Start date:		Log end date:										
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly respirator cleaning record												
During cleaning inspect the following items of your respirator												
Facepiece free from cracks, tears and dirt?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Facepiece seal area distortion free, material is pliable?												
Inhalation valves, including valve seats free from cracks or tearing?												
Head straps intact, do they have good elasticity?												
All plastic parts free of signs of cracking or fatigue?												
All gaskets properly seated?												
Exhalation valve & seat free from dirt, distortion, cracking, tearing?												
Lens free from cracks?(full face mask only)												
Lens free from scratches that impede vision?(full face mask only)												
Filters within their expiry date?												
Is the respirator facepiece less than 5 years old?												
Note: If any boxes above are marked No then the mask may have to be replaced. Consult with your supervisor before using the mask again.												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly respirator cartridge/filter check (mark with date changed)												
Supervisor monthly review (initial)												

Yes = Ok

No = Notify Supervisor do not use mask again.



ASBESTOS PICKING RPE DAILY INSPECTION AND SIGN IN/OUT SHEET

Each employee is responsible for inspecting their mask prior to use and signing (with date).
Time into and out of the Asbestos works area must be logged daily.

Date of works:

Site: _____

					Record entry and exit from work area							
Personnel	Type of RPE (Reusable or Disposable)	Daily inspection Signed	Work Activity	PPE level	In	Out	In	Out	In	Out	In	Out

Qualitative Respirator Face Fit

Test Results and Certificate

Details

Company	
Employee Name	
Assessor Name	
Mask Make	
Mask model	
Mask Condition	

Test Results

Exercise	Pass	Fail
Normal Breathing		
Deep Breathing		
Turning head side to side		
Moving head up and down		
Talking		
Bending over		
Normal breathing		

Sensitivity Test Level	10	20	30
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Was proper fit training provided?	Yes	No
Break seal test?	Yes	No

PPE worn during test	Specs	Goggles	Hard Hat	Hearing protection
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Summary

Is mask is acceptable for use?	YES	NO
Assessor Signature		
Employee Signature		
Date of Test		
Suggested Retest Date		

Risk Assessment - Working With Asbestos.

Project Title:	Location and details of activity:	Revision:	Element Reviewed:	Prepared and Date:	Reviewed and Date:
Eastbrook Studios Dagenham	Generic Risk Assessment for Working with asbestos contaminated soils	1		09/06/2023	12 Months

RISK ASSESSMENT													
Step 1		Step 2		Step 3		Step 4		Step 5		Step 6			
Potential Hazard and Associated Risk		Who Affected		Initial		Sampling & Training		Control Measures		Revised			
				S	L					R	S	L	R
The release and subsequent inhalation (breathing) of asbestos fibres when operating excavators by excavator operator		Excavator Operator		L	L	L	Asbestos soils samples taken across site and low levels of asbestos have been identified within the soil.		Due to the low quantification of asbestos found in the soil and the air monitoring results give confidence that any excavator operators are unlikely to be exposed to elevated airborne fibre concentrations. All operatives on site have had asbestos awareness training, should any suspected asbestos materials be identified all works should stop immediately the area sprayed down and covered and samples taken.		L	L	L
							Personal and background air sampling taken across the site						
							All operatives working on site have received asbestos awareness training						
The release and subsequent inhalation (breathing) of asbestos fibres when operatives are hand digging trial holes on site or hand picking asbestos debris		Hand digging trial holes operatives and Debris Pickers		L	M	M	Asbestos soils samples taken across site and low levels of asbestos have been identified within the soil.		Due to the possibility of a asbestos hot spot being located during hand digging of trial holes, then appropriate RPE & PPE should be utilised. All operatives have been faced fit tested with disposable FFP3 face masks and trained in the use of type 5 overalls and non laced footwear. During the hand digging of trial holes there will be an exclusion zone set up where all operatives within will be compliant with RPE & PPE requirements.		L	L	L
							Personal and background air sampling taken across the site						
							All operatives working on site have received asbestos awareness training and Cat B training for NNLW Works						
The release and subsequent inhalation (breathing) of asbestos fibres when Engineers and Surveyors are undertaking topography surveys or inspecting levels.		Surveying of current works		L	L	L	Asbestos soils samples taken across site and low levels of asbestos have been identified within the soil.		Due to the low quantification of asbestos found in the soil and the air monitoring results give confidence that any Engineers/surveyors are unlikely to be exposed to elevated airborne fibre concentrations. All Engineers/surveyors on site have had asbestos awareness training, should any suspected asbestos materials be identified all works should stop immediately the area sprayed down and covered and samples taken.		L	L	L
							Personal and background air sampling taken across the site						
							All operatives working on site have received asbestos awareness training						
The release and subsequent inhalation (breathing) of asbestos fibres when Excavator Banksman working with excavators		Excavator Banksman		L	L	L	Asbestos soils samples taken across site and low levels of asbestos have been identified within the soil.		Due to the low quantification of asbestos found in the soil and the air monitoring results give confidence that any Excavator Banksman are unlikely to be exposed to elevated airborne fibre concentrations. All Excavator Banksman on site have had asbestos awareness training, should any suspected asbestos materials be identified all works should stop immediately the area sprayed down and covered and samples taken.		L	L	L
							Personal and background air sampling taken across the site						
							All operatives working on site have received asbestos awareness training						
The release and subsequent inhalation (breathing) of asbestos fibres when operating excavators by excavator operator		Dumper Operator - Closed Cab		L	L	L	Asbestos soils samples taken across site and low levels of asbestos have been identified within the soil.		Due to the low quantification of asbestos found in the soil and the air monitoring results give confidence that any dumper operators are unlikely to be exposed to elevated airborne fibre concentrations. All operatives on site have had asbestos awareness training, should any suspected asbestos materials be identified all works should stop immediately the area sprayed down and covered and samples taken.		L	L	L
							Personal and background air sampling taken across the site						
							All operatives working on site have received asbestos awareness training						

R = Residual Risk Level / L = Acceptable M = Further control measures to be applied to reduce the risk to an acceptable level H = Not acceptable (Consult safety advisor for further assistance)

Method statement: (Tick box as required)		No	Yes	✓	Method Statement No:	
Additional Assessment: (Tick box as required)		PPE Assessment (Tick as required)				
Noise	COSHH	Handling	Helmet	✓	Respiratory	✓
Asbestos	✓	Lead	Radiation		Eye protection	✓
				Boots	✓	Type 5
				Gloves	✓	Others

TRAINING RECORD NON LICENSED ASBESTOS WORKS



Personal Details

Company	
Employee Name	
Trainer Name	

Hand Picking Asbestos Cement Fragments - Training Records

Requirements	Completed	Copy in Folder
Asbestos Awareness Training (Cat A)		
Face Fit Certificate		
Review of Plan of Works Completed		
Permit to Work Ref:		
Asbestos Risk Assessment (inc JIWG)		

Training Confirmation: (Training to be reviewed due to changes in site /work conditions).

Topic - Theory	Completed
Scope of Work – What is allowed by Law	
Legal obligations of work	
Procedures to Protect Yourself	
Work Methods	
Control Measures	
Work Equipment	
PPE and RPE Requirements and Use	
Other Potential Hazards	
Decontamination Procedure	
Emergency Procedures	
Waste Handling and Waste Disposal	
Practical Training	
Decontamination Procedures – removal of coveralls	
Use of PPE including RPE	
Use of Control Techniques (Damping Down)	

Summary

Trainer Signature			
Employee Signature			
Date of Training		Suggested Retraining Date	

APPENDIX F – ENVIRONMENTAL MONITORING

Daily Environmental Monitoring Form

ENGINEER	
SITE	Emmabrook
DATE:	27/12/24

WEATHER:			
Wind Speed (mph)		Pressure (hpa)	
Wind Direction		Temperature (oC)	
Rain (mm)	0.0	Humidity (%)	

Location	EMP1	EMP2	EMP3	EMP4	
Time	12:00	12:15	12:30	12:50	
Visible Dust	NIL	NIL	NIL	NIL	
VOCs	0	0	0	0	
Odour	1	1	1	1	
Noise (db)					
Noise Max	68	67	69	71	
Noise Avr	66	63	64	68	
Site Activity	PM/EX	PM/EX	PM/EX	PM/EX	

Comments

Odour scale	
No odour, not perceptible	1
Slight/very weak odour	2
Slight/weak odour	3
Faint odour	4
Weak distinct odour	5
Distinct odour	6
Strong odour	7
Very strong odour	8
Extremely strong odour	9
Severe odour	10

KEY FOR SITE ACTIVITY	
Plant Movement	PM
Excavating	EX
Breaking	BR
Screening	SC
Crushing	CR

CERTIFICATE OF ANALYSIS



MULTI-SAMPLE
REPORT REFERENCE
10404-1

REGISTERED
DATE
11/03/2024

RECEIVED
DATE
11/03/2024

ANALYSIS
STARTED
11/03/2024

ANALYSIS
COMPLETE
19/03/2024

LABORATORY

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

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

CLIENT CODE	101212	END DATE SAMPLED	05/03/2024
CLIENT SITE	Emmbrook	PO NUMBER	11034
DATE SAMPLED (DD/MM/YY)	20/02/2024		

Matrix: Water

Determinand	Technique	LOD	Accreditation	i2 Sample Number	734084	734085	734086	734087
				Sample Reference	EMP1	EMP2	EMP3	EMP4
Rate of Dust Deposition	T487	0.0 mg/m2/day	None	< 17.64	< 17.64	< 17.64	< 17.64	21.9
Total Solids (mass)	T487	10.0 mg	None	< 10.0	< 10.0	< 10.0	< 10.0	12.4
Total Solids (volume)	T487	0.001 l	None	0.600	0.400	0.100	0.100	1.300

Matrix: Sticky Pad

Determinand	Technique	LOD	Accreditation	i2 Sample Number	734088	734089	734090	734091
				Sample Reference	EMP1	EMP2	EMP3	EMP4
Directional Dust	T488	0.0	None	Saved In Online Documentation	Saved In Online Documentation	Saved In Online Documentation	Saved In Online Documentation	Saved In Online Documentation

Technical Reviewer	Role
Mr Andy Warburton	Media Preparation and Technical Support
Mrs Kathryn Holt	Senior Customer Service Advisor

Extra Testing Information

Technique Code	Technique Name	Samples
T487	L004B-Grav	734084, 734085, 734086, 734087
T488	L016-Sticky Pad Reader	734088, 734089, 734090, 734091

Testing Location	Samples
All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z o.o, Oddział w Polsce, ul.Pionierow 39, 41-711 Ruda Slaska, Poland	734084, 734085, 734086, 734087, 734088, 734089, 734090, 734091

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.
Note: All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement of uncertainty can be provided on request.
This is a simplified test report

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
Results in black are positive/detected results. Results in gray are below the LOD or have not been found.
LOD = Limit of Determination. This is the lowest reportable limit of the test.
The multi-sample report reference takes the form of [job number]-[version number].



Directional Dust Analysis Report

Job No: 10404 / 24-007996 Sample No: 734088 / 140030

Client: Provectus Remediation Ltd Site Reference: Emmbrook



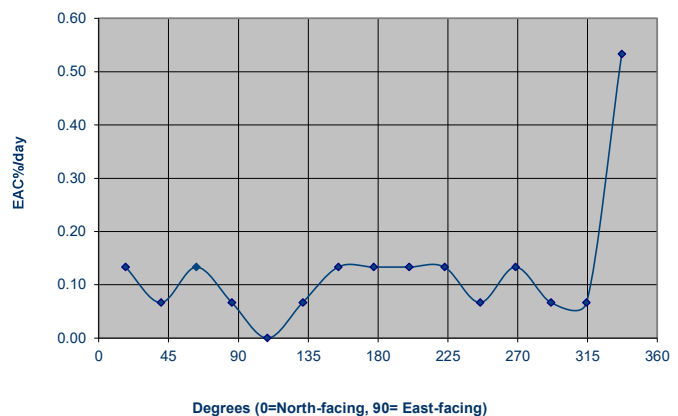
Gauge Ref: EMPI

Sticky Pad Data

Date On: 20/02/2024 Date Off: 05/03/2024 Days = 15
Clean = 106

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	98	337	0.53	
40	105	314	0.07	
60	105	291	0.07	
80	104	269	0.13	
100	105	246	0.07	
120	104	223	0.13	
140	104	200	0.13	
160	104	177	0.13	
180	104	154	0.13	
200	105	131	0.07	
220	106	109	0.00	
240	105	86	0.07	
260	104	63	0.13	
280	105	40	0.07	
300	104	17	0.13	

EAC%/day vs Orientation



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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Directional Dust Analysis Report

Job No: 10404 / 24-007996 Sample No: 734089 / 140030
Client: Provectus Remediation Ltd Site Reference: Emmbrook



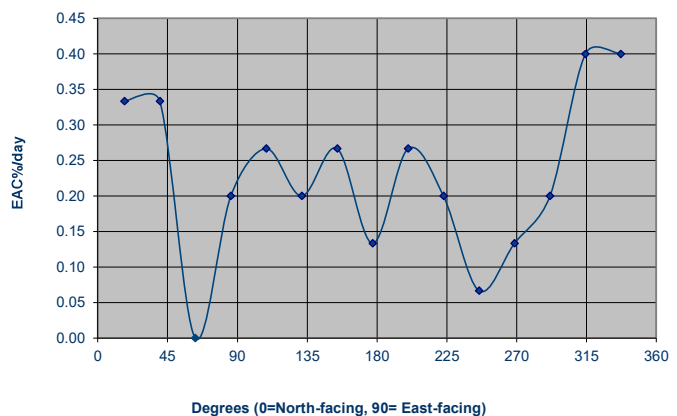
Gauge Ref: EMP 2

Sticky Pad Data

Date On: 20/02/2024 Date Off: 05/03/2024 Days = 15
Clean = 107

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	101	337	0.40	
40	101	314	0.40	
60	104	291	0.20	
80	105	269	0.13	
100	106	246	0.07	
120	104	223	0.20	
140	103	200	0.27	
160	105	177	0.13	
180	103	154	0.27	
200	104	131	0.20	
220	103	109	0.27	
240	104	86	0.20	
260	107	63	0.00	
280	102	40	0.33	
300	102	17	0.33	

EAC%/day vs Orientation



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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Directional Dust Analysis Report

Job No: 10404 / 24-007996 Sample No: 734090 / 140030
Client: Provectus Remediation Ltd Site Reference: Emmbrook



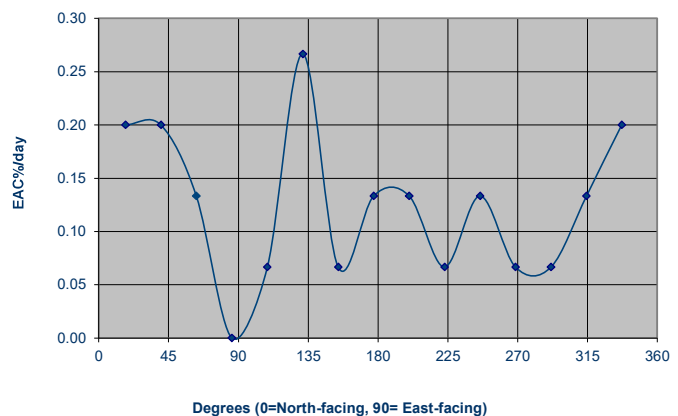
Gauge Ref: EMP 3

Sticky Pad Data

Date On: 20/02/2024 Date Off: 05/03/2024 Days = 15
Clean = 106

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	103	337	0.20	
40	104	314	0.13	
60	105	291	0.07	
80	105	269	0.07	
100	104	246	0.13	
120	105	223	0.07	
140	104	200	0.13	
160	104	177	0.13	
180	105	154	0.07	
200	102	131	0.27	
220	105	109	0.07	
240	106	86	0.00	
260	104	63	0.13	
280	103	40	0.20	
300	103	17	0.20	

EAC%/day vs Orientation



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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Directional Dust Analysis Report

Job No: 10404 / 24-007996 Sample No: 734091 / 140030
Client: Provectus Remediation Ltd Site Reference: Emmbrook



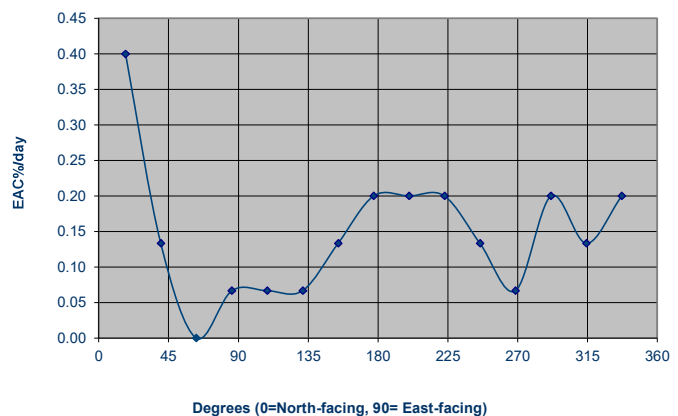
Gauge Ref: EMP 4

Sticky Pad Data

Date On: 20/02/2024 Date Off: 05/03/2024 Days = 15
Clean = 106

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	103	337	0.20	
40	104	314	0.13	
60	103	291	0.20	
80	105	269	0.07	
100	104	246	0.13	
120	103	223	0.20	
140	103	200	0.20	
160	103	177	0.20	
180	104	154	0.13	
200	105	131	0.07	
220	105	109	0.07	
240	105	86	0.07	
260	106	63	0.00	
280	104	40	0.13	
300	100	17	0.40	

EAC%/day vs Orientation



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
The calculation is based on taking readings at 20mm intervals along the sticky pad.

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CERTIFICATE OF ANALYSIS



MULTI-SAMPLE
REPORT REFERENCE
10604-1

REGISTERED
DATE
04/04/2024

RECEIVED
DATE
04/04/2024

ANALYSIS
STARTED
08/04/2024

ANALYSIS
COMPLETE
11/04/2024

LABORATORY

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

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

CLIENT CODE	101212	END DATE SAMPLED	19/03/2024
CLIENT SITE	Emmbrook	PO NUMBER	11034
DATE SAMPLED (DD/MM/YY)	05/03/2024		

Matrix: Water

Determinand	Technique	LOD	Accreditation	i2 Sample Number	746794	746795	746796	746797
				Sample Reference	EMP1	EMP2	EMP3	EMP4
Rate of Dust Deposition	T487	0.0 mg/m2/day	None	< 17.64	< 17.64	< 17.64	< 17.64	< 17.64
Total Solids (mass)	T487	10.0 mg	None	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Total Solids (volume)	T487	0.001 l	None	0.700	0.490	0.510	0.330	

Matrix: Sticky Pad

Determinand	Technique	LOD	Accreditation	i2 Sample Number	746798	746799	746800	746801
				Sample Reference	EMP1	EMP2	EMP3	EMP4
Directional Dust	T488	0.0	None	Unreportable	Unreportable	Refer to Additional Report	Unreportable	Unreportable

Technical Reviewer	Role
Mrs Kathryn Holt	Senior Customer Service Advisor
Mrs Jeanette Abbott	Customer Service Manager

Extra Testing Information

Technique Code	Technique Name	Samples
T487	L004B-Grav	746794, 746795, 746796, 746797
T488	L016-Sticky Pad Reader	746798, 746799, 746800, 746801

Testing Location	Samples
All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z o.o, Oddział w Polsce, ul.Pionierow 39, 41-711 Ruda Slaska, Poland	746794, 746795, 746796, 746797, 746798, 746799, 746800, 746801

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.
Note: All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement of uncertainty can be provided on request.
This is a simplified test report
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LOD = Limit of Determination. This is the lowest reportable limit of the test.
The multi-sample report reference takes the form of [job number]-[version number].



Directional Dust Analysis Report

Job No: 10604 / 24-012069 Sample No: 746800 / 160652

Client: Provectus Remediation Ltd Site Reference: Emmbrook



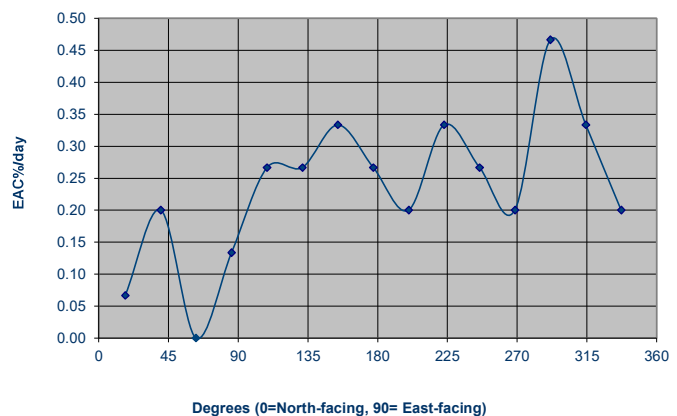
Gauge Ref: EMP3

Sticky Pad Data

Date On: 05/03/2024 Date Off: 19/03/2024 Days = 15
Clean = 101

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	98	337	0.20	
40	96	314	0.33	
60	94	291	0.47	
80	98	269	0.20	
100	97	246	0.27	
120	96	223	0.33	
140	98	200	0.20	
160	97	177	0.27	
180	96	154	0.33	
200	97	131	0.27	
220	97	109	0.27	
240	99	86	0.13	
260	101	63	0.00	
280	98	40	0.20	
300	100	17	0.07	

EAC%/day vs Orientation



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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CERTIFICATE OF ANALYSIS



LABORATORY REFERENCE	REPORT REFERENCE	REPORT VERSION	REGISTRATION DATE	RECEIPT DATE	ANALYSIS STARTED	ANALYSIS COMPLETE	REPORTED DATE
750749	750749-1	1	11/04/2024	11/04/2024	12/04/2024	19/04/2024	22/04/2024

LABORATORY

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

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

Sample Information

SAMPLE REFERENCE	EMP1	MATRIX	Water
CLIENT CODE	101212	DATE SAMPLED (DD/MM/YY)	19/03/2024
CLIENT SITE	Emmbrook	END DATE SAMPLED	02/04/2024
		PO NUMBER	11034

Sample information provided by the client

Results

Test Name	Result	LOD	Technique	Accred.
Rate of Dust Deposition	185 mg/m2/day		L004B-Grav	None
Total Solids (mass)	105 mg	10.0 mg	L004B-Grav	None
Total Solids (volume)	0.350 l	0.001 l	L004B-Grav	None

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.

Note: All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. Estimates of measurement uncertainty are available for all accredited methods in the Documents section of LIMS.

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LOD = Limit of Determination. This is the lowest reportable limit of the test.

All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z o.o, Oddział w Polsce, ul.Pionierow 39, 41-711 Ruda Slaska, Poland

Technical Reviewer	Role
Mrs Jeanette Abbott	Customer Service Manager
Mrs Kathryn Holt	Senior Customer Service Advisor
Authorised By	Role
Carisse Campbell	Admin

CERTIFICATE OF ANALYSIS



LABORATORY REFERENCE	REPORT REFERENCE	REPORT VERSION	REGISTRATION DATE	RECEIPT DATE	ANALYSIS STARTED	ANALYSIS COMPLETE	REPORTED DATE
750750	750750-1	1	11/04/2024	11/04/2024	12/04/2024	19/04/2024	22/04/2024

LABORATORY

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

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

Sample Information

SAMPLE REFERENCE	EMP2	MATRIX	Water
CLIENT CODE	101212	DATE SAMPLED (DD/MM/YY)	19/03/2024
CLIENT SITE	Emmbrook	END DATE SAMPLED	02/04/2024
		PO NUMBER	11034

Sample information provided by the client

Results

Test Name	Result	LOD	Technique	Accred.
Rate of Dust Deposition	< 17.64 mg/m2/day		L004B-Grav	None
Total Solids (mass)	< 10.0 mg	10.0 mg	L004B-Grav	None
Total Solids (volume)	0.270 l	0.001 l	L004B-Grav	None

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Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.

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LOD = Limit of Determination. This is the lowest reportable limit of the test.

All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z o.o, Oddział w Polsce, ul. Pionierow 39, 41-711 Ruda Śląska, Poland

Technical Reviewer	Role
Mrs Jeanette Abbott	Customer Service Manager
Mrs Kathryn Holt	Senior Customer Service Advisor
Authorised By	Role
Carisse Campbell	Admin

CERTIFICATE OF ANALYSIS



LABORATORY REFERENCE	REPORT REFERENCE	REPORT VERSION	REGISTRATION DATE	RECEIPT DATE	ANALYSIS STARTED	ANALYSIS COMPLETE	REPORTED DATE
750751	750751-1	1	11/04/2024	11/04/2024	12/04/2024	19/04/2024	22/04/2024

LABORATORY

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

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

Sample Information

SAMPLE REFERENCE	EMP3	MATRIX	Water
CLIENT CODE	101212	DATE SAMPLED (DD/MM/YY)	19/03/2024
CLIENT SITE	Emmbrook	END DATE SAMPLED	02/04/2024
		PO NUMBER	11034

Sample information provided by the client

Results

Test Name	Result	LOD	Technique	Accred.
Rate of Dust Deposition	< 17.64 mg/m2/day		L004B-Grav	None
Total Solids (mass)	< 10.0 mg	10.0 mg	L004B-Grav	None
Total Solids (volume)	0.310 l	0.001 l	L004B-Grav	None

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.

Note: All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. Estimates of measurement uncertainty are available for all accredited methods in the Documents section of LIMS.

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LOD = Limit of Determination. This is the lowest reportable limit of the test.

All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z o.o, Oddział w Polsce, ul. Pionierow 39, 41-711 Ruda Śląska, Poland

Technical Reviewer	Role
Mrs Jeanette Abbott	Customer Service Manager
Mrs Kathryn Holt	Senior Customer Service Advisor
Authorised By	Role
Carisse Campbell	Admin

CERTIFICATE OF ANALYSIS



LABORATORY REFERENCE	REPORT REFERENCE	REPORT VERSION	REGISTRATION DATE	RECEIPT DATE	ANALYSIS STARTED	ANALYSIS COMPLETE	REPORTED DATE
750752	750752-1	1	11/04/2024	11/04/2024	12/04/2024	19/04/2024	22/04/2024

LABORATORY

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

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

Sample Information

SAMPLE REFERENCE	EMP4	MATRIX	Water
CLIENT CODE	101212	DATE SAMPLED (DD/MM/YY)	19/03/2024
CLIENT SITE	Emmbrook	END DATE SAMPLED	02/04/2024
		PO NUMBER	11034

Sample information provided by the client

Results

Test Name	Result	LOD	Technique	Accred.
Rate of Dust Deposition	< 17.64 mg/m2/day		L004B-Grav	None
Total Solids (mass)	< 10.0 mg	10.0 mg	L004B-Grav	None
Total Solids (volume)	0.280 l	0.001 l	L004B-Grav	None

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.

Note: All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. Estimates of measurement uncertainty are available for all accredited methods in the Documents section of LIMS.

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LOD = Limit of Determination. This is the lowest reportable limit of the test.

All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z o.o, Oddział w Polsce, ul. Pionierow 39, 41-711 Ruda Śląska, Poland

Technical Reviewer	Role
Mrs Jeanette Abbott	Customer Service Manager
Mrs Kathryn Holt	Senior Customer Service Advisor
Authorised By	Role
Carisse Campbell	Admin

Directional Dust Analysis Report

Job No: 10834 /24-015166 Sample No: 756276 / 175810

Client: Provectus Remediation Ltd Site Reference: Emmbrook



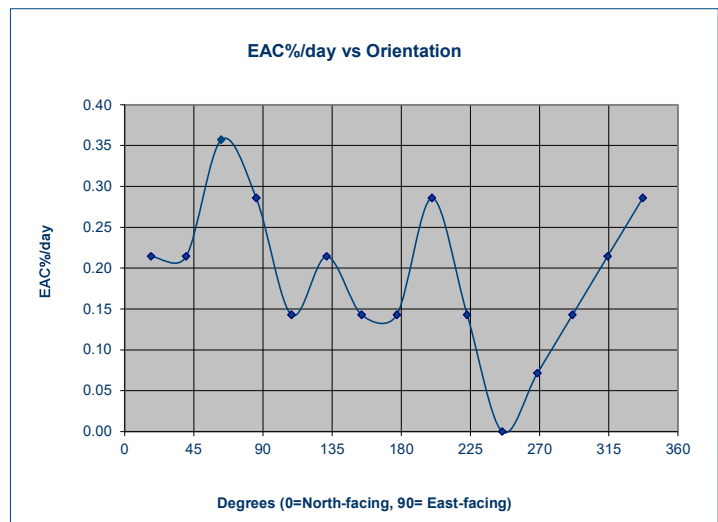
Gauge Ref: EMP3

Sticky Pad Data

Date On 19/03/2024 Date Off 02/04/2024 Days = 14

Clean = 101

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	97	337	0.29	
40	98	314	0.21	
60	99	291	0.14	
80	100	269	0.07	
100	101	246	0.00	
120	99	223	0.14	
140	97	200	0.29	
160	99	177	0.14	
180	99	154	0.14	
200	98	131	0.21	
220	99	109	0.14	
240	97	86	0.29	
260	96	63	0.36	
280	98	40	0.21	
300	98	17	0.21	



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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Directional Dust Analysis Report

Job No: 10834 /24-015166 Sample No: 756282 / 175816
 Client: Provectus Remediation Ltd Site Reference: Emmbrook

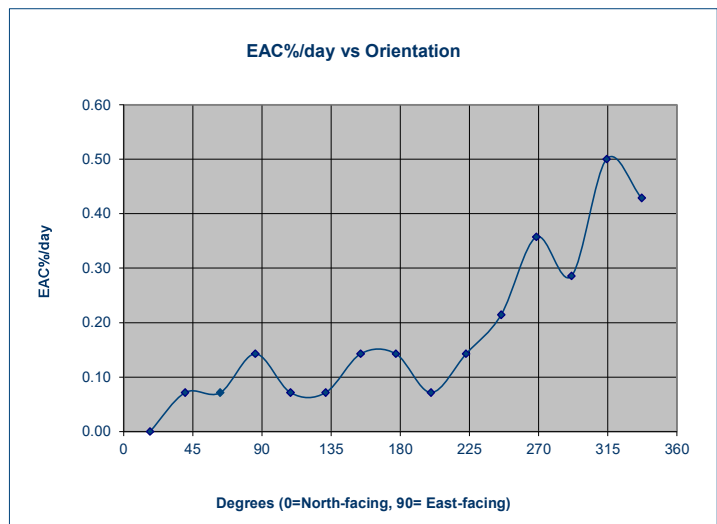


Gauge Ref: EMPI

Sticky Pad Data

Date On: 02/04/2024 Date Off: 16/04/2024 Days = 14
 Clean = 103

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	97	337	0.43	
40	96	314	0.50	
60	99	291	0.29	
80	98	269	0.36	
100	100	246	0.21	
120	101	223	0.14	
140	102	200	0.07	
160	101	177	0.14	
180	101	154	0.14	
200	102	131	0.07	
220	102	109	0.07	
240	101	86	0.14	
260	102	63	0.07	
280	102	40	0.07	
300	103	17	0.00	



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
 The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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 Watford, WD18 8YS
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 reception@i2analytical.com

Directional Dust Analysis Report

Job No: 10834 /24-015166 Sample No: 756284 / 178519
Client: Provectus Remediation Ltd Site Reference: Emmbrook



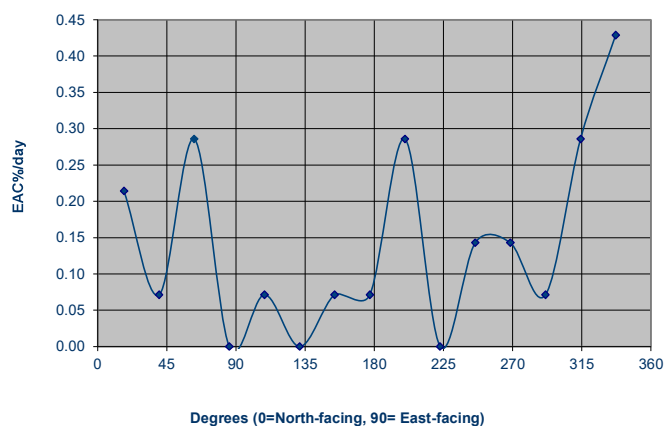
Gauge Ref: EMP3

Sticky Pad Data

Date On 02/04/2024 Date Off 16/04/2024 Days = 14

Clean =	102			
X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	96	337	0.43	
40	98	314	0.29	
60	101	291	0.07	
80	100	269	0.14	
100	100	246	0.14	
120	102	223	0.00	
140	98	200	0.29	
160	101	177	0.07	
180	101	154	0.07	
200	102	131	0.00	
220	101	109	0.07	
240	102	86	0.00	
260	98	63	0.29	
280	101	40	0.07	
300	99	17	0.21	

EAC%/day vs Orientation



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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CERTIFICATE OF ANALYSIS



MULTI-SAMPLE
REPORT REFERENCE
10834-1

REGISTERED
DATE
22/04/2024

RECEIVED
DATE
22/04/2024

ANALYSIS
STARTED
23/04/2024

ANALYSIS
COMPLETE
02/05/2024

LABORATORY

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

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

CLIENT CODE 101212 PO NUMBER 11034
CLIENT SITE Emmbrook

Matrix: Sticky Pad

				i2 Sample Number	756274	756282	756275	756283		
				Date Sampled (DD/MM/YY)	19/03/2024	02/04/2024	19/03/2024	02/04/2024		
				End Date Sampled	02/04/2024	16/04/2024	02/04/2024	16/04/2024		
				Sample Reference	EMP1	EMP1	EMP2	EMP2		
Determinand				Technique	LOD	Accreditation				
Directional Dust				T488	0.0	None	Unreportable ₄₇₃	Saved In Online Documentation	Unreportable ₄₇₃	Unreportable ₄₇₃

				i2 Sample Number	756276	756284	756277	756285
				Date Sampled (DD/MM/YY)	19/03/2024	02/04/2024	19/03/2024	02/04/2024
				End Date Sampled	02/04/2024	16/04/2024	02/04/2024	16/04/2024
				Sample Reference	EMP3	EMP3	EMP4	EMP4
Determinand				Technique	LOD	Accreditation		
Directional Dust				T488	0.0	None	Saved In Online Documentation	Saved In Online Documentation
							Unreportable ₄₇₃	Unreportable ₄₇₃

Matrix: Water

				i2 Sample Number	756278	756279	756280	756281		
				Date Sampled (DD/MM/YY)	02/04/2024	02/04/2024	02/04/2024	02/04/2024		
				End Date Sampled	16/04/2024	16/04/2024	16/04/2024	16/04/2024		
				Sample Reference	EMP1	EMP2	EMP3	EMP4		
Determinand				Technique	LOD	Accreditation				
Rate of Dust Deposition				T487	0.0 mg/m2/day	None	24.9	19.2	< 17.64	< 17.64
Total Solids (mass)				T487	10.0 mg	None	14.1	10.9	< 10.0	< 10.0
Total Solids (volume)				T487	0.001 l	None	0.450	0.480	0.350	0.250

Technical Reviewer	Role
Mrs Jeanette Abbott	Customer Service Manager

Extra Testing Information

Technique Code	Technique Name	Samples
T488	L016-Sticky Pad Reader	756274, 756275, 756276, 756277, 756282, 756283, 756284, 756285
T487	L004B-Grav	756278, 756279, 756280, 756281

Testing Location	Samples
All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z.o.o, Oddział w Polsce, ul.Pionierow 39, 41-711 Ruda Slaska, Poland	756274, 756275, 756276, 756277, 756278, 756279, 756280, 756281, 756282, 756283, 756284, 756285

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Tests covered by this certificate were conducted in accordance with i2 Analytical's SOPs.
Note: All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement of uncertainty can be provided on request.
This is a simplified test report
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Results in black are positive/detected results. Results in gray are below the LOD or have not been found.
LOD = Limit of Determination. This is the lowest reportable limit of the test.
The multi-sample report reference takes the form of [job number]-[version number].
473 - Security backing not applied correctly, therefore unsuitable for analysis



Directional Dust Analysis Report

Job No: 24-018436/11056 Sample No: 192752/767115
 Client: Provectus Site Reference: EMMBROOK

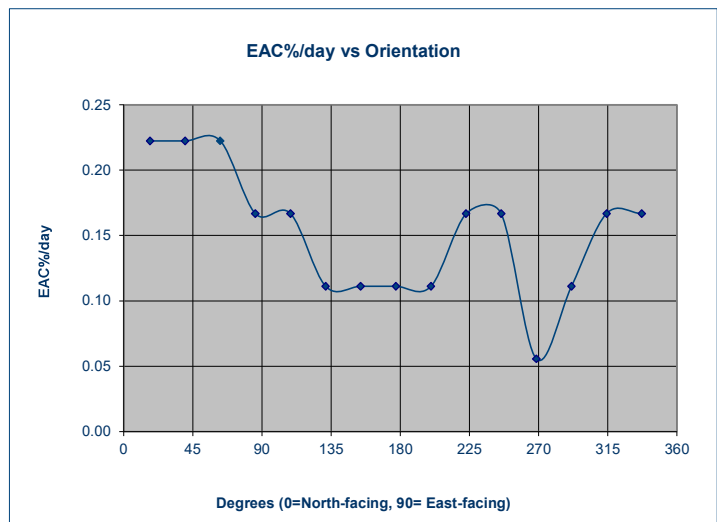


Gauge Ref: EMPI

Sticky Pad Data

Date On: 16/04/2024 Date Off: 03/05/2024 Days = 18

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	99	337	0.17	
40	99	314	0.17	
60	100	291	0.11	
80	101	269	0.06	
100	99	246	0.17	
120	99	223	0.17	
140	100	200	0.11	
160	100	177	0.11	
180	100	154	0.11	
200	100	131	0.11	
220	99	109	0.17	
240	99	86	0.17	
260	98	63	0.22	
280	98	40	0.22	
300	98	17	0.22	



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
 The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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Directional Dust Analysis Report

Job No: 24-018436/11056 Sample No: 192753/767116
 Client: Provectus Site Reference: EMMBROOK



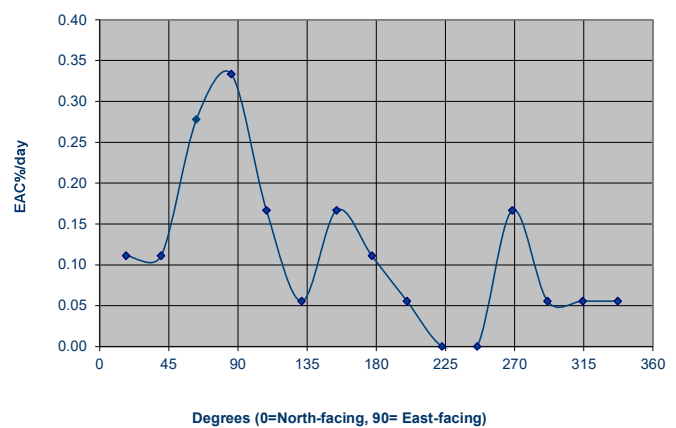
Gauge Ref: EMP2

Sticky Pad Data

Date On: 16/04/2024 Date Off: 03/05/2024 Days = 18

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	100	337	0.06	
40	100	314	0.06	
60	100	291	0.06	
80	98	269	0.17	
100	101	246	0.00	
120	101	223	0.00	
140	100	200	0.06	
160	99	177	0.11	
180	98	154	0.17	
200	100	131	0.06	
220	98	109	0.17	
240	95	86	0.33	
260	96	63	0.28	
280	99	40	0.11	
300	99	17	0.11	

EAC%/day vs Orientation



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
 The calculation is based on taking readings at 20mm intervals along the sticky pad.

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Directional Dust Analysis Report

Job No: 24-018436/11056 Sample No: 192754/767117
 Client: Provectus Site Reference: EMMBROOK

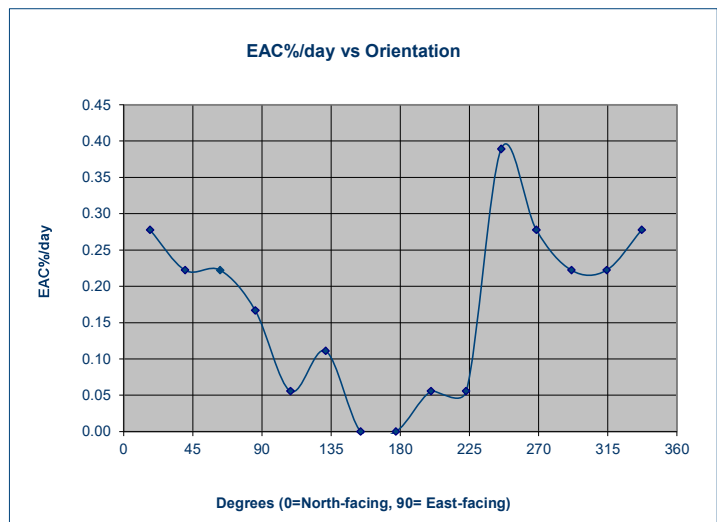


Gauge Ref: EMP3

Sticky Pad Data

Date On: 16/04/2024 Date Off: 03/05/2024 Days = 18

X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	98	337	0.28	
40	99	314	0.22	
60	99	291	0.22	
80	98	269	0.28	
100	96	246	0.39	
120	102	223	0.06	
140	102	200	0.06	
160	103	177	0.00	
180	103	154	0.00	
200	101	131	0.11	
220	102	109	0.06	
240	100	86	0.17	
260	99	63	0.22	
280	99	40	0.22	
300	98	17	0.28	



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
 The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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Directional Dust Analysis Report

Job No: 24-018436/11056 Sample No: 192755/767118
Client: Provectus Site Reference: EMMBROOK



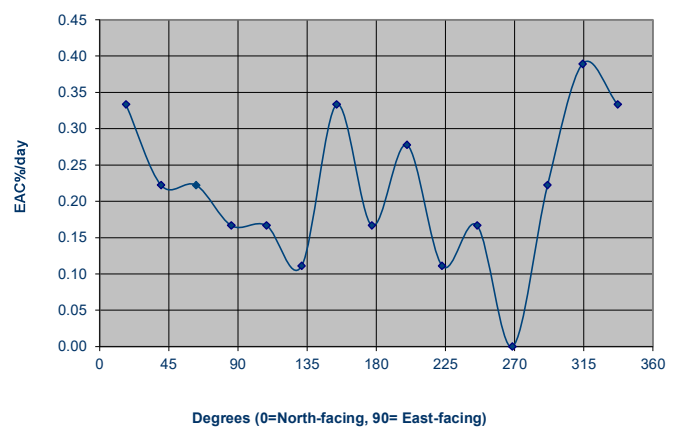
Gauge Ref: EMP4

Sticky Pad Data

Date On: 16/04/2024 Date Off: 03/05/2024 Days = 18

Clean =	105			
X Axis mm	Meter	Angle deg	EAC%/day	Comment
20	99	337	0.33	
40	98	314	0.39	
60	101	291	0.22	
80	105	269	0.00	
100	102	246	0.17	
120	103	223	0.11	
140	100	200	0.28	
160	102	177	0.17	
180	99	154	0.33	
200	103	131	0.11	
220	102	109	0.17	
240	102	86	0.17	
260	101	63	0.22	
280	101	40	0.22	
300	99	17	0.33	

EAC%/day vs Orientation



Note: Cells coloured green are inputs. The rest are either constants or calculated values.
The calculation is based on taking readings at 20mm intervals along the sticky pad.

LR016.1 i2 Analytical 08/2017

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CERTIFICATE OF ANALYSIS



MULTI-SAMPLE
REPORT REFERENCE
11056-1

REGISTERED
DATE
09/05/2024

RECEIVED
DATE
09/05/2024

ANALYSIS
STARTED
10/05/2024

ANALYSIS
COMPLETE
20/05/2024

LABORATORY

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

CUSTOMER

Provectus Remediation Ltd
Regeant House
Bath Avenue
Wolverhampton
WV1 4EG

CLIENT CODE	101212	END DATE SAMPLED	03/05/2024
CLIENT SITE	Emmbrook	PO NUMBER	11034
DATE SAMPLED (DD/MM/YY)	16/04/2024		

Matrix: Water

Determinand	Technique	LOD	Accreditation	i2 Sample Number Sample Reference	767111 EMP1	767112 EMP2	767113 EMP3	767114 EMP4
Rate of Dust Deposition	T487	0.0 mg/m2/day	None		40.8	21.4	15.7	< 14.53
Total Solids (mass)	T487	10.0 mg	None		28.1	14.7	10.8	< 10.0
Total Solids (volume)	T487	0.001 l	None		0.300	0.240	0.310	0.160

Matrix: Sticky Pad

Determinand	Technique	LOD	Accreditation	i2 Sample Number Sample Reference	767115 EMP1	767116 EMP2	767117 EMP3	767118 EMP4
Directional Dust	T488	0.0	None		Saved In Online Documentation	Saved In Online Documentation	Saved In Online Documentation	Saved In Online Documentation

Technical Reviewer	Role
Mrs Jeanette Abbott	Customer Service Manager

Extra Testing Information

Technique Code	Technique Name	Samples
T487	L004B-Grav	767111, 767112, 767113, 767114
T488	L016-Sticky Pad Reader	767115, 767116, 767117, 767118

Testing Location	Samples
All analysis was carried out at i2 Analytical (Poland), i2 Analytical Limited Sp z o.o, Oddział w Polsce, ul.Pionierow 39, 41-711 Ruda Slaska, Poland	767111, 767112, 767113, 767114, 767115, 767116, 767117, 767118

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
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