

Waste and Contaminated Land (NI) Order 1997
WASTE MANAGEMENT LICENCE





ENVIRONMENT
AND HERITAGE
SERVICE

LICENCE REF No :- LN/04/11/A FACILITY TYPE :- Landfill Site

The Department of the Environment, in pursuance of the Waste and Contaminated Land (NI) Order 1997, hereby grants a waste management licence authorising the separate land filling of non-hazardous and hazardous controlled waste in the land specified in schedule 1 to this licence to Mr. Sean Quinn, Mrs. Patricia Quinn, Mr. Liam McCaffrey, Mr. Paddy Mohan, Mr. Kevin Lunney (Directors) and Mr. Dara O'Reilly (Company Secretary) of Quinn Concrete Limited, Gortmullan, Derrylin, County Fermanagh, BT92 9AU, Registered Number NI026340 those persons being in occupation of the said land, the said licence being subject to the conditions specified in schedule 2 to this licence.

SCHEDULE 1.- SPECIFIED LAND.

The licence relates to the land at Quinn Landfill, Lisbane Landfill, 29 Auglish Road, Tandragee, Co. Armagh, Northern Ireland, BT62 2EE (hereinafter called "the site") shown edged red on Drawing Reference Number 102n097706, dated 12 March 2004, forming part of the application of 20 July 2004 and attached to this licence.

Signed	
Name	
Authorised officer of EHS	
Dated	4 January 2005

**YOUR ATTENTION IS DRAWN TO THE RIGHTS OF APPEAL DETAILED AT
THE END OF THIS LICENCE.**

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Contaminated Land
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SCHEDULE 2 - CONDITIONS RELATING TO THIS LICENCE

1 General considerations

1.1 Specified waste management operations

1.1.1 No waste management operations shall be authorised by this licence unless:

- a specified in and undertaken in accordance with the in the following table; or
- b otherwise required by the conditions of this licence as being an integral part of those operations:

Table 1.1 Specified waste management operations

Specified Waste Management Operation	Permitted Waste Types which may be subject to the Specified Operation	Limits on Specified Waste Management Operations
D5: Specially engineered landfill of waste	<ul style="list-style-type: none">a. Domestic, commercial and construction wasteb. Domestic and commercial incinerator residuesc. Non-hazardous industrial wasted. Sewage sludgee. Quarry wastef. Non-infectious clinical wasteg. Asbestos, or non-hazardous waste containing or contaminated with asbestos	<p>Waste shall not be deposited outside the designated areas in the planning approval.</p> <p>Asbestos is only to be deposited in designated hazardous waste cells. No other waste is to be deposited in the hazardous waste cells.</p>

Specified Waste Management Operations and Exempt Waste Management Operations

- 1.1.2 Where wastes are being brought onto the site for waste management operations which are exempt from licensing under the 2003 Regulations, then the wastes which are subject to the specified waste management operations shall be kept clearly segregated and identified from those wastes which are being kept on the site for the exempt waste management operations.

Criteria for Disposal of Asbestos in Non-hazardous sites

- 1.1.3 The cell for asbestos shall be constructed and operated in accordance with the Environment and Heritage Service "Interim Guidance for the Disposal in Landfills for Non-Hazardous Waste for Stable, Non-Reactive Hazardous Wastes; Asbestos; and Wastes with High Sulphates or Gypsum Contents" (Appendix A) for setting-up a separate cell for asbestos, waste acceptance procedures and containment.

1.2 Permitted wastes

Permitted categories and types of wastes

- 1.2.1 No wastes other than those which are categorised below in Table 1.2 shall be accepted at the site.

Permitted quantities of wastes

- 1.2.2 The quantities of wastes accepted shall not exceed those listed in Table 1.2. Whilst complying with the maximum quantities specified for each type of waste, the total quantity of waste accepted at the site per year shall not exceed 339,500 tonnes.

Table 1.2 Permitted quantities of waste	
Permitted Waste Categories	Maximum Permitted Quantities (tonnes/year)
Inert wastes (Quarry wastes)	52000 tonnes per year/ 165 tonnes per day
Special Wastes (Asbestos)	6250 tonnes per year/ 20 tonnes per day
Degradable Household Wastes Degradable Commercial Wastes Degradable Industrial Wastes	250000 tonnes per year/ 800 tonnes/day
Domestic and commercial incinerator wastes (non-hazardous)	15600 tonnes per year/ 50 tonnes per day
Other wastes:	
Clinical wastes (non-infectious wastes only).	3150 tonnes per year/ 10 tonnes per day
Sewage sludge	12500 tonnes per year/ 40 tonnes per day

Exclusion of wastes with other specified characteristics

- 1.2.3 Notwithstanding the specification of permitted waste types under conditions 1.2.1 and 1.2.2 above, wastes shall not be accepted at the site, which have any of the following characteristics:

Table 1.2.A Excluded wastes of specified form and type

Waste Characteristic	Type
Form and Type:	Liquids Consisting of or containing List I substances* Consisting of or containing List II substances*

*Refers to EC Dangerous Substances Directive (76/464/EEC)

1.3 Hours of operation

- 1.3.1 The following specified waste management operations authorised by this licence shall only be carried out within the times specified in Table 1.3 below.

Table 1.3 Permitted operating hours

Specified waste management operations	Permitted hours
Waste acceptance	0800 to 1800 Monday-Friday 0800-1300 Saturday

1.4 Duration of activities - groundwater protection

- 1.4.1 Subject to the terms of this condition, the activities of disposal, or tipping for the purpose of disposal, of waste which are authorised by this licence shall cease on 6 months from the date of issue of this licence unless, by that date, the Licence holder has submitted to the Department a written investigation and risk assessment, carried out in accordance with sub-condition 1.4.3, which shows that, at the specified date, the level of risk to groundwater meets the terms of Regulation 15 of the 1994 Regulations.
- 1.4.2 In the event that the continuation of activities is authorised in accordance with this condition, they shall cease on every fourth anniversary thereafter, unless by each of those dates the Licence Holder has submitted to the Department a written review of the investigation and risk assessment which shows that at the specified dates the level of risk to groundwater meets the terms of Regulation 15 of the 1994 Regulations.

Investigation and risk assessment under regulation 15

- 1.4.3 The licence holder shall undertake an investigation to assess the actual and potential impact of discharges from the site in respect of Regulation 15 of the 1994 Regulations. The investigation shall include the following, or, in the case of a subsequent review, shall include a review of the following:-
- a any relevant site investigation and monitoring data already available and interpretation of that data;

- b an examination of the hydrogeological conditions of the area in and around the site;
- c an examination of the possible purifying powers of the soil and subsoil;
- d an assessment of the risk of pollution and alteration of the quality of groundwater including the risk of harm to other aquatic systems and ecosystems and the likelihood of impeding exploitation of groundwater resources from any discharge, whether direct or indirect, of list I or list II substances.

1.4.4

The results of the investigation and of each subsequent review shall be submitted in a written report to the Department. The report shall include the following, or in the case of subsequent reviews, reviews thereof:

- a recommendations of the essential technical precautions which must be taken, paying particular attention to the nature and concentration of the substances present in the matter being disposed of or tipped, the characteristics of the receiving environment and the proximity of the water catchment areas, in particular those for drinking, thermal and mineral water;
- b recommendations of the technical precautions necessary:
 - i In the case where groundwater is considered to be permanently unsuitable for other uses, to ensure that no substance in list I can reach other aquatic ecosystems or harm other ecosystems, to ensure that the presence of any list I substance once discharged into the groundwater will not impede exploitation of ground resources and to prevent pollution of groundwater by list II substances; and
 - ii in the case where groundwater is not considered to be permanently unsuitable for other uses, to prevent any discharges into groundwater of substances in list I and to prevent any pollution of groundwater by substances in list II.

1.5 **Staffing and understanding of requirements of licence conditions and working plan**

Minimum staffing and supervision

- 1.5.1 Whenever the site is open to receive or despatch waste, or is carrying out any of the specified waste management treatment or disposal operations, it shall be supervised by at least one member of staff who is suitably trained and fully conversant with the requirements of the licence and the working plan regarding:
 - a waste acceptance and control procedures;
 - b operational controls and environmental monitoring;
 - c maintenance;
 - d record-keeping;
 - e emergency action plans;
 - f notifications to the Department.

Availability of licence and working plan

- 1.5.2 A copy of this licence and the working plan shall be kept available on site for reference when required by all site staff carrying out work under the requirements of the licence.

Understanding of licence and working plan

- 1.5.3 All site staff shall be, or shall work under the direct supervision of a member of staff who is, fully conversant with those aspects of the licence conditions and working plan which are relevant to their specific duties.

Attendance of Technically Competent Persons

- 1.5.4 Attendance of the technically competent person(s) at the site shall be recorded in the site diary on arrival and departure

1.6 Changes in technically competent persons

- 1.6.1 Any changes in the technically competent management of the site and the name of any incoming person [together with evidence that such person has the required technical competence] shall be submitted to the Department in writing within 5 working days of the change in management. Technically competent management and technical competence shall be as defined under Regulations 3 to 5 of the 2003 Regulations.

1.7 Relevant convictions

Notification of relevant convictions

- 1.7.1 In the event of the Licence Holder and/or any relevant person being convicted of any prescribed offence (as defined by Regulation 2 of the 2003 Regulations) and which is in addition to any already notified to the Department, then full details shall be provided to the Department within 14 days following sentencing, whether or not the conviction or sentence is subsequently appealed. Such details shall include, in respect of each relevant person (as defined in Article 3 of the Waste and Contaminated Land (NI) Order 1997 or any subsequent amendments to those regulations), the nature of the offence, the place and date of conviction, and any fine or other penalty imposed.

Notifications of appeals against convictions

- 1.7.2 In the event that the Licence Holder and/or any relevant person lodges an appeal against any such conviction or sentence, the Licence Holder shall notify the Department of this within 14 days of the lodging. The Licence Holder shall notify the Department of the results of that appeal, within 14 days of the appeal being decided.

1.8 Maintenance of financial provision

1.8.1 The financial provision for meeting the obligations under this Licence shall be maintained by the Licence Holder throughout the subsistence of this Licence and the Licence Holder shall produce evidence of such provision whenever required by the Department.

1.9 Amendments to working plan and supporting information

1.9.1 The Licence Holder shall give the Department prior notice in writing of any proposed change to the working plan, and to any associated appendices, drawings and figures which are referenced in the working plan.

1.9.2 The proposed change to the working plan shall not be implemented unless the Department has given its written consent to it. Following consent, the Licence Holder shall give the Department prior written notification of the implementation date of the change, and from that date the changed section shall be deemed to be incorporated in the working plan in replacement of the previous version of that section.

1.10 Notification of change of operator's or holder's details

This condition refers to changes in details concerning the existing licence holder/operator. Any change in licence holder or operator identity requires formal application to the Department. Change of licence holder or operator outside these requirements constitutes a breach of a licence condition.

1.10.1 The following information shall be notified in writing within 5 working days to the Department:

- a where the Licence Holder is an individual or named individuals:
 - i where the Licence Holder consists of more than one named individual, the death of any of those individuals;
 - ii any change in the Licence Holder's name(s) or address(es);
 - iii any steps taken with a view to the Licence Holder, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case them being in a partnership, dissolving the partnership;
 - iv the operator at the time of issue of the licence and of any change in the operator or in the operator's trading name, address, registered name or registered office address (if different from the Licence Holder);
- b where the Licence Holder is a registered company:
 - i any change in the Licence Holder's trading name, registered name or registered office address;
 - ii any steps taken with a view to the Licence Holder going into administration, entering into a company voluntary arrangement or being wound up;

- iii the operator at the time of issue of the licence and of any change in the operator or in the operator's trading name, address, registered name or registered office address (if different from the Licence Holder);
- c where the Licence Holder is a corporate body other than a registered company:
 - i any change in the Licence Holder's name or address;
 - ii any steps taken with a view to the dissolution of the Licence Holder;
 - iii the operator at the time of issue of the licence and of any change in the operator or in the operator's trading name, address, registered name or registered office address (if different from the Licence Holder)

1.11 Notification of preparatory works

- 1.11.1 No preparatory works shall be undertaken until at least 7 days prior notice in writing has been given to the Department of the intention to do so. The notification shall include details of what work is being done and when.

1.12 Notification of commencement, cessation and recommencement of waste handling operations

Specified waste management operations

- 1.12.1 No specified waste management operation shall be carried out until at least 7 days prior notice in writing has been given to the Department of the intention to commence carrying out the specified waste management operation.

Cessation and recommencement of receiving wastes

- 1.12.2 In the event that the site ceases receiving wastes for longer than 1 month then within 7 days following the elapse of that time, the Licence Holder shall inform the Department in writing of the date of cessation and of the planned date of recommencement. In the event that the site recommences receiving wastes sooner than the notified date then the Licence Holder shall give the Department not less than 5 days prior notice in writing.

1.13 Notifications and submissions to Department

- 1.13.1 Except where otherwise specified, all notifications and submissions to the Department under the requirements of these licence conditions:
- a shall be made in writing to the address specified by the Department in writing at the time of issue of this licence, or as subsequently specified by written notification to the Licence Holder;
 - b shall quote the licence reference number and the name of the Licence Holder.

2 Site engineering for pollution prevention and control

2.1 Engineering surveys

- 2.1.1 A network of stable, permanent survey control stations shall be established and maintained for the control of all survey work around the site. The stations shall be referenced to Irish National Grid co-ordinates, the grid alignment to be within +/- 1 metre and Levels referenced to Ordnance Datum. The accuracy of horizontal control shall not be less than 1:20 000. The level values of adjacent stations shall agree to less than or equal to 0.005 metres. No waste shall be accepted at the site until a schedule of descriptions, co-ordinates and level values of all control stations, together with details of Bench Marks used, has been submitted in writing to the Department.
- 2.1.2 A topographic survey shall be carried out immediately before the start of filling of each phase or cell, at annual intervals (unless otherwise agreed in writing by the Department), and at the completion of restoration. The scale shall adequately show surveyed features and be at least 1:1250. The surveys shall be sufficient to produce plans that include all roads, structures, boundaries, monitoring points and all other relevant site features. The results of the survey shall be presented as a plan, including the immediate neighbouring landform or an indication of that landform. Plan positions of ground features are to be shown to within 1 metre. Spot levels to 0.01m shall be shown at significant landform changes to a density to adequately indicate the true landform, no greater than 50 metre interval in open areas of even gradient, closer when indicating embankments, stockpiles, etc. A calculation of void space in cubic metres, taking account of settlement, shall be carried out at start and at each annual survey. The results of the survey and the calculation shall be submitted to the Department within 1 month of the survey being carried out.

2.2 Engineered site containment and drainage systems

Provision and maintenance of site containment and drainage systems

- 2.2.1 No waste [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations] shall be deposited, stored, treated or otherwise handled in any area of the site until the engineered site containment and drainage system for that area has been constructed and completed in accordance with this condition.
- 2.2.2 Within 6 months of the issue of this licence, a site plan and construction details of the site containment and drainage system shall be supplied to the Department showing the details listed below. The acceptability of the system together with the timescale for required improvements shall be agreed in writing with the Department:
- a Layout of areas of hardstanding;
 - b Layout of areas of impermeable pavement; and
 - c Layout of drainage systems, including details of following, where provided:
 - i kerbing;
 - ii interceptors ;

- iii discharge points ;
- iv sumps;
- v sealed drainage;
- vi isolation systems;

d Location and layout of covered buildings and roofed areas, where provided;

e Location and design of fixed tanks – above ground and underground – where provided, with layout of bunds and impermeable pavements or other engineered secondary containment;

f Location and layout of storage areas for drums and other mobile tanks and containers holding potentially polluting or hazardous wastes in liquid, sludge or powder form with layout of silled or bunded areas and impermeable pavements.

2.2.3

The engineered site containment and drainage systems shall be validated and maintained, and shall be fully documented and recorded, to be fit for purpose and to meet the standards specified in Table 2.1 below:

Table 2.1 Site containment and drainage standards

Type of Site Containment and Drainage	Minimum Specified Standards of Design, Construction and Maintenance
a) Hardstanding	<p>Areas of hardstanding shall be constructed of granular material (e.g. crushed stone, aggregate, road planings or similar material) and maintained such that the working surface:</p> <ul style="list-style-type: none"> i) shall remain even ii) shall not be subject to settlement iii) shall not be subject to rutting by vehicles even when wet iv) shall have sufficient durability to allow cleaning for example by scraping v) shall remain free of standing water
b) Impermeable pavement, bunding and sills	<p>Areas of impermeable pavement, bunding and sills shall be constructed and maintained so as to prevent fluids running off the pavement and the transmission of fluids through the pavement or joints.</p> <p>Areas of impermeable pavement shall be:</p> <ul style="list-style-type: none"> i) laid to take the weight of relevant vehicles, plant and equipment without cracking or breaking ii) free from cracks which could reduce impermeability iii) resistant to mechanical, physical and chemical stresses to which they may be subjected iv) fall towards the drainage system to prevent ponding <p>No liquid shall run off areas of impermeable pavement other than via the drainage system.</p>
c) Sealed drainage systems	<p>Drainage to areas of impermeable pavement shall be provided by a sealed drainage system that is comprised of a drainage system with impermeable components, which does not leak and, which will ensure that:</p> <ul style="list-style-type: none"> i) no liquid will run off the pavement otherwise than via the system; and ii) except where they may be lawfully discharged, all liquids entering the system are collected in a sealed sump. iii) sealed sumps shall be inspected no less frequently than daily and after rain, emptied when the collected liquids reach 80% of its capacity as measured using a dipstick or equivalent gauge, and constructed and maintained so as to collect and contain all liquids which run off the pavement. iv) inspections and emptying of sealed sumps shall be recorded in the site diary. v) uncontaminated drainage from clean yard areas shall be kept separate and discharged to either surface water or sewer or watercourse or soak away.
d) Covered buildings or roofed areas	<p>Where wastes are stored or treated in a building or roofed area:</p> <ul style="list-style-type: none"> i) The building or roofed area shall be designed,

Table 2.1 Site containment and drainage standards

Type of Site Containment and Drainage	Minimum Specified Standards of Design, Construction and Maintenance
e) Fixed tanks	<p>constructed and maintained to prevent ingress of rain and surface water.</p> <p>ii) Roof water shall be kept separate from contaminated water and other liquids and shall be discharged to either surface water or a sewer or a water course or a soak away.</p> <p>a) All fixed tanks used for the storage and treatment of wastes [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations] must, as the primary or first line of containment, be constructed and maintained to a standard which is fit for purpose.</p> <p>b) All fixed tanks (and their associated inlet and outlet pipes and valves) used for the storage of potentially polluting or hazardous wastes in liquid, sludge or powder form, [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations] shall be located within a bund and on an impermeable pavement, which shall be isolated from the site drainage system. The capacity of any bund shall be at least 110% of the total capacity of all tanks within it.</p> <p>c) All underground tanks (and their associated inlet and outlet pipes and valves) used for the storage of potentially polluting or hazardous wastes in liquid, sludge or powder form [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations] shall be located within engineered secondary containment, which shall be isolated from the site drainage system.</p>
f) Storage areas for drums and other mobile tanks and containers	<p>a) All drums and other mobile tanks and containers which are used for the storage and treatment of potentially polluting or hazardous wastes in liquid, sludge or powder form [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations] must, as the primary or first line of containment, be constructed and maintained to a standard which is fit for purpose.</p> <p>b) All drums and other mobile tanks and containers having a individual capacities of greater than 10 litres which are used for the storage of potentially polluting or hazardous wastes in liquid, sludge or powder form, [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations] shall be stored within silled areas with impermeable pavement, which shall be isolated from the site drainage system. The capacity of any bund shall be at least 110% of the total capacity of all tanks within it.</p>

Construction quality assurance of new site containment and drainage systems

- 2.2.4 No wastes shall be deposited, stored, treated or otherwise handled in any area [or in any fixed tank] for which an engineered site containment and drainage system has been newly constructed to meet the requirements of this condition until:
- a details of the identities, relevant experience and relevant qualifications of the personnel who will be providing Quality Assurance of the engineered site containment and drainage systems have been submitted in writing to the Department and acknowledged in writing by the Department;
 - b the engineered site containment and drainage system has been constructed in accordance with the other requirements of this condition;
 - c the Validation Report on the construction of the engineered site containment and drainage system has been submitted in writing to the Department and has been acknowledged in writing by the Department.

Construction quality assurance of existing site containment and drainage systems

- 2.2.5 No wastes shall be deposited, stored, treated or otherwise handled in any area [or in any fixed tank] for which a previously constructed and existing engineered site containment and drainage system is being used to meet the requirements of this condition unless:
- a details of the identities, relevant experience and relevant qualifications of the suitably qualified Engineer who will be providing inspection and validation of the existing engineered site containment and drainage systems have been submitted in writing to the Department and acknowledged in writing by the Department;
 - b the engineered site containment and drainage system for that area has been inspected by the designated Engineer and has been maintained or improved, in accordance with their recorded advice, to meet the standards specified in Table 2.1;
 - c the Validation Report confirming that the engineered site containment and drainage system meets the specified standards has been submitted in writing to the Department and has been acknowledged in writing by the Department.

2.3 Engineered landfill containment system for solid and liquid wastes (leachate and gas generating)

Provision of engineered landfill containment

- 2.3.1 Waste shall only be deposited in cells or phases which have an engineered landfill containment system which is constructed, completed, documented and recorded in accordance with the requirements of condition 2.3.2 below.

Construction quality assurance of engineered landfill containment

- 2.3.2 No wastes shall be deposited in any cell unless:
- a prior to construction, a Construction Quality Assurance Plan covering all elements of the engineered landfill containment system for that cell has been submitted in writing to the Department and the Department has given its written consent to it;

- b prior to construction, details of the identities, relevant experience and relevant qualifications of the personnel who will be providing third party, independent Quality Assurance of the construction have been submitted in writing to the Department and acknowledged in writing by the Department
- c the engineered containment system for that cell has been constructed and recorded in accordance with the Construction Quality Assurance Plan;
- d all changes to the Construction Quality Assurance Plan, third party, independent quality assurance, and detailed method statements have been notified in writing to the Department, and the Department has given its written consent to those changes;
- e the Validation Report on the construction of the engineered containment system for that cell has been submitted in writing to the Department and has been acknowledged in writing by the Department.

2.4 Leachate management systems

- 2.4.1 Waste shall only be deposited in cells which have an engineered leachate management system constructed, documented and recorded in accordance with the requirements of condition 2.4.3 below for a Leachate Management Plan.
- 2.4.2 The engineered leachate management system provided for each cell shall be used to maintain depths of leachate within the maximum permitted depth within each cell, in accordance with the Leachate Management Plan.
- 2.4.3 The Leachate Management Plan is to include:
 - a The design for the leachate containment system and Construction Quality Assurance Plan
 - b Water balance
 - c Details of engineered systems
 - d Extraction and collection methods and procedures
 - e Connection pipework configurations and alignments
 - f Details of the mechanical control systems
 - g Details of the leachate treatment methods
 - h Details of leachate disposal and discharge methods and routes
 - i Associated operational techniques for leachate bunds/cover/capping, etc
 - j Temporary leachate management systems
 - k Details of system monitoring, during pre-operational, operational, closure and after care phases (volume, meteorological conditions and quality)
 - l Location and specification of leachate monitoring points within the waste body
 - m Details of control strategies, including phasing of operations and re-circulation
 - n Operation, inspection and maintenance procedures
 - o Leachate, surface water and groundwater monitoring and sampling plan including trigger values/events and contingency, should these trigger values/levels be approached/breached.
- 2.4.4 Within 6 months of the completion of the issue of the licence, a Leachate Monitoring Plan and any associated appendices, drawings and figures that are referenced in the Leachate Monitoring Plan, shall be supplied to the Department.

Construction quality assurance of leachate management systems

- 2.4.5 No wastes shall be deposited in any cell unless:
- a prior to construction, a Construction Quality Assurance Plan covering all elements of the engineered leachate management system for that cell has been submitted in writing to the Department and the Department has given its written consent to it;
 - b prior to construction, details of the identities, relevant experience and relevant qualifications of the personnel who will be providing third party, independent Quality Assurance of the construction have been submitted in writing to the Department and acknowledged in writing by the Department.
- 2.4.6 The engineered leachate management system for that cell shall be constructed and recorded in accordance with the Construction Quality Assurance Plan, and the construction shall be completed within 1 month following completion of waste deposits in that cell.
- 2.4.7 Changes to the Construction Quality Assurance Plan, third party, independent quality assurance, and detailed method statements as referenced in the working plan shall not be implemented unless they have been notified in writing to the Department, and the Department has given its written consent to those changes.
- 2.4.8 Within 3 months following completion of the specified engineering for a cell, the Validation Report on the construction of the engineered leachate collection and extraction system for that cell shall be submitted in writing to the Department.

2.5 Landfill gas management systems

Provision of landfill gas management system

- 2.5.1 Each cell in which waste is deposited shall have an engineered landfill gas management system constructed, completed, documented and recorded in accordance with the requirements of condition 2.5.3 below for a Landfill Gas Management Plan.
- 2.5.2 The engineered landfill gas management system provided for each cell shall be operated and maintained, and fully documented and recorded, in accordance with the Landfill Gas Management Plan.
- 2.5.3 The Landfill Gas Management Plan is to include:
- a Gas Collection and Control
 - i The design for the landfill gas system and Construction Quality Assurance Plan
 - ii Details of engineered containment (liners and caps)
 - iii Types and locations of gas wells
 - iv Connection pipework configurations and alignments
 - v Details of the mechanical control systems
 - vi Details of system monitoring, during pre-operational, operational, closure and after care phases
 - vii Location, specification, installation, inspection and maintenance of landfill gas monitoring points within the waste body

- viii Landfill Gas Action Plan (to include trigger events/values and remedial actions)
 - ix Details of control strategies additional to collection and flaring or utilisation. It should include measures to collect and control landfill gas where there is insufficient methane to support combustion
 - b Gas Utilisation and Flaring
 - i Details of the proposed management of landfill gas utilisation plant or flare
 - ii Operation, inspection and maintenance procedures
- 2.5.4 Within 6 months of the completion of the issue of the licence, a Landfill Gas Monitoring Plan and any associated appendices, drawings and figures that are referenced in the Landfill Gas Monitoring Plan, shall be supplied to the Department.
- 2.5.5 The Landfill Gas Management System shall:
- a Minimise the risk of migration of landfill gas beyond the perimeter of the site so that risk of explosion, combustion, asphyxiation, odour or vegetation damage on adjoining property is eliminated.
 - b Avoid unnecessary air ingress into the landfill and minimise the risk of underground fires
 - c Minimise damage to soils and vegetation within the restored landfill area
 - d Minimise the impact on air quality

Construction quality assurance of landfill gas management systems

- 2.5.6 No wastes shall be deposited in any cell or phase unless:
- a prior to construction, a Construction Quality Assurance Plan covering all elements of the engineered landfill gas management system for that cell or phase has been submitted in writing to the Department and the Department has given its written consent to it;
 - b prior to construction, details of the identities, relevant experience and relevant qualifications of the personnel who will be providing Quality Assurance of the construction have been submitted in writing to the Department and acknowledged in writing by the Department.
- 2.5.7 The engineered landfill gas management system for that cell or phase shall be constructed and recorded in accordance with the Construction Quality Assurance Plan, and the construction shall be completed within 1 month following completion of waste deposits in that cell or temporary cessation of waste deposits in that cell or phase for a period of time longer than 3 months, or other specified period consistent with Intermediate Cover requirement.
- 2.5.8 Changes to the Construction Quality Assurance Plan, third party, independent quality assurance, and detailed method statements as referenced in the working plan shall not be implemented unless they have been notified in writing to the Department, and the Department has given its written consent to those changes.
- 2.5.9 Within 3 months following completion of the specified engineering works for each cell, the Validation Report on the construction of the engineered landfill gas collection and extraction system for that cell shall be submitted in writing to the Department.

2.6 Engineered surface water management systems

Provision of engineered surface water management systems

- 2.6.1 Engineered surface water management systems for each cell or phase shall be provided, which shall have been constructed, completed, documented and recorded in accordance with the requirements of condition 2.6.3 below for a Surface Water Management Plan.
- 2.6.2 The engineered surface water management system provided for each cell shall be operated and maintained, and fully documented and recorded in accordance with the Surface Water Management Plan.
- 2.6.3 The Surface Water Management Plan is to include:
- a The design for the leachate containment system and Construction Quality Assurance Plan
 - b Water balance
 - c Details of engineered systems
 - d Collection methods and procedures
 - e Pipework configurations and alignments
 - f Details of the mechanical control systems
 - g Details of surface water treatment methods
 - h Details of surface water disposal and discharge methods and routes
 - i Associated operational techniques for surface water bunds/cover/capping, etc
 - j Temporary surface water management systems
 - k Details of system monitoring, during pre-operational, operational, closure and after care phases (volume, meteorological conditions and quality)
 - l Details of the measures to be incorporated to ensure the segregation of surface water from contaminated waters
 - m Details of control strategies, including phasing of operations
 - n Operation, inspection and maintenance procedures
 - o Surface Water Action Plan (to include trigger events/values and remedial actions).
- 2.6.4 Within 6 months of the completion of the issue of the licence, a Surface Water Plan and any associated appendices, drawings and figures that are referenced in the Surface Water Monitoring Plan, shall be supplied to the Department.

Construction quality assurance of engineered surface water management systems

- 2.6.5 No wastes shall be deposited in any cell or phase unless:
- a prior to construction, a Construction Quality Assurance Plan covering all elements of the engineered surface water management system for that cell or phase has been submitted in writing to the Department and the Department has given its written consent to it;
 - b prior to construction, details of the identities, relevant experience and relevant qualifications of the personnel who will be providing Quality Assurance of the construction have been submitted in writing to the Department and acknowledged in writing by the Department.

- 2.6.6 The engineered surface water management system for that cell shall be constructed and recorded in accordance with the Construction Quality Assurance Plan, and the construction shall be completed within 1 month following the completion of waste deposits in that cell.
- 2.6.7 Changes to the Construction Quality Assurance Plan, and to the quality assurance procedures and detailed method statements as referenced in the working plan shall not be implemented unless they have been notified in writing to the Department, and the Department has given its written consent to those changes.
- 2.6.8 Within 3 months following completion of the specified engineering works for each cell, the Validation Report on the construction of the engineered surface water management system for that cell shall be submitted in writing to the Department.

2.7 Installation, maintenance and protection of final capping

Provision of final cap

- 2.7.1 No cell or phase shall be left without a final cap for longer than 6 months or such longer period as may be agreed in writing by the Department after the final levels of waste specified in the working plan have been attained.
- 2.7.2 Each final cap shall be designed, constructed, maintained and protected in accordance with the working plan and the Environment Agency Landfill Directive Regulatory Guidance Note 11 for the hazardous waste cell.

Construction quality assurance of final cap

- 2.7.3 No wastes shall be deposited in any cell or phase until a Construction Quality Assurance Plan covering the final cap for that cell or phase has been submitted in writing to the Department and the Department has given its written consent to it.
- 2.7.4 At least one month prior to the commencement of capping details of the identities, relevant experience and relevant qualifications of the personnel who will be providing Quality Assurance of the construction have been submitted in writing to the Department and acknowledged in writing by the Department.
- 2.7.5 The engineered final cap for that cell or phase shall be constructed and recorded in accordance with the Construction Quality Assurance Plan.
- 2.7.6 Changes to the Construction Quality Assurance Plan, and to the quality assurance procedures and detailed method statements as referenced the working plan shall not be implemented unless they have been notified in writing to the Department, and the Department has given its written consent to those changes.
- 2.7.7 Within 3 months following completion of the final cap for each cell, the Validation Report on the construction of the final cap for that cell shall be submitted in writing to the Department.

2.8 Site completion - final landform and engineering

2.8.1 In the event that the specified waste management operations on the site cease and it is confirmed to the Department that they will not be resumed, the Licence Holder shall ensure that any uncompleted cells are provided with the leachate and landfill gas collection and extraction systems and final cap and protection required under the other conditions of this licence, so as to achieve a landform that meets the following standards:

- a surface water is drained from the cell to a surface water drainage system provided in accordance with condition 2.6.1.

3 Site infrastructure

3.1 Provision of site identification board

- 3.1.1 No wastes shall be received at the site until an identification board has been provided at or near the site entrance.
- 3.1.2 The identification board shall be inspected at least once per week. In the event of damage or defect, the board shall be repaired or replaced within 3 working days.
- 3.1.3 The board shall be easily readable from outside the site entrance in daylight hours, and shall display the following information:
- a Site name and address;
 - b Licence Holder name (company name, not individual name unless justified as necessary);
 - c Operator name (company name, not individual name unless justified as necessary);
 - d Licence number;
 - e Emergency contact name and telephone number of licence holder/operator (for security reasons, personal names and home phone numbers should not be used except where no alternative is practicable);
 - f Statement that the site is licensed by Environment and Heritage Service, Department of the Environment;
 - g Environment and Heritage Service Telephone number 028 90 546450 (office hours),
 - h Days and hours site is open to receive waste.

[The location of the noticeboard should be such that it is clear that it does not designate areas outside the licensed site and does not encourage illegal tipping.]

3.2 Site security

- 3.2.1 Site security systems shall be provided at all times during the subsistence of this licence, the objective of which shall be to prevent access by humans and livestock which is not authorised either by the Licence Holder or under legal powers of entry.¹ These shall be installed, operated and maintained, and shall be fully documented and recorded, in accordance with the following requirements:

¹ The Department will review site security requirements in the light of ongoing site operations and licences may be modified to specify specific requirements.

Table 3.2 Site security system standards

Site security system	Specified standards
Timetable of provision	Within 1 month of the issue of this licence.
Design standards	Type of security = chainlink fence or solid wall or equivalent sufficient to prevent unauthorised access Minimum height = 2 metres Access = lockable gates
Operational standards	The site shall be kept closed and secure at all times when unattended.
Maintenance standards	The site security shall be fully inspected at the commencement of each working day, and recorded in the site diary. Any defects or damage shall be made secure by the end of the working day, and shall be repaired within 7 working days of the damage being detected. All repairs shall be recorded in the site diary.

4 Site operations

4.1 Control of mud and debris

Prevention of mud and debris on road

- 4.1.1 Whenever the site is receiving or despatching wastes [or landfill engineering works are being carried out], measures shall be provided, operated and maintained, with the objective of preventing the deposit or tracking of mud or debris arising from the site onto public areas outside the site, which shall include public highways and areas of public access outside the site. The following equipment shall be provided, operated and maintained in good working order:

Equipment	Location
Wheel wash	On the vehicle exit route, between the operational areas and the site exit

- 4.1.2 All vehicles leaving areas of the site which are operational or upon which engineering works are being carried out shall, before leaving the site, be cleaned as necessary using the specified equipment and shall be checked to ensure that they are clear of loose waste and that their loads are secure.

Remediation of mud and debris on road

- 4.1.3 In the event that mud or debris arising from the site is deposited onto public areas outside the site, remedial measures shall be implemented immediately, in accordance with the following requirements:
- The affected public areas outside the site shall be cleaned
 - Traffic shall be isolated from sources of mud, debris and loose waste within the site to prevent further tracking, and measures shall be taken to clear any such sources as soon as practicable.

4.2 Potentially polluting leaks and spillages of waste

Potentially polluting leaks and spillages from vehicles, plant and equipment

- 4.2.1 All vehicles used on the site by the operator, and all plant and all equipment used on the site in connection with specified waste management operations, shall be operated and maintained with the objective of preventing potentially polluting leaks and spillages of wastes [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations].

Potentially polluting leaks and spillages from fixed tanks

- 4.2.2 Each tank used to hold wastes which consist of or contain potentially polluting liquids, sludges or powders, [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations] shall be:
- a loaded and unloaded in accordance with specified filling and emptying procedures;
 - b clearly and unambiguously labelled regarding its contents;
 - c provided with means for measuring the quantity of material and the void space in the tank, which shall be maintained and calibrated as specified;
 - d monitored for quantity of material and void space and the monitoring measurements recorded;
 - e inspected and maintained according to the specified maintenance schedules and procedures, which shall be fully documented and recorded;
 - f in the event of damage or deterioration to a tank that is, or is likely to cause, a leak, that tank shall be repaired immediately;
 - g secured when the site is not operating
- and these actions shall be carried out in accordance with the standards specified in Table 4.2 below.

Potentially polluting leaks and spillages from drums and other mobile containers

- 4.2.3 Each drum or other mobile container used to hold wastes which consist of or contain potentially polluting liquids, sludges or powders, [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations] shall be, while on the site:
- a loaded and unloaded in accordance with the specified handling procedures;
 - b filled and emptied in accordance with the specified filling and emptying procedures;
 - c clearly and unambiguously labelled regarding its contents, unless the contents are clearly identifiable by visual inspection;
 - d inspected and maintained according to the specified maintenance schedules and procedures, which shall be fully documented and recorded;
 - e in the event of damage or deterioration to a container that is, or is likely to cause, a leak, that container shall be repaired or replaced immediately;
 - f secured while the site is not operating
- and these actions shall be carried out in accordance with the standards specified in Table 4.2 below.

Control and remediation of leaks and spillages

- 4.2.4 In the event of any potentially polluting leak or spillage occurring on site, documented control and remediation procedures shall be implemented immediately and recorded, in accordance with the standards specified in Table 4.2 below.

Leak and spillage action plan

- 4.2.5 In the event of any leak or spillage which may compromise the effectiveness of the pollution control regime and which either is leading or may imminently lead to pollution of the environment, harm to human health or serious detriment of the amenities of the locality, a Leak and Spillage Action Plan shall be implemented immediately and recorded, in accordance with the standards specified in Table 4.2 below.
- 4.2.6 Within 6 months of the completion of the issue of the licence, a Leakage and Spillage Action Plan and any associated appendices, drawings and figures that are referenced in the Leakage and Spillage Plan, shall be supplied to the Department.

Table 4.2 Standards for prevention and control of leaks and spillages

Action	Specified standards
a) Control and remediation of leaks and spillages	<p>i) Minor spills shall be cleaned up immediately, using sand or proprietary absorbent to clean up liquids.</p> <p>ii) Where major spillages occur which are causing or are likely to cause pollution emissions to the environment:</p> <ul style="list-style-type: none">• Immediate action shall be taken to contain the spillage and prevent liquid from entering surface water drains, water courses and unsurfaced ground;• The spillage shall be cleaned immediately and placed in alternative sealed containers;• The Department shall be informed immediately, and a record entered in the site diary.

4.3 Fires on the site

Prohibition of unauthorised fires on site

- 4.3.1 No wastes shall be burned on the site.
- 4.3.2 No fires shall be permitted within the area covered by this licence. Any fire arising on the site shall be treated as an emergency situation and appropriate action taken to immediately extinguish the fire.

Fire action plan

- 4.3.3 A Fire Action Plan is to be prepared. Within 6 months of the completion of the issue of the licence, the Fire Action Plan and any associated appendices, drawings and figures that are referenced in the Fire Action Plan, shall be supplied to the Department.
- 4.3.4 In the event of a fire on the site, a fire action plan shall be implemented immediately and recorded, in accordance with the following standards:
- a the Department shall be informed immediately of the fire; and
 - b so far as practicable, contaminated site drainage shall be prevented from entering any surface water drain or water course or unsurfaced ground.

4.4 Waste acceptance and control procedures

Waste acceptance procedures

- 4.4.1 All wastes shall be received, inspected, accepted or rejected, and recorded in accordance with the standards specified in Table 4.4 below.

Waste control procedures

- 4.4.2 All wastes accepted at the site shall be handled, kept and recorded in accordance with the standards specified in Table 4.4 below.

Waste despatch procedures

- 4.4.3 All outgoing wastes shall be inspected, despatched and recorded in accordance with the standards specified in Table 4.4 below. All waste despatched from the site shall be sent to authorised facilities.

Incompatible wastes

- 4.4.4 Incompatible wastes which are likely, in combination with each other or with other material at the facility, to give rise to pollution of the environment or harm to human health outside the site, shall be clearly identified and kept physically separate in designated areas, in accordance with the standards specified in Table 4.4 below.

Table 4.4 Standards for waste acceptance and control procedures

Stage of Waste Handling	Specified standards
Waste reception	Wastes shall only be received at the site through the site entrance as designated on Drawing Reference Number 102n097706, dated 12 March 2004. All incoming waste shall be kept in the waste reception area designated on Drawing Reference Number 102n097706, dated 12 March 2004 until it has been confirmed for acceptance at the site [or has been placed in the designated quarantine storage area pending removal from the site].
Waste inspection	All wastes received at the site shall be inspected on arrival (at the point of discharge/tipping from the delivery vehicle) to confirm their description and composition.
Waste acceptance and recording	All wastes that the site is not licensed to accept shall be immediately placed in the designated quarantine area and stored in a manner that will not cause risk of environmental pollution, harm to human health or damage to local amenity.
Quarantine storage and rejection of wastes	Non permitted wastes shall remain on the site for a maximum of 24 hours before removal to an appropriately licensed facility. Details of rejected wastes despatched from the site shall be recorded in the site diary (form and nature of waste, EWC code, source, carrier, despatch carrier and authorised facility, date and time of removal).
Identification of wastes	All waste containers should be clearly labelled and notices must designate wastes kept in specified areas.
Inspection of wastes for despatch	All wastes despatched from the site shall be inspected prior to despatch to confirm their description and composition.
Waste despatch and recording	Waste despatched from the site shall only be sent to appropriately licensed facilities.
Incompatible wastes [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations]	Incompatible wastes [or other potentially polluting materials which are to be used in combination with those wastes in the specified waste management operations], which are likely, in combination with each other or with other material at the facility, to give rise to pollution of the environment or harm to human health outside the site, shall be clearly identified and kept physically separate in designated areas, as specified in Drawing Reference Number 102n097706, dated 12 March 2004

4.5 Waste quantity measurement systems

Means of measurement

- 4.5.1 All wastes accepted at and despatched from the site shall be measured in accordance with the following requirements:
- The weight of all wastes accepted at and despatched from the site shall be determined by means of weighing.
 - The weight of all wastes accepted at and despatched from the site shall be determined by means of a weighbridge which cannot be by-passed by any vehicle bringing waste into or out of the site.
 - The weighbridge shall record quantities of wastes in tonnes to an accuracy of 0.02 tonnes and be calibrated at least once a year by an independent accredited body.

4.6 Waste discharge and emplacement

Methods and procedures of waste discharge and emplacement

- 4.6.1 No wastes shall be deposited in any phase or cell of the landfill other than in accordance with the working plan.

4.7 Use of daily cover

Daily cover – non-hazardous waste

- 4.7.1 The working surface of areas of the site used for the deposit of degradable wastes shall be treated so that by the end of the working day all parts of such wastes deposited are covered. The methods, materials and depths of cover shall be in accordance with the working plan and the methods, procedures and standards specified as follows:

Table 4.10 Standards for daily cover

Daily cover	Specified standards
Method of cover	Progressively covered so that all exposed waste surfaces are covered at the end of the working day
Cover materials	Inert materials
Depths of cover	Not less than 150mm

Daily cover - asbestos

- 4.7.2 Asbestos deposits shall be covered daily with suitable inert material and, if the waste consists of rigid asbestos that is not packed or for any other reason asbestos is not properly contained, it shall be regularly sprinkled water. The waste shall be covered immediately to a depth of at least 250mm. It shall be covered by the end of the working day to a depth of at least 1 metre on all flanks and surfaces.

4.8 Removal of residual wastes from site

- 4.8.1 In the event that the specified waste management operations on the site cease and the Department has reasonable grounds to believe that they will not be resumed within 90 days, then, notwithstanding the operational limits on storage times of wastes specified in the other conditions of this licence, the licence holder shall ensure that all wastes remaining on the site shall be removed by the date specified by the Department in writing. This shall include, where required by the Department, decontamination of plant, equipment and engineered containment used in the specified waste management operations, but shall not apply to any wastes which have been disposed of on the site in accordance with the other conditions of this licence or prior to the issue of this licence.

5 Pollution control, monitoring and reporting

5.1 Landfill gas monitoring and reporting within the engineered containment

Landfill gas monitoring and sampling programme

- 5.1.1 Monitoring and sampling of landfill gas within the engineered containment of each cell or phase shall be carried out and recorded by a competent person and in accordance with the guidance in Waste Management Papers 26B and 27.

Landfill gas monitoring and sampling records

- 5.1.2 A record of the landfill gas monitoring and sampling results shall be made and submitted to the Department every 3 months in accordance the working plan.

5.2 Landfill gas monitoring and reporting external to the engineered containment

Provision of engineered external landfill gas monitoring system

- 5.2.1 Engineered landfill gas monitoring systems shall be provided to enable monitoring of the gases in the ground outside the engineered containment system.

Construction quality assurance of landfill gas monitoring systems

- 5.2.2 No wastes shall be deposited in any cell until:
- a a Construction Quality Assurance Plan covering all elements of the engineered external landfill gas monitoring system for that cell has been submitted in writing to the Department and the Department has given its written consent to it;
 - b details of the identities, relevant experience and relevant qualifications of the personnel who will be providing Quality Assurance of the construction have been submitted in writing to the Department and acknowledged in writing by the Department.
- 5.2.3 The engineered external landfill gas monitoring system for that cell or phase shall be constructed and recorded in accordance with the Construction Quality Assurance Plan, and the construction shall be completed prior to the initial deposit of waste in that cell or phase.
- 5.2.4 Changes to the Construction Quality Assurance Plan, quality assurance, and detailed method statements as referenced in the working plan shall not be implemented unless they have been notified in writing to the Department, and the Department has given its written consent to those changes.

- 5.2.5 Within 3 months following completion of the specified engineering works for each cell or phase, the Validation Report on the construction of the engineered external landfill gas monitoring system for that cell shall be submitted in writing to the Department.

Landfill gas monitoring and sampling programme

- 5.2.6 Monitoring and sampling of landfill gas external to the engineered containment of each cell or phase shall be carried out and recorded by a competent person and in accordance with the guidance in Waste Management Papers 26B and 27.

Baseline monitoring results

- 5.2.7 Monitoring shall be carried out before filling of a cell commences to obtain baseline levels.

Landfill gas monitoring and sampling records

- 5.2.8 A record of the landfill gas monitoring and sampling results shall be made and submitted to the Department every 3 months in accordance the working plan.

5.3 Leachate monitoring and reporting

Leachate monitoring and sampling programme

- 5.3.1 Monitoring and sampling of leachate arising in each cell or phase shall be carried out and recorded for each of the leachate monitoring points, in accordance with this condition and the working plan.

Leachate monitoring and sampling records

- 5.3.2 A record of the leachate monitoring and sampling results shall be made and submitted to the Department every 3 months and in accordance with the working plan.

Reference elevations for leachate level monitoring points

- 5.3.3 On installation of each leachate level monitoring point, a reference elevation mark shall be permanently inscribed on the leachate level monitoring point and levelled-in to Ordnance Datum.
- 5.3.4 If the value of the reference elevation mark is changed as a result of damage, alteration, extension or movement to a monitoring point, the mark shall be re-levelled. Re-levelling shall take place before the next monitoring round or within 2 weeks, whichever is the sooner.

5.4 Groundwater monitoring and reporting systems

Provision of engineered groundwater monitoring system

- 5.4.1 Engineered groundwater monitoring systems shall be provided to enable monitoring of the groundwater outside the engineered containment system, in accordance with this condition the working plan.
- 5.4.2 The engineered external groundwater monitoring system provided for each cell shall be:
- a designed, constructed, completed, and shall be fully documented and recorded; and
 - b inspected and maintained, and fully documented and recorded;

Construction quality assurance of groundwater management systems

- 5.4.3 No wastes shall be deposited in any cell or phase until:
- a a Construction Quality Assurance Plan covering all elements of the engineered groundwater monitoring system for that cell or phase has been submitted in writing to the Department, and the Department has given its written consent to it;
 - b details of the identities, relevant experience and relevant qualifications of the personnel who will be providing Quality Assurance of the construction have been submitted in writing to the Department and acknowledged in writing by the Department;
 - c the engineered external groundwater monitoring system has been constructed and recorded in accordance with the Construction Quality Assurance Plan;
 - d changes to the Construction Quality Assurance Plan, quality assurance, and detailed method statements as referenced in the working plan have been notified in writing to the Department, and the Department has given its written consent to those changes prior to their implementation;
 - e the Validation Report on the construction of the engineered groundwater monitoring system has been submitted in writing to the Department and acknowledged in writing by the Department.

Groundwater monitoring and sampling programme

- 5.4.4 Monitoring and sampling of groundwater external to the engineered containment of each cell or phase shall be carried out and recorded in accordance with the standards specified in Table 5.4 below.

Table 5.4 Standards for groundwater monitoring and sampling programme

Determinands	Monitoring frequencies
Water level	Weekly for first 4 weeks, then monthly (and quarterly)
pH	Weekly for first 4 weeks, then monthly (and quarterly)
Temperature	Weekly for first 4 weeks, then monthly (and quarterly)
Electrical conductivity	Weekly for first 4 weeks, then monthly (and quarterly)
Dissolved oxygen	Weekly for first 4 weeks, then monthly (and quarterly)
Ammoniacal nitrogen	Weekly for first 4 weeks, then monthly (and quarterly)
Chlorides	Weekly for first 4 weeks, then monthly (and quarterly)
Sulphates	Quarterly
Total alkalinity (as CaCO ₃ at pH 4.5)	Quarterly
Total oxidised nitrogen	Quarterly
Total organic carbon	Quarterly
Na	Quarterly
K	Quarterly
Ca	Quarterly
Mg	Quarterly
Fe	Quarterly
Mn	Quarterly
Cd	Quarterly
Cr	Quarterly
Cu	Quarterly
Ni	Quarterly
Pb	Quarterly
Zn	Quarterly

Baseline monitoring results

- 5.4.5 No wastes shall be deposited in a phase or cell until the results of baseline monitoring, obtained in accordance with Table 5.4, and covering a period of 3 consecutive months prior to the programmed date for commencing deposit in such phase or cell, have been collected, interpreted and a report compiled and submitted to the Department and their receipt has been acknowledged in writing by the Department.

Groundwater monitoring and sampling records

- 5.4.6 A record of the groundwater monitoring and sampling results shall be made and submitted to the Department every 3 months.

Reference elevations for groundwater monitoring points

- 5.4.7 On installation of each groundwater level monitoring point, a reference elevation mark shall be permanently inscribed on the groundwater level monitoring point and levelled-in to Ordnance Datum.
- 5.4.8 If the value of the reference elevation mark is changed as a result of damage, alteration, extension or movement to a monitoring point, the mark shall be re-levelled. Re-leveling shall take place before the next monitoring round or within 2 weeks, whichever is the sooner.

5.5 Surface water quality monitoring and reporting systems

Provision of surface water monitoring system

- 5.5.1 Monitoring of surface water quality shall take place at locations that are physically marked and that are described in the working plan, to ensure that periodic measurements of quality and level are taken at the same position.

Surface water monitoring and sampling programme

- 5.5.2 Monitoring and sampling of surface water external to the engineered containment system shall be carried out and recorded in accordance with the working plan and in Table 5.5 below.

Table 5.5 Standards for surface water monitoring and sampling programme

Determinands	Monitoring frequencies
PH	Monthly (and quarterly)
Temperature	Monthly (and quarterly)
Electrical conductivity	Monthly (and quarterly)
Dissolved oxygen	Monthly (and quarterly)
Ammoniacal nitrogen	Monthly (and quarterly)
Chlorides	Monthly (and quarterly)
Chemical oxygen demand	Monthly (and quarterly)
Sulphates	Quarterly
Total alkalinity (as CaCO ₃ at pH 4.5)	Quarterly
Total oxidised nitrogen	Quarterly
Total organic carbon	Quarterly
Na	Quarterly
K	Quarterly
Ca	Quarterly
Mg	Quarterly
Fe	Quarterly
Mn	Quarterly
Cd	Quarterly
Cr	Quarterly
Cu	Quarterly
Ni	Quarterly
Pb	Quarterly
Zn	Quarterly

Baseline monitoring results

- 5.5.3 No wastes shall be deposited in a phase or cell until the results of baseline monitoring, obtained in accordance with the working plan and Table 5.5, and covering a period of 3 consecutive months prior to the programmed date for commencing deposit in such phase or cell, have been collected, interpreted and a report compiled and submitted to the Department and their receipt has been acknowledged in writing by the Department.

Monitoring and sampling records

- 5.5.4 A record of the surface water monitoring and sampling results shall be made in accordance with the working plan and submitted to the Department every 3 months.

5.6 Monitoring and reporting of meteorological conditions

Provision of meteorological conditions monitoring system

- 5.6.1 Meteorological monitoring shall be carried out in the vicinity of the site, in accordance with this condition and Table 5.6 below.

Table 5.6 Standards for meteorological monitoring system
Meteorological condition to be monitored daily
Volume of precipitation
Temperature, minimum and maximum, at 14:00hr CET
Direction And force of prevailing wind
Evaporation (using a lysimeter or other suitable methods)
Atmospheric humidity at 14:00 CET

Meteorological monitoring records

- 5.6.2 A record of the meteorological conditions monitoring results shall be made in accordance with the working plan and submitted to the Department every 3 months.

6 Amenity management and reporting

6.1 Control, monitoring and reporting of dusts, fibres and particulates

- 6.1.1 Measures shall be implemented and maintained throughout the operational life of the site to control and monitor emissions of dusts, fibres and particulates from the site, in accordance with this condition. [The objective of these measures shall be to minimise the release of airborne dusts, fibres and particulates arising from the specified waste management operations beyond the site boundary, and to prevent releases in such quantities or concentrations that are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality.]
- 6.1.2 Waste shall not be received at the site unless measures to control and minimise the emission of dusts, fibres and particulates from the site, have been submitted to and agreed in writing by the Department. Such measures shall prevent releases in such quantities or concentrations that are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality. Once approved, the measures shall be implemented throughout the operational life of the site.
- 6.1.3 All emissions to air from the specified waste management operations on the site shall be free from visible concentrations of dusts, fibres or particulates as are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality outside the site boundary, as perceived by an authorised officer of the Department.
- 6.1.4 In the event that any dusts, fibres or particulates arising from the site are released or are likely to be released [onto public areas] outside the site boundary in such quantities or concentrations that they are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality, the actions specified in the measures submitted to and agreed by the Department under condition 6.1.2 above, shall be implemented immediately.

6.2 Control of odours

- 6.2.1 Measures shall be implemented and maintained throughout the operational life of the site to control and monitor emissions of odours from the site, in accordance with this condition. [The objective of these measures shall be to minimise the release of odours from the specified waste management operations beyond the site boundary] and to prevent releases that are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality.]
- 6.2.2 Waste shall not be received at the site unless measures to control and minimise the emission of odours from the site, have been submitted to and agreed in writing by the Department. Such measures shall prevent releases in such quantities or concentrations that are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality. Once approved, the measures shall be implemented throughout the operational life of the site.

6.2.3 All emissions to air from the specified waste management operations on the site shall be free from odours at levels as are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality outside the site boundary, as perceived by an authorised officer of the Department.

6.2.4 In the event that any odours arising from the site are released or are likely to be released outside the site boundary at such levels that they are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality, the actions specified in section the measures submitted to and agreed by the Department under condition 6.2.2 above shall be implemented immediately.

6.3 Control of noise

6.3.1 Measures shall be implemented and maintained throughout the operational life of the site, in accordance with this condition and the working plan, to control and minimise the levels of noise from operations on the site beyond the site boundary.

6.4 Control of pest infestations

6.4.1 Measures shall be implemented and maintained throughout the operational life of the site to control and monitor the presence of pests on the site, in accordance with the working plan. [The objective of these measures shall be to prevent pest infestations that are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality.]

6.4.2 Waste shall not be received at the site unless measures to control and minimise pests on the site, have been submitted to and agreed in writing by the Department. Such measures shall prevent pest infestations that are likely to cause pollution of the environment or harm to human health or serious detriment to the amenity of the locality. Once approved, the measures shall be implemented throughout the operational life of the site.

6.5 Control of scavenging birds and other scavengers

6.5.1 Measures shall be implemented and maintained throughout the operational life of the site to control and monitor the presence of scavenging birds and other scavengers on the site, in accordance with section the working plan. [The objective of these measures shall be to prevent scavenging birds and other scavengers from gathering on operational areas or scavenging wastes in such numbers that are likely to cause harm to human health or serious detriment to the amenity of the locality.]

6.5.2 Waste shall not be received at the site unless measures to control and minimise scavenging birds and other scavengers on the site, have been submitted to and agreed in writing by the Department. Such measures shall prevent scavenging birds and other scavengers from gathering on operational areas or scavenging wastes in such numbers that are likely to cause harm to human health or serious detriment to the amenity of the locality. Once approved, the measures shall be implemented throughout the operational life of the site.

6.6 Control of litter

- 6.6.1 Measures shall be implemented and maintained throughout the operational life of the site to control and monitor the escape of litter from the confines of the site, in accordance with the working plan. [The objective of these measures shall be to prevent any litter escaping from the confines of the site.]
- 6.6.2 Waste shall not be received at the site unless measures to control and minimise the escape of litter from the confines of the site, have been submitted to and agreed in writing by the Department. Such measures shall aim to prevent the escape of litter from the confines of the site. Once approved, the measures shall be implemented throughout the operational life of the site.
- 6.6.3 In the event that litter does escape from the site, it shall be retrieved by the end of the working day.

7 Site records

7.1 Security and availability of records

Security of records

- 7.1.1 All records which are required to be made under the other conditions of this licence and the working plan shall be maintained and kept secure from loss, damage or deterioration, and shall be kept in accordance with the working plan.

Availability of records

- 7.1.2 All records which are required to be made under the other conditions of this licence and the working plan shall be made available for inspection at the place where they are kept immediately when required by an authorised officer of the Department.

7.2 Records of waste movements

Recording of wastes accepted and removed

- 7.2.1 A record shall be kept of each load of waste accepted and each load of waste removed from site. This record shall include the following details:
- a Loads in:- Nature (solid or sludge), waste type as specified under condition 1.2 and European Waste Code, quantity (tonnes), date received, date accepted.
 - b Loads out:- Nature (solid, liquid or sludge), European Waste Code, quantity of waste removed (tonnes), date removed, disposal location.

Summary records of wastes accepted and removed

- 7.2.2 A summary record of the waste types accepted and removed from the site shall be made for each quarter of the financial year, and shall be made available to the Department on request. The summary record shall be in a format agreed by the Department in writing.

7.3 Site diary

- 7.3.1 A site diary shall be kept secure and shall be available for inspection at the site when required by an authorised officer of the Department. This shall include a record of the following events:
- a construction work
 - b maintenance
 - c breakdowns
 - d emergencies
 - e problems with waste received and action plan

- f site inspections, monitoring and consequent actions carried
- g technically competent management attendance on site: the date and the time onto site and the time left site
- h despatch of records to the Department
- i severe weather conditions
- j complaints about site operations and actions taken
- k environmental problems and remedial actions

7.3.2 Each record shall be completed within 24 hours of the relevant event.

7.4 Periodic reporting of environmental performance

7.4.1 The Licence Holder shall provide the Department on an annual basis, following the end of the calendar year, or such other time as is agreed in writing with the Department, a report on the environmental performance of the site, which shall include the following information:

- a an analysis and review of the environmental monitoring results recorded for the site under these conditions, with an interpretation of the trend of the results against background and trigger levels;
- b a review of any incidents or occurrences for the site, which did, or had the potential to result in an adverse impact on the environment;
- c any changes to the operation of the facility, which resulted from any analysis or review carried out a or b.

8 Interpretation

In these conditions and their interpretation, unless the context otherwise requires, the following terms have the specified meanings:

“accepted”

for waste being delivered to the site, shall mean accepted as waste input to the site for storage and/or processing and/or disposal under the specified waste management operations. This also includes waste that does not conform to the licence conditions being stored in quarantine areas for removal from the site;

“authorised officer of the Department”

means any person(s) authorised in writing by the Department pursuant to Part IV of the Waste and Contaminated Land (NI) Order 1997;

“clinical waste”

Is defined in the Controlled Waste Regulations (Northern Ireland) 2002 as –

(a) any waste which consists wholly or partly of human or animal tissue, blood or other body fluids, excretions, drugs or other pharmaceutical products, swabs or dressings, or syringes, needles or other sharp instruments, being waste which unless rendered safe may prove hazardous to any person coming into contact with it; and

(b) any other waste arising from medical, nursing, dental, veterinary, pharmaceutical or similar practice, investigation, treatment, care, teaching or research, or the collection of blood for transfusion, being waste which may cause infection to any person coming into contact with it;

“consequences”

for **risk assessments** carried out within these conditions, means the adverse effects of harm as a result of realising a **hazard** which cause the quality of human health (other than health and safety of site staff or visitors to the site covered under the Health and Safety at Work Act 1974) or the environment to be impaired in the short or longer term;

“engineer”

for engineering works specified in these conditions, means a person who works in the relevant branch of engineering, as a qualified professional;

“engineered”

for works specified in these conditions, means carried out and completed using the relevant engineering process specified in these conditions;

“engineered landfill containment system”

means all elements (other than leachate and landfill gas management systems, and intermediate and final caps), relating to engineered liners for final disposal to land, and incorporating liners for individual cells and the site as a whole, and including methods of liner protection and leakage detection;

"engineered site containment and drainage system"

means all elements relating to engineered containment of activities on the site, other than final disposal to land, and incorporating site surfacing, bunding and drainage systems, buildings and fixed tanks;

"engineering"

for engineering works specified in these conditions, means the relevant process of design, construction or installation, quality assurance or validation or commissioning specified in these conditions;

"engineering survey"

means a survey carried out in accordance with recognised or approved standards by a suitably qualified competent person;

"environmental targets or receptors"

for **risk assessments** carried out within these conditions, shall mean identified human and environmental populations or components, as specified in these conditions or otherwise agreed by the Department within these conditions;

"groundwater"

means any water contained in underground strata;

"hazard"

means a property or situation that in particular circumstances could lead to harm;

"immediately"

for carrying out of actions under the conditions, shall mean without delay and within a reasonable time, taking into account any more immediate direct action necessary to prevent or minimise risk to human health and the environment. For carrying out notifications to the Department, shall also mean by the fastest effective means available (for example, telephone) and confirmed in writing within 1 working day (or such other time as may be agreed by the Department within the conditions);

"inert waste "

means waste which when disposed of in or on land does not undergo any significant physical, chemical or biological transformation;

"landfill gas management system"

means all elements relating to landfill gas extraction from individual landfill cells and the landfill mass as a whole, and incorporating methods of landfill gas drainage, containment and the subsequent disposal system, whether it be a methane oxidation system, landfill gas flare, landfill gas engine(s) or otherwise, either on or off the site;

"leachate management system"

means all elements relating to leachate extraction from individual landfill cells and the landfill mass as a whole, and incorporating methods of leachate drainage, containment and the subsequent treatment and/or disposal system, either on or off the site;

"maintenance"

for engineering maintenance specified in these conditions, means the process of inspection, testing, repair of the relevant engineering works specified in these conditions;

"preparatory works"

means engineering works required prior to the carrying out of the activities authorised by this licence;

"probability"

means the quantified expression of chance, denoted either as:

- the ratio or percentage of the occurrence of a particular event as one among a number of possible events;
- or as the frequency of occurrence of a particular event in a given period of time;

"received"

for waste being delivered to the site, shall mean delivered to the site and undergoing the waste acceptance procedures specified in the working plan, including storage of those wastes during those procedures prior to acceptance of the waste and including wastes that do not conform to licence conditions being kept on the site in quarantine areas pending collection;

"release pathways"

for **risk assessments** carried out within these conditions, shall mean the routes by which defined **hazards** may potentially realise their **consequences**, defined in terms of releases or emissions from the site that go beyond the site containment or boundary via one or more of the following routes, either directly or indirectly: **Land; Groundwater; Surface water; Atmosphere;**

"relevant/prescribed offences"

are offences within the meaning of Regulation 2 of the Waste Management Licensing Regulations (NI) 2003, or any statutory provisions or regulations amending or replacing them;

"risk"

means a combination of the **probability and consequences** of occurrence of a defined **hazard**;

"risk assessment"

means the systematic identification, analysis, estimation and evaluation within a defined **scope** of the defined **risks** of a particular activity, operation, process or design, carried out and reported by suitably qualified or competent persons, using recognised quantified or semi-quantified methods and techniques.

Unless otherwise agreed by the Department within these conditions, a risk assessment shall include and record the following:

- definition of the **hazards** associated with an activity, operation, process or design;
- assessment of the **probability** of those **hazards** occurring;
- determination of the potential **consequences** of those hazards for defined **environmental targets or receptors**, taking into account defined **release pathways** and defined protective measures;
- evaluation of the potential **magnitude** of those consequences and the **probability** of their occurrence;

"scope of risk assessment"

means the boundaries of the **risk assessment** and the **risks** to be assessed within those boundaries, as defined in the conditions or otherwise agreed by the Department within the conditions;

"special waste"

has the meaning as defined in the Special Waste (Northern Ireland) Regulations 1998 or any statutory provisions or regulations amending or replacing them;

"specified waste management operations"

means the waste management operations authorised by condition 1 of this licence;

"surface water management system"

means all elements relating to collection of rain water or surface water from individual landfill phases and the landfill site as a whole, and incorporating methods of water collection, containment and the subsequent treatment and/or disposal system, either on or off the site;

"surface water"

means any lake, pond, river or watercourse whether natural or artificial;

"the 1997 Order"

means the Waste and Contaminated Land (Northern Ireland) Order 1997 any statutory provisions or regulations amending or replacing them.

"the 2003 Regulations"

Means the Waste Management Licensing Regulations (Northern Ireland) 2003

"the Department"

means the Department of Environment;

"the Licence Holder"

means the Licence Holder specified in this licence or other person to whom the licence has been transferred in accordance with Article 14 of the 1997 Order.

"the operator"

means a person who is in occupation of the site and has responsibility for carrying out day to day activities at the site;

"the site"

means the land, structures, plant and equipment to which this licence relates;

"time periods, e.g. annually, quarterly, monthly, per year, etc. "

Where periods are referred to in conditions, they shall be calculated in the following way:

- annually or per year: 1 April to 31 March;
- quarterly: 1 April to 30 June, 1 July to 30 September, 1 October to 31 December, 1 January to 31 March;
- monthly: calendar month;
- weekly: Monday to Sunday.

Where the issue of the licence does not coincide with the start of any of these periods, then any relevant limits for the first period shall apply pro rata;

"waste"

means controlled waste as defined in section 75(4) of the 1990 Act and the Controlled Waste Regulations 1992 or any statutory provisions or regulations amending or replacing them;

"working plan"

means the working plan identified in writing by the Department at the time of issue of this licence and any subsequent amendments to it made in accordance with the conditions of this licence.

RIGHTS OF APPEAL

Article 17 of the Waste and Contaminated Land (NI) Order makes provision for the applicant to appeal the Decision of the Department to the Planning Appeals Commission where:

1. An application for a licence, or a modification of the conditions of a licence is refused;
2. a licence is granted subject to conditions;
3. the conditions of a licence are modified;
4. a licence is suspended;
5. a licence is revoked under Article 12 or 16;
6. an application to surrender a licence is refused; or
7. an application for the transfer of a licence is refused.

Appeals should be made by notice in writing. Such a notice shall be accompanied by:

1. a statement of the grounds of the appeal;
2. where the appeal relates to an application for a waste management licence or for the modification, surrender or transfer of a waste management licence, a copy of the appellants application and any supporting documents;
3. where the appeal relates to an existing waste management licence (including a waste management licence which has been suspended or revoked) a copy of that licence;
4. a copy of any correspondence relevant to the appeal;
5. a copy of any other document relevant to the appeal including, in particular, any relevant consent, determination, notice, planning permission under the Planning (NI) Order 1991(a) or consent under the Water (NI) Order 1999; and
6. a statement indicating whether the appellant wishes to appear before and be heard by the Planning Appeals Commission.

Notice of appeal must be given within 2 months of the date of the decision which is the subject of the appeal. Notices of appeal should be sent to:

The Planning Appeals Commission
Park House
87-91 Great Victoria Street
Belfast
BT2 7AG

wml 02/25.

INCIDENT REPORTING FORM

Date: 12 April 09 Database Ref: _____

DO YOU WISH THIS INFORMATION TO REMAIN CONFIDENTIAL? YES NO

[1] Name and address of complainant (include postcode):

Mr. [REDACTED]
Adjacent to Lisbane landfill site.

Tel: No: [REDACTED] Received by email

[2] Brief details of complaint / type of dumping:

Bird / Wind Borne Debris over neighbouring fields
Odour from site on 11 April 09 @ 1600 hrs
site had not been covered.

[3] Location: (include postcode if known / nearest property and proximity to site)

Adjacent to Lisbane landfill
Aughish rd
Tandragee

[4] Landowner:

[REDACTED]

[5] Council area: Armagh

[6] Have you any knowledge if this complaint was reported before? YES/NO

[7] Any other details - e.g. name on lorry, vehicle registration marks

Details recorded by: [REDACTED] Date: 15 April 09

Date logged on database: _____ Forwarded to: _____

Note: Map to be provided for scientific officer/s.

Follow-up action - Scientific officer to complete details on reverse of form.

INCIDENT REPORTING FORM (FOLLOW-UP ACTION)

Date of site visit: N/A

Officers present: N/A

Observations:

[REDACTED] responded to [REDACTED] complaint by email. (Original complaint received by email.)
[REDACTED] informed [REDACTED] that he contacted [REDACTED] Landfill site manager, + instructed him to look into the matters.
NIEA officers do carry out Site Inspection in near future do ensure matters are addressed.

Prosecution Yes No No Further Action

Details recorded by: Date:

Investigation Officer: _____
(Person who will prepare PPS case)

Passed to: (Admin Officer): _____

Date: _____

Logged by: _____

Date: _____

[REDACTED]

From: [REDACTED]
Sent: 15 April 2009 08:48
To: [REDACTED]
Subject: FW: Lisbane Landfill

-----Original Message-----

From: [REDACTED]
Sent: 12 April 2009 22:20
To: [REDACTED]
Subject: Lisbane Landfill

[REDACTED]

I have been spreading fertiliser on the fields beside the landfill tip and have noted a lot of bird/wind borne debris over the fields. I should be grateful if you would request the operators that this is removed before grass starts growing.

Also yesterday there was a very obvious odour problem, and an inspection at around 1600 hours from our fields showed that the landfill had not been covered.

If you think a site meeting would be beneficial, please contact me.

Regards

[REDACTED]

Lisbane. umc 03/05.

[REDACTED]
From: [REDACTED]
Sent: 15 April 2009 09:07
To: [REDACTED]
Subject: RE: Lisbane Landfill

[REDACTED]
Thank you for your e-mail expressing your concerns. I have told [REDACTED] of the Quinn Group to look into the matters raised and I shall make a site visit in the near future to ensure that any wind blown litter has been removed from adjacent fields.
Regards
[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: 12 April 2009 22:20
To: [REDACTED]
Subject: Lisbane Landfill

[REDACTED]
I have been spreading fertiliser on the fields beside the landfill tip and have noted a lot of bird/wind borne debris over the fields. I should be grateful if you would request the operators that this is removed before grass starts growing.

Also yesterday there was a very obvious odour problem, and an inspection at around 1600 hours from our fields showed that the landfill had not been covered.

If you think a site meeting would be beneficial, please contact me.

Regards
[REDACTED]

From: [redacted]
Sent: 15 April 2009 10:38
To: [redacted]
Cc: [redacted]
Subject: Re: Litter on [redacted]

We had fairly strong SW winds from 8 - 20 mph on Friday 10th and Saturday 11th .
Have Litter pickers organised to come to site on Friday 17th.

Cover seemed to be ok.

Regards
[redacted]

[redacted]
15/04/2009 09:03

To: [redacted]
cc: [redacted]
Fax to: [redacted]
Subject: Litter on [redacted] land

I have been contacted by Mr [redacted], he says that there is debris on his fields. I
would be grateful if you could look into this. Also there is a claim that cover has not
been adequate. Please update me regarding these issues.

Regards
[redacted]

Northern Ireland Environment Agency
Land & Resource Management
Klondyke Building
Cromac Avenue
Gasworks Business Park
Belfast
BT7 2JA

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LISBANE → WML 03/05

From: [REDACTED]
Sent: 15 April 2009 19:14
To: [REDACTED]
Subject: Re: Litter

[REDACTED]
Thanks for your prompt response.

Regards

[REDACTED]
--- On Wed, 15/4/09, [REDACTED] wrote:

> From: [REDACTED]
> Subject: Re: Litter
> To: [REDACTED]
> Date: Wednesday, 15 April, 2009, 1:19 PM [REDACTED]
>
> Further to my earlier e-mail I have been again in contact with Mr
> [REDACTED] from Lisbane Landfill Site. Mr [REDACTED] said that there were
> strong winds on Friday the 10th and Saturday the 11th of April which
> may be the cause of litter. He has organized a team of litter pickers
> for this Friday the 17th. I will check after this date to ensure that
> the fields are free of litter.

> Regards

> [REDACTED]
>
> Northern Ireland Environment Agency
>
> Land & Resource Management
>
> Klondyke Building
>
> Cromac Avenue
>
> Gasworks Business Park
>
> Belfast
>
> BT7 2JA

> [REDACTED]



INCIDENT REPORTING FORM

DO YOU WISH THIS INFORMATION TO REMAIN CONFIDENTIAL?

YES

NO

Date: 21/4/08

Database Ref: 08/05/12

[1] Name and address of complainant (include postcode):

[REDACTED]
[REDACTED]

Tandragee
Co. Armagh

Tel: No: [REDACTED]

[2] Brief details of complaint / type of dumping:

Windborne debris from Lishane landfill
deposited on complaints land on Scarva side
of landfill + on Tandragee side of landfill

[3] Location: (include postcode if known / nearest property and proximity to site)

Complaints land on Scarva + Tandragee side
of landfill.

[4] Landowner:

MR. [REDACTED]

[5] Council area: Armagh

[6] Have you any knowledge if this complaint was reported before? YES / NO

[7] Any other details - e.g. name on lorry, vehicle registration marks

Details recorded by: [REDACTED]

Date: 22/04/08

Date logged on database: _____

Forwarded to: _____

* Complaint received by email 21/4/08 @ 19:00hrs

Note: Recording details to be concise and lucid, preferably typed. Telephone conversation duration to be kept to a minimum. Map to be provided for scientific officer/s.

Follow-up action - Scientific officer to complete details on reverse of form.

INCIDENT REPORTING FORM (FOLLOW-UP ACTION)

Date of site visit: 21/04/08

Officers present: 

Observations: _____

Site visit was carried out day of complaint, but before complaint was received.
Wind blown litter issue was discussed on site. This complaint was followed up with a telephone call and letter to landfill operator. Landfill operator assured EHS officers that an ongoing litter clear-up is underway.

Prosecution Yes No No Further Action

Details recorded by: _____ Date: _____

Investigation Officer: _____
(Person who will prepare DPP case)

Passed to (Admin Officer):  21/5/08

Date: 21/5/08

Logged by: 

Date: 21/5/08

[REDACTED]

From: [REDACTED]
Sent: 21 April 2008 19:00
To: [REDACTED]
Cc: [REDACTED]
Subject: Lisbane landfill facility.

Dear Mr [REDACTED]

I believe your colleague, [REDACTED], passed a recent e-mail from me to you. I had been complaining about the amount of windborne debris from the landfill being deposited on my land on the Scarva side of the landfill.

Having inspected my land on the Tandragee side of the landfill, I find that there is a similar problem with litter there. As I intend to put stock on these fields shortly, I should be grateful if you would investigate and take appropriate action.

Should you wish to contact me to discuss these complaints, I can be contacted on my mobile,

[REDACTED]

Regards

[REDACTED]

tandragee

Incident dealt with by way of
telephone call + letter 22nd April 2008

INCIDENT REPORTING FORM

DO YOU WISH THIS INFORMATION TO REMAIN CONFIDENTIAL?

YES

NO

Date: 1/3/06

Database Ref: 2969
Ref 2341 - 10/05

[1] Name and address of complainant (include postcode):

[REDACTED]
Tandragee

Tel: No: _____

[2] Brief details of complaint / type of dumping:

- ① Smell from the landfill site
- ② Recent accident, a car ended up in one of MR [REDACTED] fields - A contributing factor was the state of the road caused by lorry visit- ing with the landfill - the quarry

[3] Location: (Include postcode if known / nearest property and proximity to site)

LANDFILL SITE
AUGHLISH ROAD
TANDRAGEE
BT62 2EE

[4] Landowner:

N/A

[5] Council area:

Craigavon

[6] Have you any knowledge if this complaint was reported before? YES NO ?

[7] Any other details - e.g. name on lorry, vehicle registration marks

N/A

Details recorded by:

[REDACTED]

Date: 28/2/06

Date logged on database: 1/3/06

Forwarded to: [REDACTED]

Note: Recording details to be concise and lucid, preferably typed. Telephone conversation duration to be kept to a minimum. Map to be provided for scientific officer/s.

Follow-up action - Scientific officer to complete details on reverse of form.

INCIDENT REPORTING FORM (FOLLOW-UP ACTION)

Date of site visit: _____

Officers present: _____

Observations: _____

Prosecution Yes No No Further Action

Details recorded by: _____ Date: _____

Investigation Officer: _____
(Person who will prepare DPP case)

Passed to (Admin Officer): _____

Date: _____

Logged by: _____

Date: _____

[REDACTED]

From: [REDACTED]

Sent: 09 February 2006 19:40

To: [REDACTED]

Cc: [REDACTED]

Subject: Landfill site at Aughlish Road Tandragee

[REDACTED]
I understand from your colleague, [REDACTED] that you are now responsible for dealing with complaints regarding the above.

[REDACTED] e-mail of 15 November indicated that the Department has been investigating our complaints and I now enquire if these investigations are nearing completion.

There are two further matters which I should bring to your attention.

Firstly during the recent spell of calm weather the stench from the landfill was most noticeable at my house.

Secondly, there was a serious accident along the Aughlish Road two weeks ago, when the car involved ended up in one of my fields. The mother of the driver advised me that the dirty state of the road, caused by lorries visiting both the landfill and the quarry, was a major factor contributing to the accident.

regards

[REDACTED]
Tandragee

[REDACTED]
*Can you log this and give me an incident no
and pass back*

thanks

[REDACTED] 23/2/06

13/02/2006

INCIDENT REPORTING FORM

Date: 15/9/05 Database Ref: 2452

[1] Name and address of complainant (include postcode):

[REDACTED]
Queen's Lane etc.

Tel: No: [REDACTED]

[2] Brief details of complaint / type of dumping:

Over weekend + Tues. pm. - Ground ne site - lorry load of
tyres (car) 25/30 - some on other site.

[3] Location: (include postcode if known / nearest property and proximity to site)

LANDFILL SITE TANDRAGEE
29, English Rd.
BT62 2EE

[4] Landowner:

[REDACTED] ? (objector) - may
be deliberate - as he was an objector to Queen's
getting licence.

[5] Council area:

Armagh

[6] Have you any knowledge if this complaint was reported before? YES NO

[7] Any other details - e.g. name on lorry, vehicle registration marks

N/A

Details recorded by:

[REDACTED]

Date:

16/9/05

Date logged on database:

16/9/05

Forwarded to:

[REDACTED]

Note: Recording details to be concise and lucid, preferably typed. Telephone conversation duration to be kept to a minimum. Map to be provided for scientific officer/s.

Follow-up action - Scientific officer to complete details on reverse of form.

INCIDENT REPORTING FORM (FOLLOW-UP ACTION)

Date of site visit: _____

Officers present: _____

Observations:

Prosecution

Yes

No

No Further Action

Details recorded by: _____

Date: _____

Investigation Officer:
(Person who will prepare DPP case)

Passed to (Admin Officer): _____

Date: _____

Logged by: _____

Date: _____

LISBANE

Mr [REDACTED]
Sean Quinn Group
Lisbane Landfill
29 Aughlish Road
Tandragee
Co Armagh
BT62 2EE

Our Ref: WML 03/05

10th October 2008

Dear Mr [REDACTED]

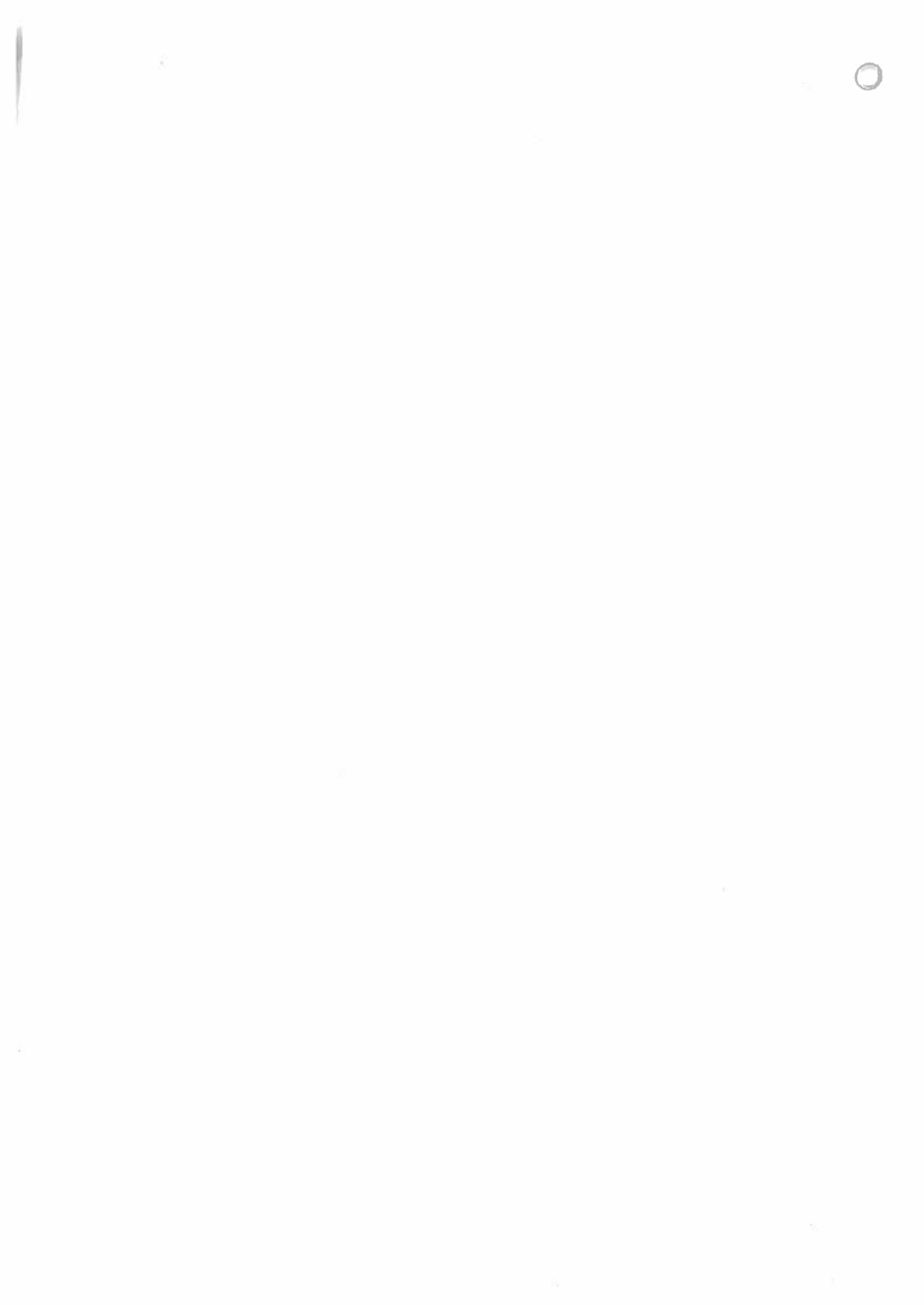
POLLUTION PREVENTION AND CONTROL REGULATIONS (NI) 2003

Lisbane Landfill Site – Annual Report 2007/2008

The Department acknowledges receipt of the Annual Report for the operations at Lisbane Landfill Site thus satisfying Condition 7.4 of the Waste Management Licence.

If you have any queries please you can contact me on direct line [REDACTED] or you can contact [REDACTED]

[REDACTED]
Land and Resource Management



Derrylin,
County Fermanagh,
Northern Ireland, BT92 9AU

Tel 028 6774 8866
Fax 028 6774 8800

replace 028 with 048 from ROI

E-mail info@quinn-group.com
Website www.quinn-group.com



Date: 16th September 2008

Re: Lisbane Landfill Annual Report 2007/2008

Dear Sir/Madam,

Please find attached the Annual Report for the operations at Lisbane Landfill over the past year. The contents of the Report enclosed should be to the satisfaction of Condition 7.4 of the Waste Licence LN/04/11/A.

I hope this information is satisfactory and should you have any comments or queries do not hesitate to contact me.

Yours Sincerely,



Lisbane Landfill Manager,
29 Auglish Road,
Tandragee,
BT 62 2EE
Quinn Group.
Tel: 0044 (0) 28 38849875
Fax: 0044 (0) 28 38840392



FULFILS COND 7.4

LISBANE GAS

From: [redacted]
Sent: 06 August 2008 14:04
To: [redacted]
Cc: [redacted]

gas Results

Attachments: CO READINGS.CSV



CO READINGS.CSV
(7 KB)

Samples taken at all wells 6/08/2008.

Regards

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MIN O2 %	BARO mb	TEMPERA DegC	REL.PRES mb	ANEMOME m/s	CO ppm	H2S ppm	H2 ppm	FLOW POI l/h
						>>>>	LOW	ERROR
0.2	996	ERROR	-0.05	ERROR	1	>>>>	LOW	ERROR
0.1	996	ERROR	0.21	ERROR	0	>>>>	LOW	ERROR
0	996	ERROR	0.19	ERROR	14	155	LOW	ERROR
0	996	ERROR	-0.79	ERROR	8	205	LOW	ERROR
0.1	996	ERROR	-0.22	ERROR	5	>>>>	LOW	ERROR
0	996	ERROR	0.16	ERROR	3	196	LOW	ERROR
0	996	ERROR	0.15	ERROR	4	>>>>	LOW	ERROR
0	996	ERROR	-0.19	ERROR	4	0	LOW	ERROR
0	996	ERROR	-0.49	ERROR	12	85	LOW	ERROR
0.1	996	ERROR	-0.53	ERROR	26	>>>>	LOW	ERROR
18.4	996	ERROR	-0.18	ERROR	9	0	LOW	ERROR
0	996	ERROR	-0.05	ERROR	10	107	LOW	ERROR
0.4	996	ERROR	8.19	ERROR	3	>>>>	LOW	ERROR
0	996	ERROR	3.5	ERROR	2	>>>>	LOW	ERROR
0	995	ERROR	1.05	ERROR	37	>>>>	LOW	ERROR
0	995	ERROR	-1.17	ERROR	5	>>>>	LOW	ERROR
2.4	995	ERROR	-0.19	ERROR	7	122	LOW	ERROR
0.1	995	ERROR	-0.32	ERROR	2	217	LOW	ERROR
0.2	995	ERROR	-0.74	ERROR	0	>>>>	LOW	ERROR
0	995	ERROR	2.73	ERROR	0	>>>>	LOW	ERROR
0	995	ERROR	0.03	ERROR	0	91	LOW	ERROR
0	995	ERROR	3.07	ERROR	16	91	LOW	ERROR
0	995	ERROR	3.39	ERROR	10	152	LOW	ERROR
0.6	995	ERROR	5.45	ERROR	9	117	LOW	ERROR
0.5	1000	ERROR	-4.05	ERROR	0	>>>>	LOW	ERROR
0.3	1000	ERROR	-5.06	ERROR	2	>>>>	LOW	ERROR
0.3	1000	ERROR	-3.31	ERROR	0	>>>>	LOW	ERROR
0.5	1000	ERROR	-2.34	ERROR	0	>>>>	LOW	ERROR
0.2	1000	ERROR	-14.38	ERROR	4	>>>>	LOW	ERROR
0.3	1000	ERROR	-15.83	ERROR	0	>>>>	LOW	ERROR
0.1	1000	ERROR	-0.83	ERROR	0	>>>>	LOW	ERROR
0	1000	ERROR	-0.9	ERROR	0	203	LOW	ERROR
0	1000	ERROR	-1.16	ERROR	1	4	LOW	ERROR
0.4	1000	ERROR	-0.84	ERROR	0	91	LOW	ERROR
0	1000	ERROR	2.04	ERROR	0	>>>>	LOW	ERROR
0.2	1000	ERROR	-0.66	ERROR	0	>>>>	LOW	ERROR
0.3	1000	ERROR	1.01	ERROR	3	>>>>	LOW	ERROR
0.8	1000	ERROR	1.02	ERROR	2	>>>>	LOW	ERROR
0.4	1000	ERROR	-0.08	ERROR	0	>>>>	LOW	ERROR

ANSWER 1



Model GAGEM20 Serial No GM08655

Date down #####

Computer TN01953

Date of las #####

Date of las #####

Next servic #####

Date of las #####

Security cc [EA2F5C3E]

ID	DATE	CH4 %	CO2 %	O2 %	BALANCE %	CH4 %LEL %	PEAKCH4 %	PEAKCO2 %
N1	#####	58.9	42.4	0.2	-1.5	200	59	42.4
N2	#####	60.9	42.7	0.1	-3.7	200	61	42.7
N3	#####	60.1	42.9	0.1	-3.1	200	61.3	43.3
N4	#####	59.8	43.3	0.2	-3.3	200	59.8	43.2
N5	#####	55.2	42.2	0.4	2.2	200	59.4	43.4
N6	#####	59.8	43.1	0	-2.9	200	59.8	43.1
N7	#####	58.9	42.6	0.1	-1.6	200	60	43.1
N8	#####	0.4	0.3	20.3	79	8	59.8	42.6
N9	#####	60.7	42.7	0	-3.4	200	60	42.2
N10	#####	59	42	0.4	-1.4	200	59.6	43.7
N11	#####	0.5	3.4	19.2	76.9	10	0.7	3.6
N12	#####	60	42.6	0	-2.6	200	60.1	42.5
N13	#####	60.5	41.8	0.3	-2.6	200	60.5	41.9
N14	#####	60.3	42	0	-2.3	200	61	42.6
N15	#####	60.5	42.7	0	-3.2	200	60.2	42.5
N16	#####	51.2	37.1	2.7	9	200	60.5	43
N17	#####	27.7	19	11.6	41.7	200	51.6	38
N18	#####	57.5	41.7	0.6	0.2	200	58.1	44.5
N19	#####	59	43.6	0.2	-2.8	200	58.7	43.4
N20	#####	60.1	42.4	0.1	-2.6	200	59.7	43.1
N21	#####	58.1	43.9	0	-2	200	59.2	43.9
N22	#####	59.1	43.1	0	-2.2	200	59.1	43.2
N23	#####	57.8	42.3	0.5	-0.6	200	59	44
N24	#####	56.7	42.5	0.6	0.2	200	57.2	42.5
N1	#####	58.5	42.7	0.4	-1.6	200	58.5	42.6
N2	#####	58.6	43	0.4	-2	200	58.4	43.2
N3	#####	58	41.6	0.6	-0.2	200	59.1	43.2
N4	#####	58.9	42.8	0.4	-2.1	200	58.7	42.6
N5	#####	58	43.2	0.5	-1.7	200	59.9	43.8
N6	#####	55.7	41.4	1.1	1.8	200	59.1	44.1
N7	#####	59.9	42.4	0.1	-2.4	200	59.5	42.1
N8	#####	60.9	43.5	0.1	-4.5	200	60.5	43.2
N9	#####	0.4	0.2	20.6	78.8	8	60.9	43.1
N10	#####	60.5	43	0.2	-3.7	200	59.7	42.3
N11	#####	60.1	42.3	0.1	-2.5	200	59.6	42.4
N12	#####	58.3	43	0.3	-1.6	200	59.7	42.9
N13	#####	57.1	42.6	0.3	0	200	58.2	43.5
N14	#####	57.1	41.2	0.8	0.9	200	56.6	41
N15	#####	60.1	42	0.3	-2.4	200	60.1	42.1



N16	#####	59.7	41.7	0.1	-1.5	200	61.2	42.4
N17	#####	60.6	41.7	0.3	-2.6	200	60.6	41.9
N18	#####	56	41.8	1	1.2	200	60.3	41.7
N19	#####	57.8	42.5	0.4	-0.7	200	57.8	42.7
N20	#####	60.7	41.3	0.2	-2.2	200	60.8	43.5
N21	#####	59.4	43.8	0	-3.2	200	60.6	43.6
N22	#####	59.1	43	0.2	-2.3	200	60.1	44.4
N23	#####	58.5	42.6	0.2	-1.3	200	58.6	42.7
N24	#####	58	42.4	0.6 >>>>		200	57.7	42.1



0.1	1000 ERROR	-14.4 ERROR	9 >>>>	LOW	ERROR
0.3	1000 ERROR	3.87 ERROR	5 >>>>	LOW	ERROR
0.1	1000 ERROR	2.75 ERROR	2 >>>>	LOW	ERROR
0.4	1000 ERROR	-7.78 ERROR	0 >>>>	LOW	ERROR
0.2	1000 ERROR	3.97 ERROR	11 >>>>	LOW	ERROR
0	1000 ERROR	3.78 ERROR	0 >>>>	LOW	ERROR
0	1000 ERROR	-8.41 ERROR	0 >>>>	LOW	ERROR
0.2	995 ERROR	-0.81 ERROR	1 >>>>	LOW	ERROR
0.5	995 ERROR	-0.88 ERROR	0 >>>>	LOW	ERROR

LISBANE
MONITORING GAS

Model GAGEM20 Serial No GM08655
Date down: #####
Computer: TN01953 [REDACTED]
Date of las #####
Date of las #####
Next servic #####
Date of las #####
Security co [EA2F5C3E]

1 AUG 2008

ID	DATE	CH4 %	CO2 %	O2 %	BALANCE %	CH4 %	%LEL	PEAKCH4 %	PEAKCO2 %
N1	#####	58.9	42.4	0.2	-1.5	200	59	42.4	
N2	#####	60.9	42.7	0.1	-3.7	200	61	42.7	
N3	#####	60.1	42.9	0.1	-3.1	200	61.3	43.3	
N4	#####	59.8	43.3	0.2	-3.3	200	59.8	43.2	
N5	#####	55.2	42.2	0.4	2.2	200	59.4	43.4	
N6	#####	59.8	43.1	0	-2.9	200	59.8	43.1	
N7	#####	58.9	42.6	0.1	-1.6	200	60	43.1	
N8	#####	0.4	0.3	20.3	79	8	59.8	42.6	
N9	#####	60.7	42.7	0	-3.4	200	60	42.2	
N10	#####	59	42	0.4	-1.4	200	59.6	43.7	
N11	#####	0.5	3.4	19.2	76.9	10	0.7	3.6	
N12	#####	60	42.6	0	-2.6	200	60.1	42.5	
N13	#####	60.5	41.8	0.3	-2.6	200	60.5	41.9	
N14	#####	60.3	42	0	-2.3	200	61	42.6	
N15	#####	60.5	42.7	0	-3.2	200	60.2	42.5	
N16	#####	51.2	37.1	2.7	9	200	60.5	43	
N17	#####	27.7	19	11.6	41.7	200	51.6	38	
N18	#####	57.5	41.7	0.6	0.2	200	58.1	44.5	
N19	#####	59	43.6	0.2	-2.8	200	58.7	43.4	
N20	#####	60.1	42.4	0.1	-2.6	200	59.7	43.1	
N21	#####	58.1	43.9	0	-2	200	59.2	43.9	
N22	#####	59.1	43.1	0	-2.2	200	59.1	43.2	
N23	#####	57.8	42.3	0.5	-0.6	200	59	44	
N24	#####	56.7	42.5	0.6	0.2	200	57.2	42.5	

MIN O2 %	BARO mb	TEMPERA DegC	REL. mb	PRESANEMOME m/s	CO ppm	H2S ppm	H2 ppm	FLOW POI l/h
						>>>>	LOW	ERROR
0.2	996	ERROR	-0.05	ERROR	1	>>>>	LOW	ERROR
0.1	996	ERROR	0.21	ERROR	0	>>>>	LOW	ERROR
0	996	ERROR	0.19	ERROR	14	155	LOW	ERROR
0	996	ERROR	-0.79	ERROR	8	205	LOW	ERROR
0.1	996	ERROR	-0.22	ERROR	5	>>>>	LOW	ERROR
0	996	ERROR	0.16	ERROR	3	196	LOW	ERROR
0	996	ERROR	0.15	ERROR	4	>>>>	LOW	ERROR
0	996	ERROR	-0.19	ERROR	4	0	LOW	ERROR
0	996	ERROR	-0.49	ERROR	12	85	LOW	ERROR
0.1	996	ERROR	-0.53	ERROR	26	>>>>	LOW	ERROR
18.4	996	ERROR	-0.18	ERROR	9	0	LOW	ERROR
0	996	ERROR	-0.05	ERROR	10	107	LOW	ERROR
0.4	996	ERROR	8.19	ERROR	3	>>>>	LOW	ERROR
0	996	ERROR	3.5	ERROR	2	>>>>	LOW	ERROR
0	995	ERROR	1.05	ERROR	37	>>>>	LOW	ERROR
0	995	ERROR	-1.17	ERROR	5	>>>>	LOW	ERROR
2.4	995	ERROR	-0.19	ERROR	7	122	LOW	ERROR
0.1	995	ERROR	-0.32	ERROR	2	217	LOW	ERROR
0.2	995	ERROR	-0.74	ERROR	0	>>>>	LOW	ERROR
0	995	ERROR	2.73	ERROR	0	>>>>	LOW	ERROR
0	995	ERROR	0.03	ERROR	0	91	LOW	ERROR
0	995	ERROR	3.07	ERROR	16	91	LOW	ERROR
0	995	ERROR	3.39	ERROR	10	152	LOW	ERROR
0.6	995	ERROR	5.45	ERROR	9	117	LOW	ERROR



[REDACTED]
Sean Quinn Group
Lisbane Landfill
29 Aughlish Road
Tandragee
Co Armagh
BT62 2EE

Our Ref: WML 03/05

23 July 2008

Dear [REDACTED]

POLLUTION PREVENTION AND CONTROL REGULATIONS (NI) 2003

Lisbane Landfill Site – In Waste Gas Monitoring

During a site inspection, carried out on Tuesday the 22nd of July 2008, elevated levels of Carbon Monoxide were detected in landfill gas sampled at in waste gas extraction wellheads. Elevated levels of Carbon Monoxide can be indicative of combustion events occurring within the waste mass and must be thoroughly investigated. In the immediate short term a regime whereby monitoring is carried out on a daily basis must be put in place. All monitoring results must be submitted daily to the Northern Ireland Environment Agency. Monitoring frequencies will be reviewed by the Department after two weeks of daily monitoring has been undertaken.

In addition to daily monitoring all unnecessary ingress of air into the landfill must be eliminated. Our site visit revealed that several gas wells are uncapped, these should be capped immediately. The area of the landfill site which is not being utilised to emplace waste, the greater part of the site from which gas is extracted, must be thoroughly capped with clay. Consideration must also be given to ceasing gas extraction altogether until it can be established that the elevated levels detected of Carbon Monoxide are not resulting from in waste combustion.

If you have any queries please you can contact me on [REDACTED] or you can contact [REDACTED]

Yours sincerely

[REDACTED]
Land and Resource Management

cc: [REDACTED], Sean Quinn Concrete Ltd.
[REDACTED] Sean Quinn Concrete Ltd.





[REDACTED]
Sean Quinn Concrete Ltd
Gortamullan
Derrylin
Co Fermanagh
BT92 9AU

Our Ref: WML 03/05

4th July 2008

Dear [REDACTED]

THE WASTE AND CONTAMINATED LAND (NI) ORDER 1997

Daily cover at Lisbane Landfill Site

On Thursday the 3rd of July 2008 officers of the Northern Ireland Environment Agency carried out an inspection of Lisbane Landfill Site. The inspection clearly revealed that waste was not being covered on a daily basis. It was apparent that this had been the situation for quite some time. This is a blatant breach of Condition 4.7.1 of the Waste Management Licence for Lisbane Landfill site.

I spoke by telephone to your [REDACTED] this morning and was assured by him that the situation will be remedied immediately and that by Saturday the 5th of July exposed waste would be covered as per the licence condition. I trust that this will be the case. If the situation is not addressed immediately the Department will serve a Notice under Article 16 of the Waste and Contaminated Land (NI) Order 1997 suspending the deposit of waste at Lisbane Landfill site.

If you have any queries please do not hesitate to contact [REDACTED] on direct line

[REDACTED]
Land and Resource Management

cc: [REDACTED]

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Renewable Energy & Environmental Services
Quinn Group
Derrylin
Co Fermanagh
BT92 9AU

Direct Tel No: [REDACTED]
Fax No: [REDACTED]
Our Ref: WML 03/05
Your Ref: 08-0260/GG

29^m 19th May 2008

Dear Mr [REDACTED]

Typo

ASBESTOS CELL: Lisbane Landfill Site

The Department can confirm that the laboratory test results from the sampling at new asbestos cell Lisbane Landfill Site are satisfactory. Asbestos waste can now be deposited in the cell.

Yours sincerely

[REDACTED]
Licensing and Authorisations



WF

Ref No: WML 03/05 **Applicant:** Sean Quinn Group **Site Address:** Lisbane Landfill, Tandragee

Issue **Approval of Asbestos Cell**

Please complete to show the factors that have been considered

Summary	Positive Considerations	Negative Considerations
<p>The Sean Quinn Group has recently constructed a new asbestos cell at Lisbane Landfill for which they sought the approval from the EHS.</p> <p>The cell was constructed without the installation of a geological barrier which provides permeability of more than 1.0×10^{-9} metres/second and a thickness of at least 0.5 metres hence the EHS refused permission to use the cell since it did not meet the requirements of the Landfill Regulations (NI) 2003.</p> <p>During discussions held with the Sean Quinn Group and their consultants it emerged that the asbestos cell had been constructed on a thick layer of naturally occurring clay. It was agreed that if the Sean Quinn Group could demonstrate that this clay layer exceeded the requirements of the Landfill Regulations (NI) 2003 with regard to permeability and thickness then the EHS would reconsider the refusal to permit the use of the cell.</p> <p>The Sean Quinn Group subsequently conducted sampling and laboratory testing of the naturally occurring clay at the base of the cell. The tests demonstrated that the natural</p>	<p>The naturally occurring clays underlying the proposed asbestos cell meet or exceed the requirements of the Landfill Regulations (NI) 2003.</p>	



clays provided permeability values in excess of those required by the Landfill Regulations (NI) 2003.

After consideration of the above factors I recommend that the Sean Quinn Group be permitted to deposit asbestos in the newly constructed cell at Lisbane Landfill Site.

Signed: _____

Date 26 - MAY 2008

AGREED/APPROVED Signed: _____

Date 28/5/08.

Mr [REDACTED]
Renewable Energy & Environmental Services
Quinn Group
Derrylin
Co Fermanagh
BT92 9AU

Our ref: 08-0260/GG

13 May 2008

Dear [REDACTED]

**Lisbane Landfill, Tandragee
Sampling and laboratory testing**

In confirmation of earlier emails, we enclose:

- a map excerpt showing the site location.
- a drawing showing the locations of the five trial pits excavated in the natural soils at the base of the proposed landfill cell
- the results of triaxial permeability tests conducted on U100 samples taken below 0.2m depth in TPs 01, 03 and 05.



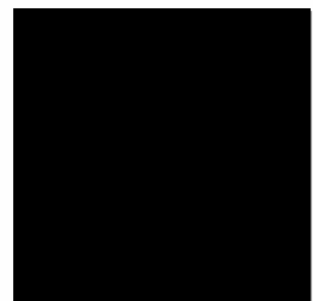
The three measured permeability values were:

Trial pit and depth	permeability, k (m/s)
TP01 @ 0.2-0.65m	1.2×10^{-10}
TP03 @ 0.2-0.65m	3.8×10^{-10}
TP05 @ 0.2-0.65m	5.4×10^{-10}

The above permeability values are lower (more impermeable) than the 1.0×10^{-9} m/s required for a "geological barrier" by The Landfill Regulations (NI) 2003, Schedule 2, General requirements for landfills.

- the results of particle size distribution analyses on TPs 01, 02, 03 and 05.

These show the glacial till to be of reasonably consistent gradings between these four trial pits.



- 2 -

We trust this is satisfactory but please contact us if you have any queries.

Yours sincerely

GLOVER SITE INVESTIGATIONS LTD



Date	5th May 2007	Sample type	Gravelly CLAY
Client	GSI	Sample Height mm	100
Test	Constant Head Permeability	Sample Diameter mm	100
Site	Lisbane	Sample Volume cm ³	785
Sample Reference	TP1	Initial Wet Mass g	1847
Layer	N/A	Final Wet Mass g	1858
Depth m	0.6	Dry Mass g	1595
Sampling Method	U4	Bulk Density Mg/m ³	2353
		Dry Density Mg/m ³	2032
		Initial Water Content %	15.8
		Final Water Content %	16.5

Saturation Stage

Initial B Value	<0.8
Back Pore Water Pressure During Saturation kPa	320
Cell Pressure kPa	300
Final B Value	0.96
Duration of saturation h	48

Consolidation Stage

Cell pressure kPa	400
Back Pore Water Pressure kPa	350
Duration of Consolidation h	30

Permeability Stage

Temperature C°	20
Cell Pressure kPa	450
Pore Water Pressure (Top) kPa	410
Pore Water Pressure (Bottom) kPa	390
Average Effective Stress kPa	50
Head Difference kPa	20
Head Loss kPa	1
Net Head difference m	1.94
Sample Height m	0.1
Hydraulic Gradient i	19.37
Flow Rate cm ³ /min	0.0011
Area of the Sample cm ²	78.5
Permeability m/s	1.2E-10

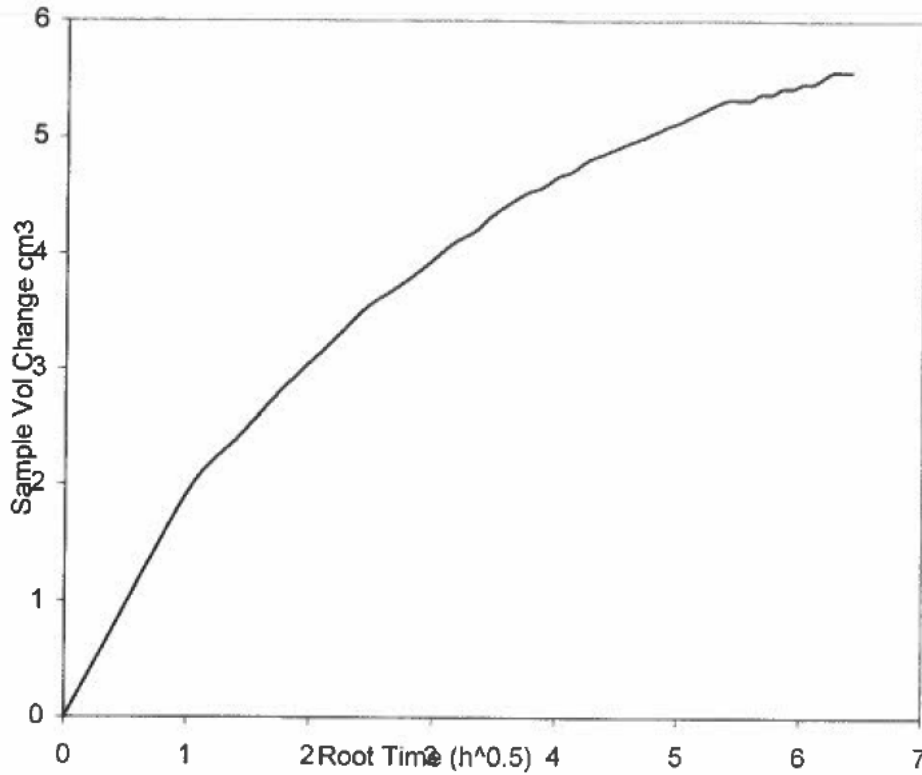


Figure 1 Volume Change Vs Root Time (Consolidation Stage)

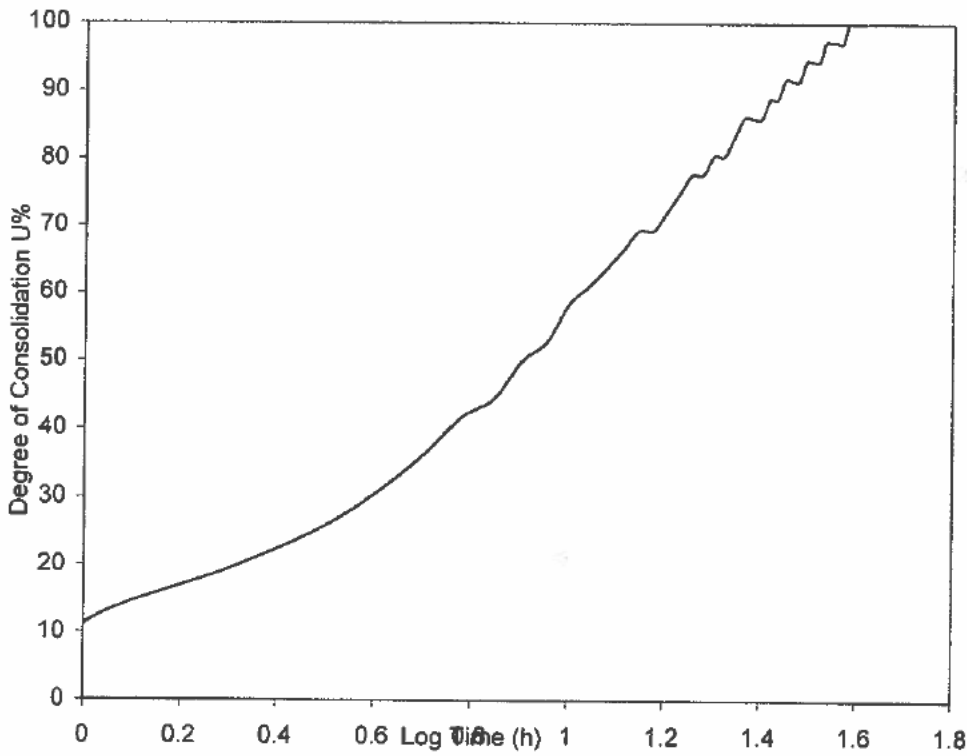


Figure 2 Degree of Consolidation Vs Log Time (Consolidation Stage)



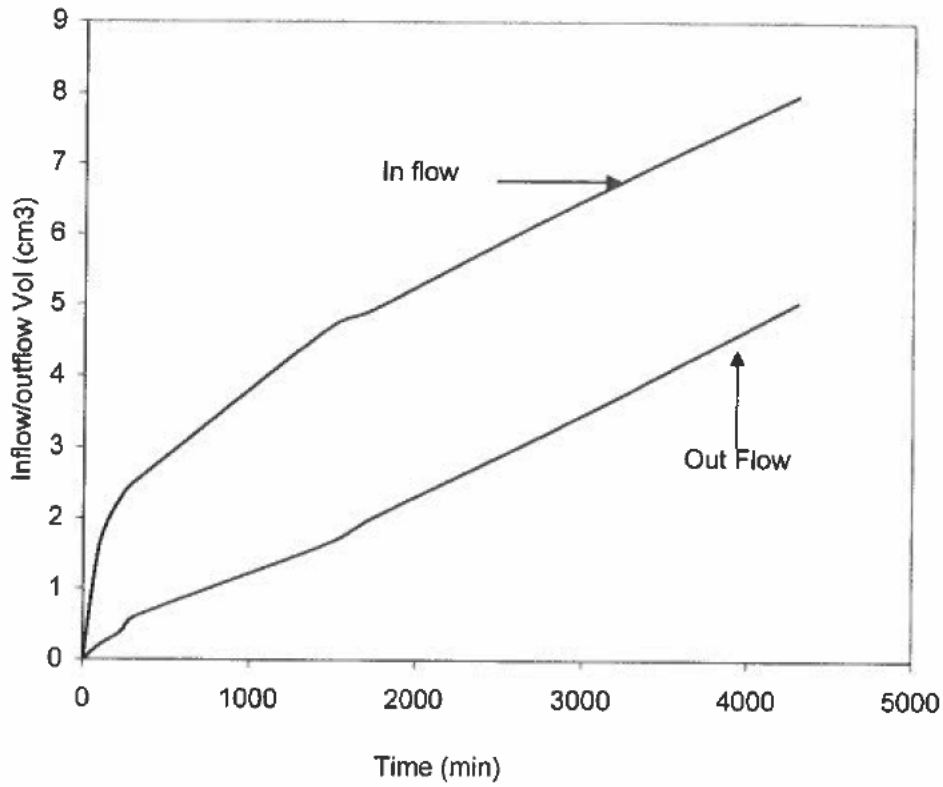


Figure 3 In Flow and Out Flow Against Time



Date	5th May 2007	Sample type	Gravelly CLAY
Client	GSI	Sample Height mm	100
Test	Constant Head Permeability	Sample Diameter mm	100
Site	Lisbane	Sample Volume cm ³	785
Sample Reference	TP3	Initial Wet Mass g	1800
Layer	N/A	Final Wet Mass g	1805
Depth m	0.6	Dry Mass g	1536
Sampling Method	U4	Bulk Density Mg/m ³	2293
		Dry Density Mg/m ³	1957
		Initial Water Content %	17.2
		Final Water Content %	17.5

Saturation Stage

Initial B Value	<0.8
Back Pore Water Pressure During Saturation kPa	320
Cell Pressure kPa	300
Final B Value	1
Duration of saturation h	48

Consolidation Stage

Cell pressure kPa	404
Back Pore Water Pressure kPa	354
Duration of Consolidation h	15

Permeability Stage

Temperature C°	20
Cell Pressure kPa	404
Pore Water Pressure (Top) kPa	374
Pore Water Pressure (Bottom) kPa	354
Average Effective Stress kPa	40
Head Difference kPa	20
Head Loss kPa	1
Net Head difference m	1.94
Sample Height m	0.1
Hydraulic Gradient i	19.37
Flow Rate cm ³ /min	0.0035
Area of the Sample cm ²	78.5
Permeability m/s	3.8E-10

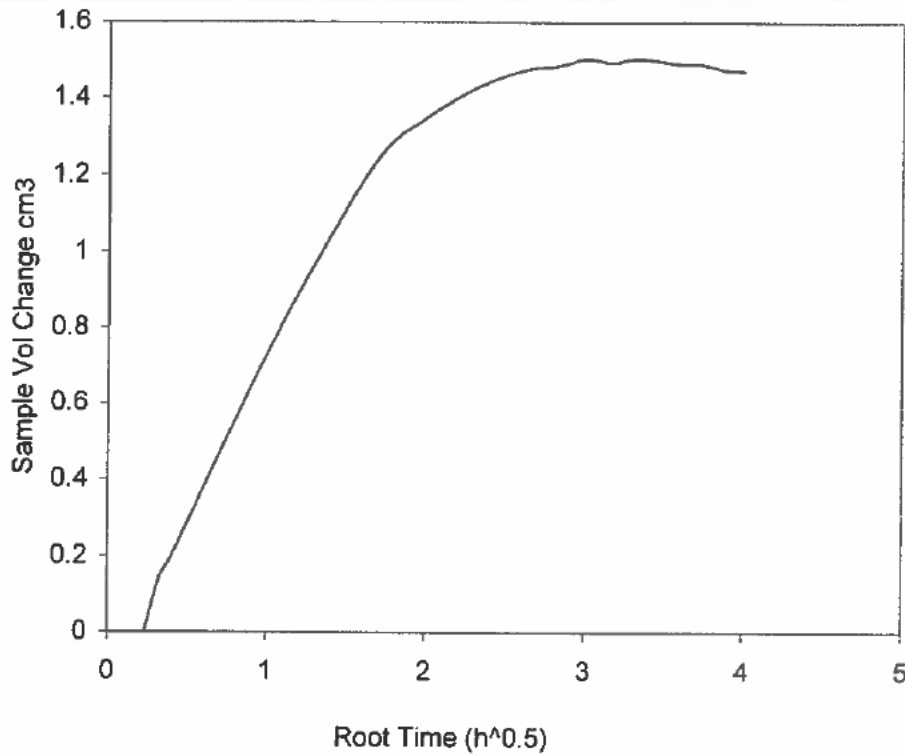


Figure 1 Volume Change Vs Root Time (Consolidation Stage)

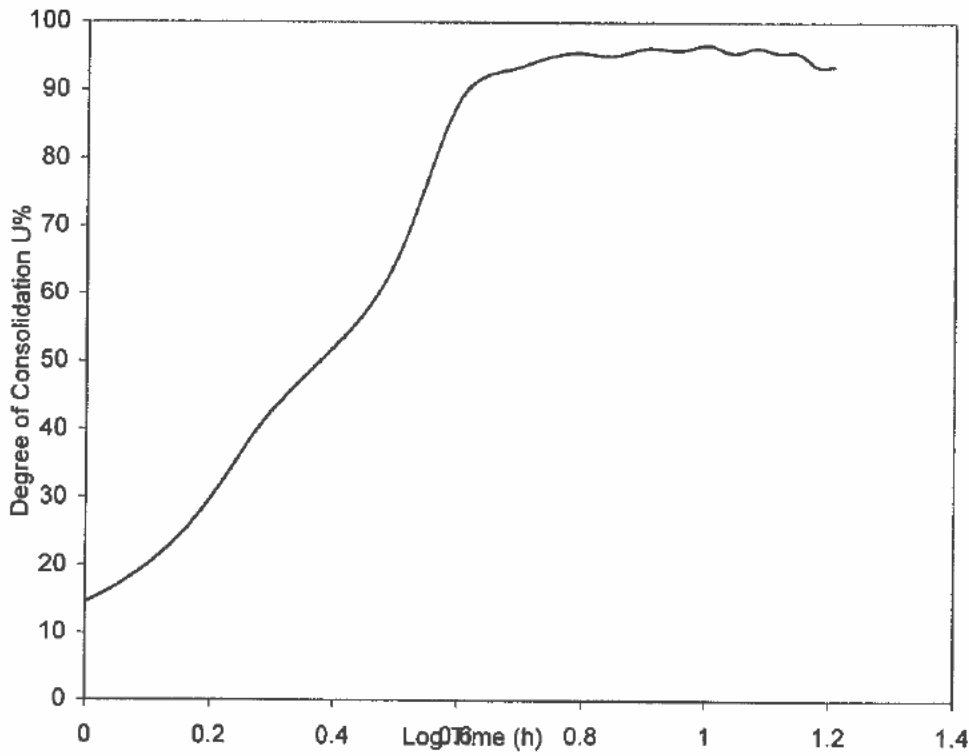


Figure 2 Degree of Consolidation Vs Log Time (Consolidation Stage)



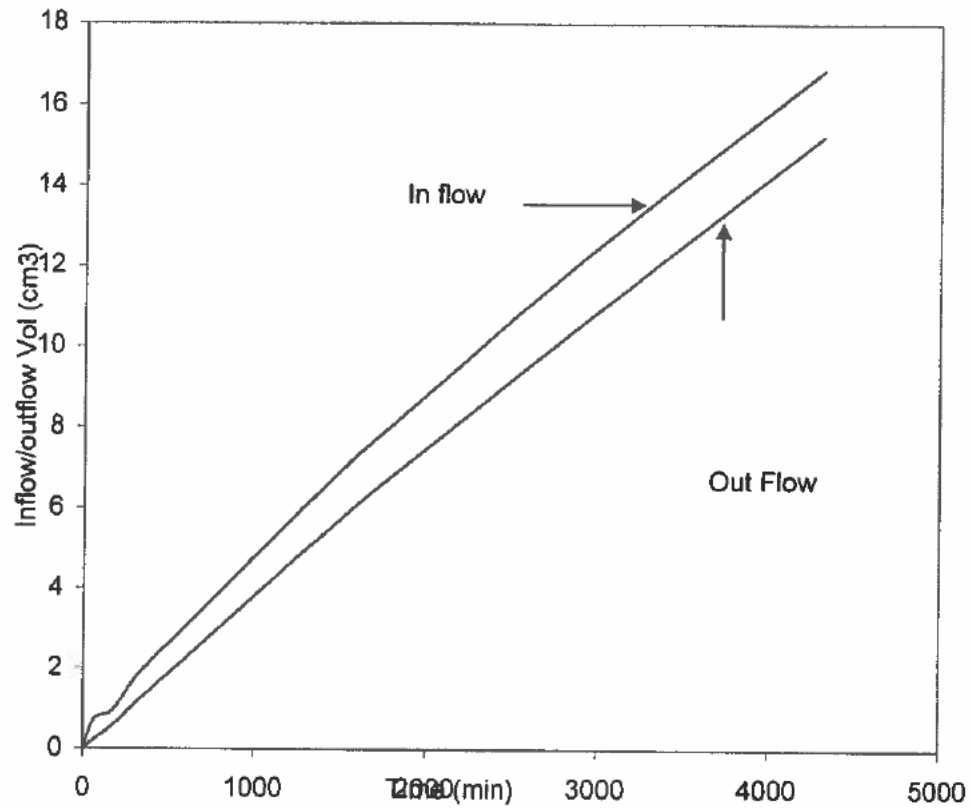


Figure 3 In Flow and Out Flow Against Time



Date	5th May 2007	Sample type	Gravelly CLAY
Client	GSI	Sample Height mm	100
Test	Constant Head Permeability	Sample Diameter mm	100
Site	Lisbane	Sample Volume cm ³	785
Sample Reference	TP5	Initial Wet Mass g	1920
Layer	N/A	Final Wet Mass g	1955
Depth m	0.6	Dry Mass g	1675
Sampling Method	U4	Bulk Density Mg/m ³	2446
		Dry Density Mg/m ³	2134
		Initial Water Content %	14.6
		Final Water Content %	16.7

Saturation Stage

Initial B Value	<0.8
Back Pore Water Pressure During Saturation kPa	320
Cell Pressure kPa	300
Final B Value	0.98
Duration of saturation h	48

Consolidation Stage

Cell pressure kPa	450
Back Pore Water Pressure kPa	391
Duration of Consolidation h	30

Permeability Stage

Temperature C°	20
Cell Pressure kPa	450
Pore Water Pressure (Top) kPa	410
Pore Water Pressure (Bottom) kPa	390
Average Effective Stress kPa	50
Head Difference kPa	20
Head Loss kPa	1
Net Head difference m	1.94
Sample Height m	0.1
Hydraulic Gradient i	19.37
Flow Rate cm ³ /min	0.0049
Area of the Sample cm ²	78.5
Permeability m/s	5.4E-10

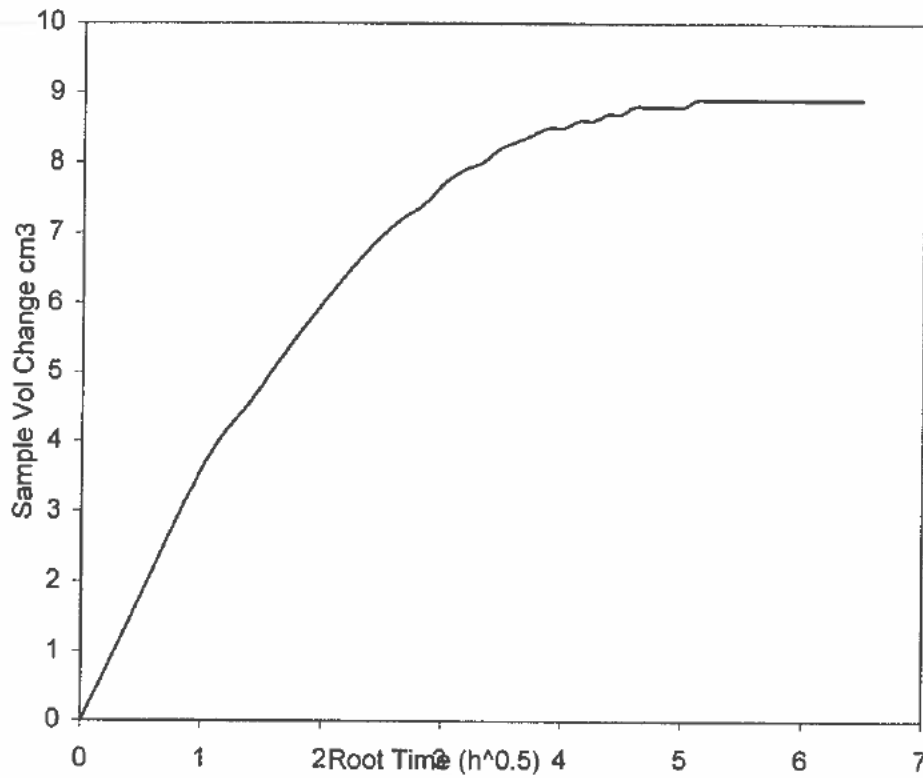


Figure 1 Volume Change Vs Root Time (Consolidation Stage)

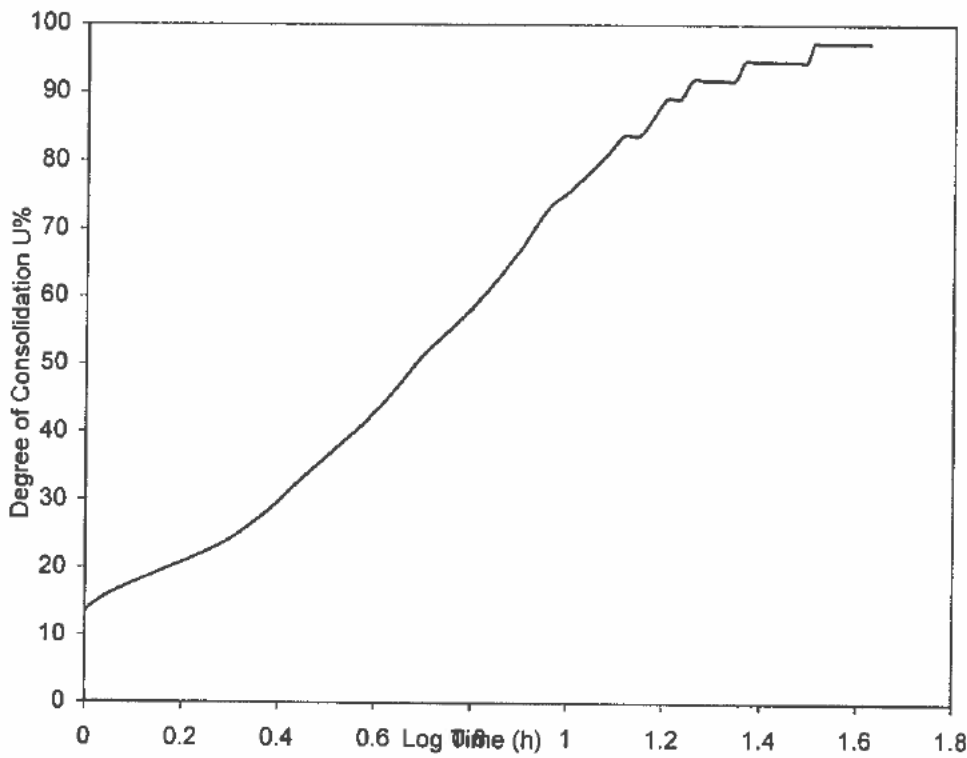


Figure 2 Degree of Consolidation Vs Log Time (Consolidation Stage)



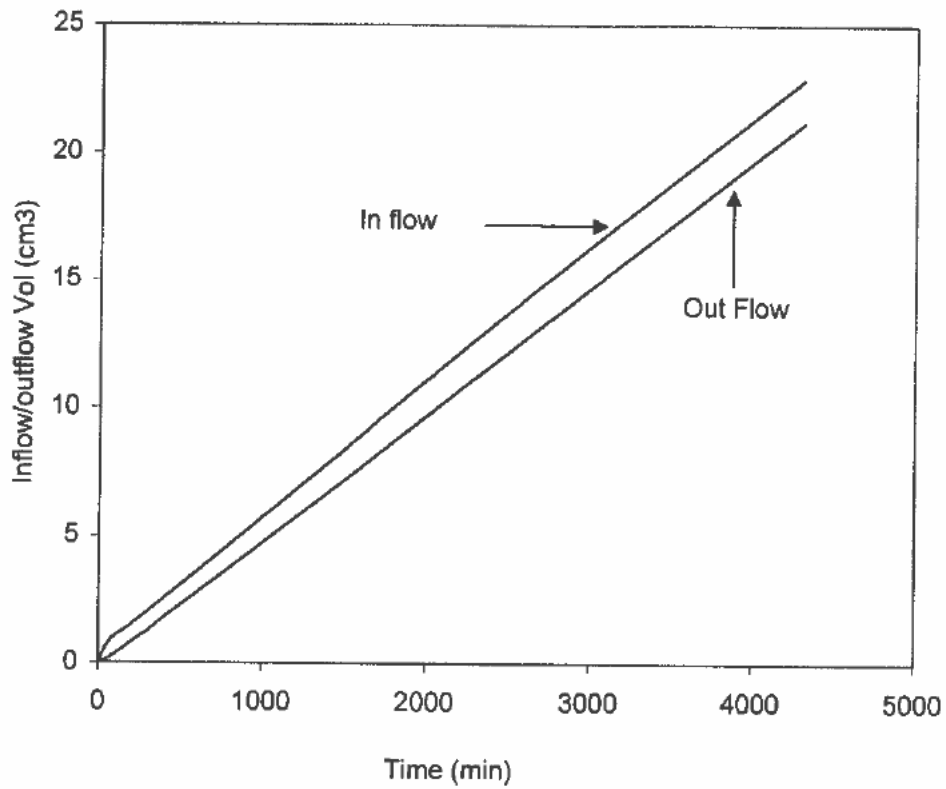
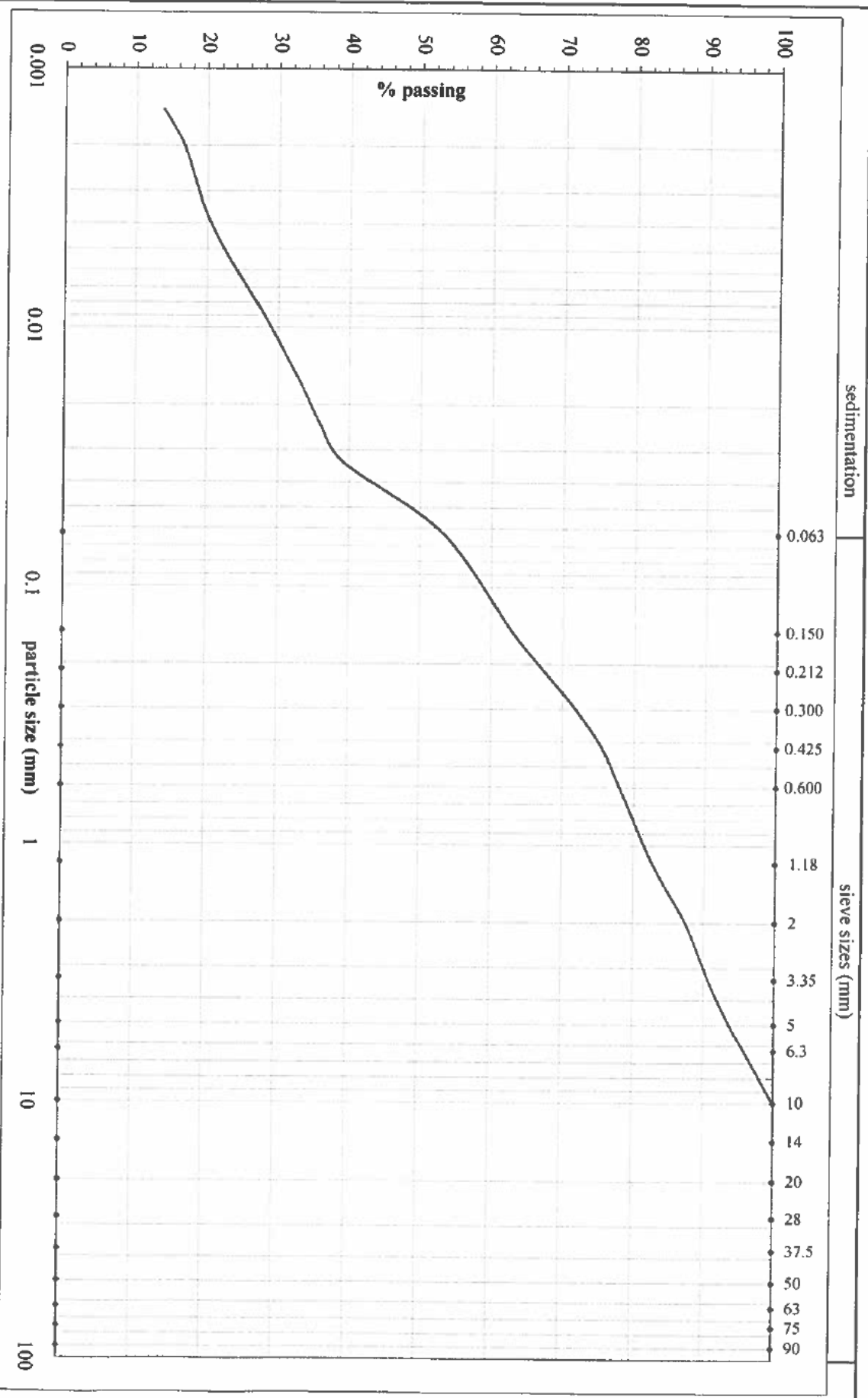


Figure 3 In Flow and Out Flow Against Time



Particle Size Distribution

Particle size (mm)	% passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	100
14	100
10	100
6.3	96
5	94
3.35	91
2	87
1.18	83
0.600	78
0.425	76
0.300	72
0.212	67
0.150	63
0.063	53
0.0337	39.3
0.0243	36.1
0.0174	33.6
0.0129	31.1
0.0093	28.4
0.0067	25.2
0.0048	22.0
0.0034	19.5
0.0020	16.8
0.0014	13.8



Clay 16%	Silt 37%			Cobbles 0%
	fine	medium	coarse	
Sand 34%		Gravel 13%		
		fine	medium	coarse

Project: Lisbane Landfill, Tandragee

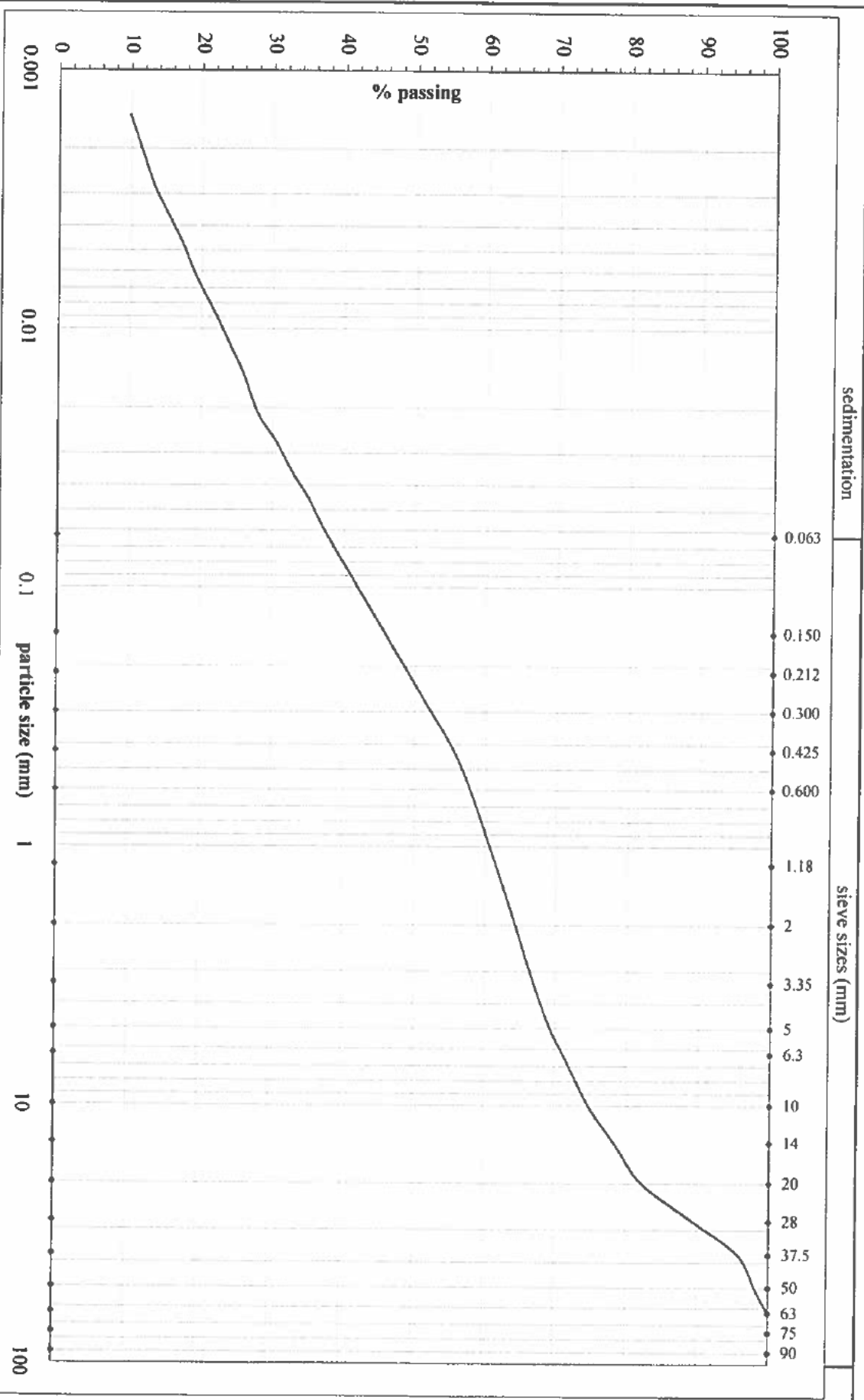
Job No.: 08-0260

Exploratory Hole No.:

TP01

Type	No.	at (m)	to (m)	Sample description:
U	41	0.20	0.65	

Particle size (mm)	% passing
125	100
90	100
75	100
63	100
50	98
37.5	96
28	90
20	82
14	78
10	75
6.3	71
5	69
3.35	67
2	64
1.18	62
0.600	58
0.425	56
0.300	52
0.212	49
0.150	46
0.063	38
0.0449	35.0
0.0371	33.2
0.0324	32.0
0.0267	30.4
0.0210	27.9
0.0151	26.0
0.0124	24.6
0.0089	22.1
0.0064	19.3
0.0046	17.2
0.0033	14.5
0.0027	13.1
0.0015	9.9

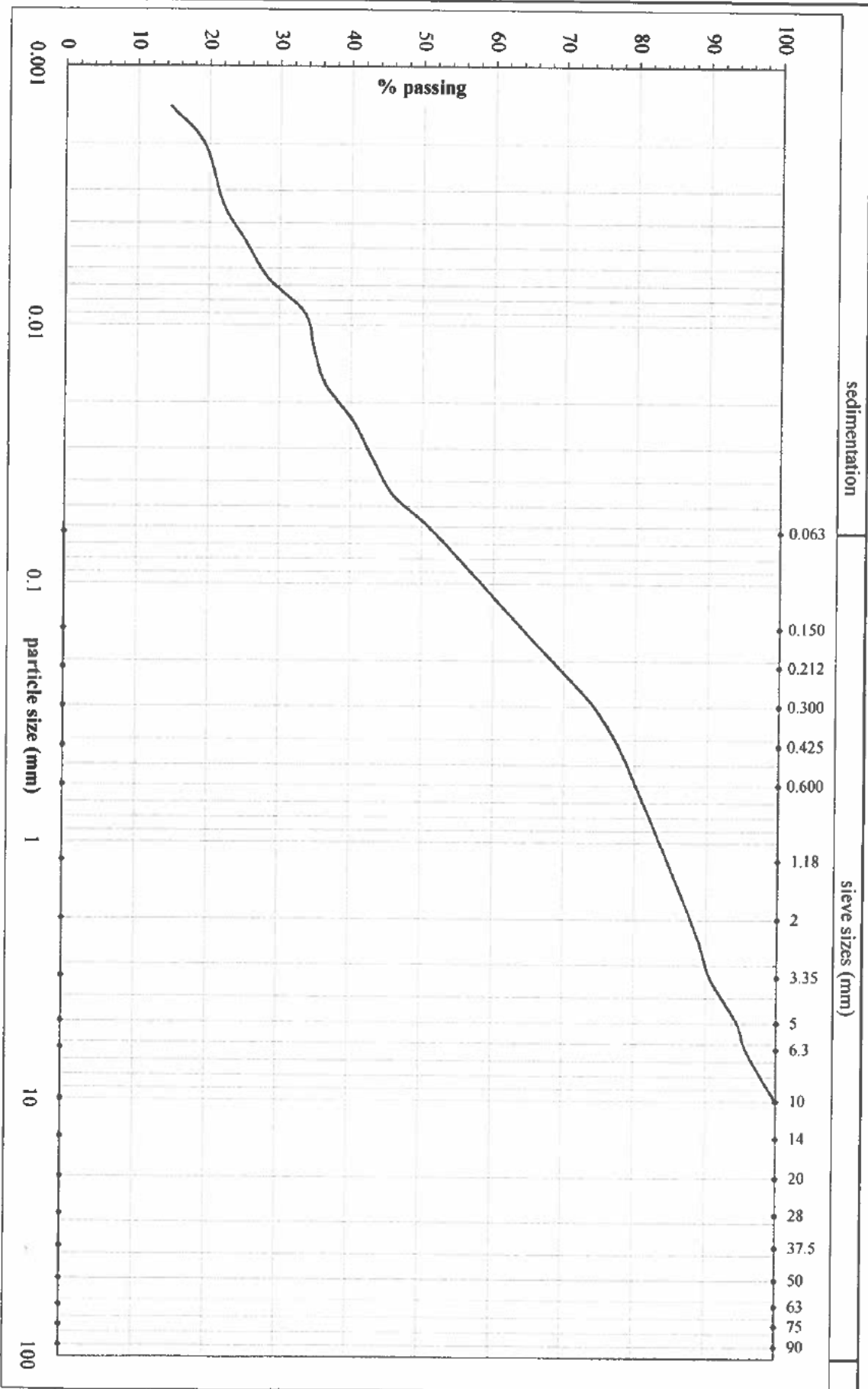


Clay 12%	Silt 26%			Sand 27%			Gravel 36%	Cobbles 0%
	fine	medium	coarse	fine	medium	coarse		

Sample natural moisture content (%) = 14

Project:	Lisbane Landfill, Tandragee.	Exploratory Hole No.:	TP02	Sample No. at (m) to (m)		Sample description:
Job No.:	08-0260		U	42	0.20	

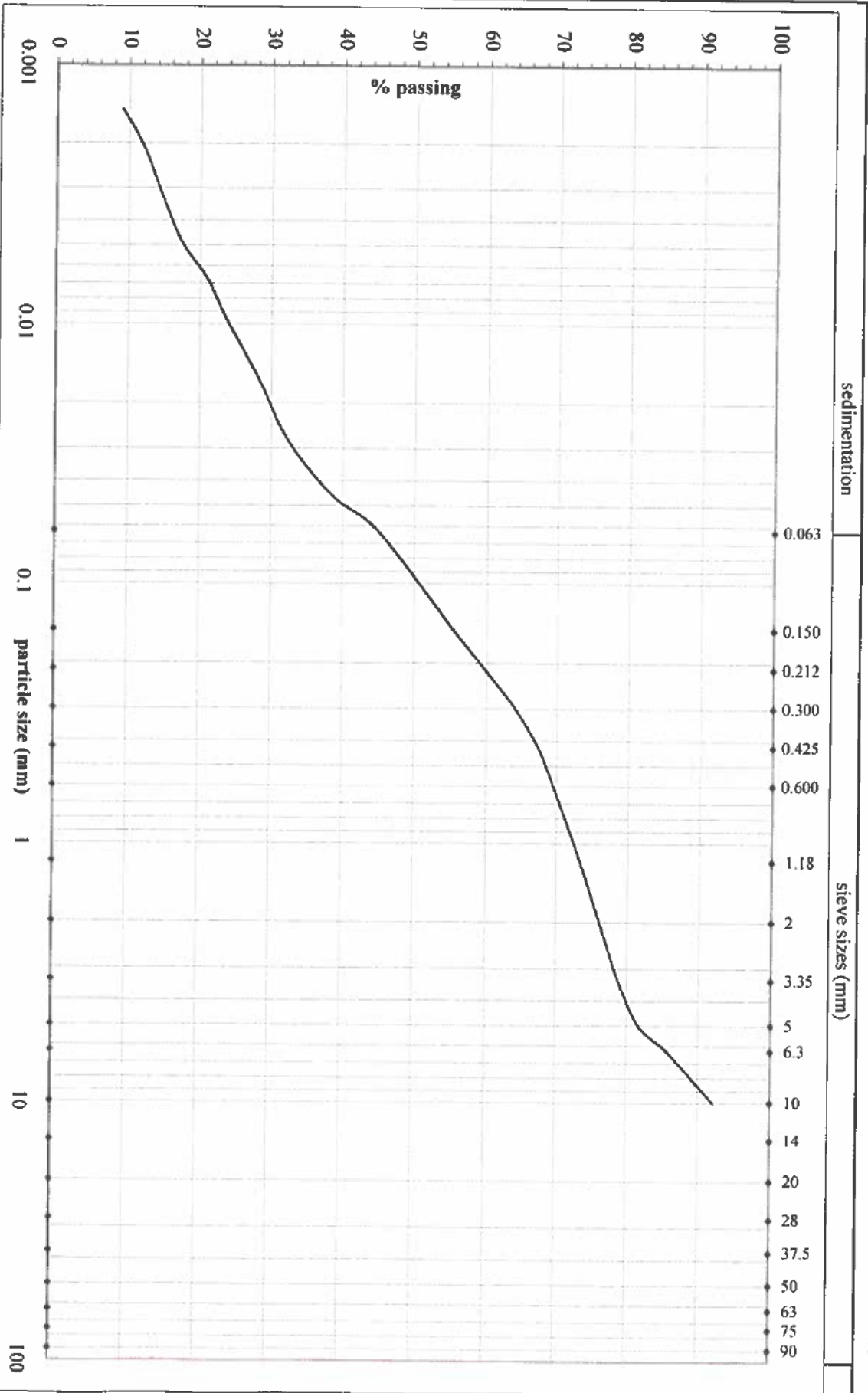
Particle size (mm)	% passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	100
14	100
10	100
6.3	96
5	94
3.35	91
2.36	89
1.18	85
0.600	80
0.425	78
0.300	74
0.212	69
0.150	64
0.063	52
0.0455	46.1
0.0328	43.1
0.0236	40.4
0.0171	36.5
0.0126	34.9
0.0090	33.6
0.0066	28.4
0.0047	25.2
0.0034	22.0
0.0020	19.3
0.0014	14.5



Clay 19%	Silt 33%			Cobbles 0%
	fine	medium	coarse	
Sand 37%		Gravel 11%		
medium		coarse		

Project:	Lisbane Landfill, Tandragee		Exploratory Hole No.:	TP03		Sample description:
Job No.:	08-0260		Type	No.	at (m)	to (m)
			U	43	0.20	0.65

Particle size (mm)	% passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	100
14	100
10	92
6.3	86
5	82
3.35	79
2.36	77
1.18	73
0.600	70
0.425	67
0.300	64
0.212	60
0.150	55
0.063	45
0.0476	39.3
0.0346	34.7
0.0250	31.3
0.0179	29.0
0.0132	26.5
0.0095	23.6
0.0068	21.1
0.0049	17.5
0.0035	15.2
0.0021	12.0
0.0015	9.1



Clay 12%	Silt 33%			fine	medium	coarse	fine	medium	coarse	Cobbles 0%
	Sand 32%									

Project:	Lisbane Landfill, Tandragee		Exploratory Hole No.:	TP05		Sample		Sample description:
Job No.:	08-0260			Type	No. at (m)	to (m)		
				U	45	0.20	0.65	

