TED O' DONOGHUE & SONS WASTE DISPOSAL

KNOCKPOGE, WATERFALL, Co. CORK

ANNUAL ENVIRONMENTAL REPORT

Period: January 2011 - December 2011

Waste Licence Register Number:	W00214-1
Licensee:	Ted O' Donoghue & Sons Limited
Location of Facility:	Knockpoge, Waterfall, County Cork

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1. INTRODUCTION

This Annual Environmental Report (AER) for Ted O' Donoghue & Sons Limited covers the reporting period January 2011 to December 2011. Ted O' Donoghue & Sons received a waste licence (Register Number W214-1) on 26th September 2005. The AER has been prepared in compliance with Condition 11.10 of the Waste Licence.

The content of the AER is based on Schedule D of the Waste Licence and the report format follows guidelines set in the "Draft Guidance on Environmental Management Systems and Reporting to the Agency" issued by the Environmental Protection Agency (Agency). The Waste Licence allows *the facility* to accept Commercial, Household and Construction and Demolition non-hazardous waste on-site and recovered from the incoming waste streams. The various waste streams are processed and stored on-site pending removal to authorised off-site recycling and disposal facilities. The annual licensed waste throughput is limited to 23,000 tonnes.

2. MANAGEMENT OF THE FACILITY

2.1 Management of the Activity

The site is managed and operated by O' Donoghue family. Details of the management structure for the facility were submitted to the Agency as part of the Environmental Management Programme in March 2006.

2.2 Environmental Management System

An Environmental Management System (EMS) is in operation for the site and is updated annually in accordance with site requirements and conditions, as required under Condition 2.2 of the Waste Licence.

2.3 Environmental Management Programme

The objective of the EMP is to act as the site manual, which will assist the site in achieving its objectives and targets during the current and future operation of the site. The EMP has been prepared and was submitted to the Agency in March 2006.

3. NOTIFICATION AND RECORD KEEPING

3.1. Information stored on-site

All copies of environmental data and prescribed reports obtained and prepared on behalf of the licensee are forwarded to the Agency. Copies of reports and correspondence are retained and available for inspection at the reception building.

The facility provides the following documentation to view:

- Waste Licence 214-1
- Waste Licence Application form
- Periodic reports
- All monitoring records
- Waste transfer and acceptance dockets
- Incident/Complaints reports
- Once-off reports submitted to the agency
- Rejected loads log
- Agency correspondence, EPA approvals and request for additional information
- Monitoring personnel, experience and training
- Audit records
- Rejected load, compliance, integrity of bunds
- Daily Site Log

- Weekly site inspection forms
- Surface Water Inspection forms

3.2. Waste Records

Records of all waste loads entering and leaving the site is kept electronically by the weighbridge operator. Details such as date, time, origin, waste type, contractors name, waste collection permit number, quantities and vehicle registration number are recorded. Waste records are contained in Appendices I.

All waste materials accepted at the site are recorded on two separate documents, including a waste transfer document and a computer printout of the waste accepted. The following details are recorded:

Computer Printout:

- Ticket Number/Transaction Number
- Customer code
- Operator / driver signature
- Net weight
- Vehicle Registration Number
- Contractor Name
- Waste Code for site
- Waste Type
- Name of person who checked load
- Waste Source
- Accepted or rejected status
- Weight entering and weight of container leaving site

Waste Transfer Docket includes additional headings of:

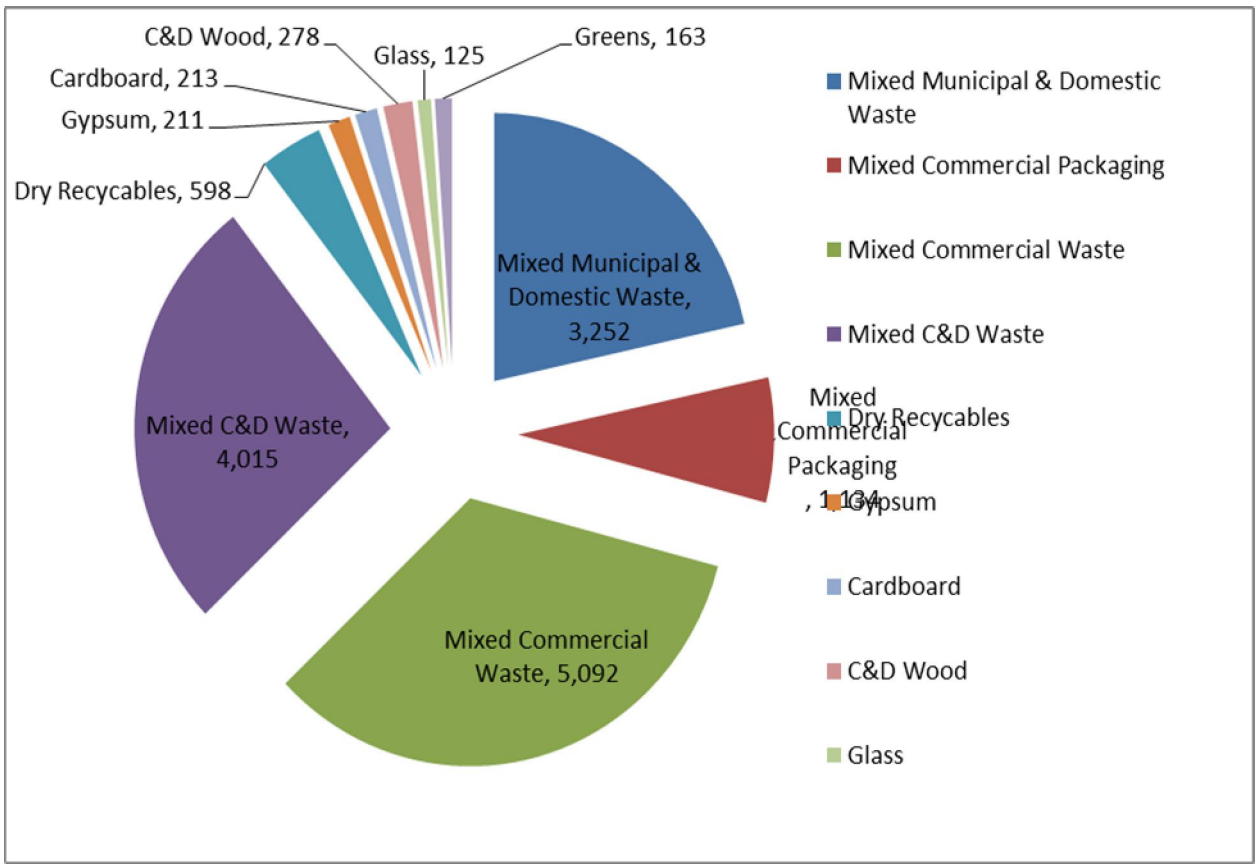
- How waste is contained
- European waste catalogue number
- Physical description
- Odour/Description of odour
- Special problems/requirements of waste
- Knowledge with regard to waste
- Waste Producer
- Waste Collection Permit Number

All waste records are retained at the site office.

3.3. Report on Waste Recovery

The waste volumes received at the facility have reduced significantly since 38,331 tonnes were received at the facility in 2008. In 2011 18,326 tonnes of waste were received at the facility.

Figure 3.1 Waste Tonnages Accepted at Facility in 2011



3.4. Register of Complaints

Details of all complaints made by the public are recorded in a Complaints Register. Complaints can be registered by contacting the facility manager or staff at the site. The register includes the name of the complainant, the nature of the complaint, the date of the complaint and the actions taken to remedy the complaint. The facility manager signs off the completed form. Operational Procedure 9.3 details the recording of complaints.

3.5. Non-Compliances

Non-compliances were notified to the facility manager following EPA site inspections. These regarded exceedances in Waste Licence emission limit values for surface water run-off discharge to waters and unauthorised infrastructure.

All reports of non-compliances issued were responded to and remedial measures were implemented to close out the matters.

3.6. Complaints summaries

No complaints were received by the facility manager during the reporting period.

3.7. Summary of Resource & Energy Consumption

Table 3.1 presents an estimate of the resources used on-site during the reporting period.

Table 3.1: Estimate of Resources Used On-Site

Resources	Quantities
Diesel	69,000 litres
Hydraulic and Engine Oil	150 litres
Disinfectant	3 litres(concentrate)
Truck Wash Detergent	25 litres
Electricity	7,400 KWH

3.8. On-site Procedures

Current procedures relating to the handling and storage of waste are being developed and will be forwarded to the Agency when completed.

4. ENVIRONMENTAL MONITORING SUMMARY

The following is a summary of the noise, dust, and groundwater quality monitoring and monitoring carried out at the site during 2011.

4.1. Noise Monitoring

The following are the details of the survey as carried out at Ted O' Donoghue and Sons Ltd premises on the 14th June 2011.

The following is a description of the noise sensitive locations monitored during the noise survey and the sources of noise in the area at the time.

The following is a description of the noise sensitive locations monitored during the noise survey and the sources of noise in the area at the time.

Table 4.1: Monitoring Locations

Monitoring Location	Description
N1	Adjacent O Donoghue family residence
N2	South east corner of site adjacent transfer station and workshop
N3	North west corner of site, close to trailer parking area
N4	North east corner of site, close to timber shredder
N5	At sensitive dwelling, north east of site

The results of the noise monitoring at locations N1-N5 is presented in Table 4.2.

Table 4.2 Ambient Measurements (Locations N1-N5)

Monitoring Location	Time and Date	L_{Aeq}, dB(A)	L_{A90}, dB(A)	L_{A10}, dB(A)	Main Noise Sources
N1	14/06/11 11:21-11:51	60.5	45.9	61.2	Trucks entering facility, local traffic.
N2	14/06/11 11:59-12:29	56.5	48.8	58.8	Vehicle movements. Noise from transfer building.
N3	14/06/11 12:35-13:05	55.9	42.5	56.8	Noise from transfer building, site truck movements
N4	14/06/11 13:24-13:54	58.8	46.5	60.2	Traffic on local road, no site noise
N5	14/06/11 14:04-14:34	61.2	47.8	63.3	Traffic on local road, no site noise

Measurements at location N1 were recorded adjacent to the O' Donoghue family residence adjacent to the entrance to the facility with traffic on the local road and access road influencing the ambient levels.

Noise measurements at N2 and N3 were recorded at the north-western and north-eastern corners of the site respectively. Site vehicle movements and the mechanical processes within the transfer station building were the main noise sources. The average noise levels were recorded at N2 and N3 were 56.5dB(A) and 55.9dB(A) respectively.

The noise from the facility was not considered a major source at locations N4 and N5. Intermittent local traffic movements were the main noise source.

4.2. Dust Deposition Monitoring

The dust gauges were set up at the locations D1, D2, D3 and D4 as listed in Table E.2.2 of the waste licence. The gauges were erected such that the containers were 1.8m above the ground surface and free from any obstruction. The containers were exposed from 5th May – 2nd June 2010.

The second round of sampling was conducted from 2nd June – 4th July 2010.

D1: This sample location is sited on the western boundary of the site close to the O' Donoghue family residence.

D2: This sample location is positioned at the south-east corner of the site close to the workshop and transfer building.

D3: This sample location is at the north-western side boundary

D4: Located at the north-eastern corner of the facility

RESULTS:

The results of the dust monitoring event are outlined in the table below.

Table 2: Dust Monitoring Results 12th June – 2nd June 2010.

Location	Total Dust mg/m^2/day
D1	298
D2	121
D3	223
D4	186

Table 3: Dust Monitoring Results 2nd June – 4th July 2010

Location	Total Dust mg/m^2/day
D1	176
D2	95
D3	131
D4	303

CONCLUSIONS:

The results of the both rounds of dust monitoring at the 4 locations are within the conditions stated in the EPA licence for the facility.

4.3. Groundwater Monitoring

A water sample from an external tap water source GW1 was sampled for analysis in December 2012. This sample is comparable with the drinking water quality in the O' Donoghue residence located adjacent the waste transfer activities. The sample was analysed for parameters as listed in the Schedule C of the waste licence for the facility.

The results of the water monitoring indicate a water quality that complies with the standards in the EC Drinking Water Directive [98/83/EC].

4.4. Storm Water Monitoring

Monthly samples were obtained and analysed from the storm water chamber at the separator. High levels of bacteria were detected in the monitoring chamber during the first half of the year. Measures have been taken to divert run-off from the C&D waste area away from the surface water interceptor and a significant improvement in water quality has been noted from monitoring results.

Table 5.1: Schedule of Objective and Targets 2012

No.	2012 Objective	Target	Responsibility	Timescale
1	Improvement in surface water run-off quality.	Submit planning application for water treatment plant.	Facility Manager	Lodge planning application July 2012.
2	Increase recycling rate for paper and cardboard	Submit planning application for extension to facility building.	Facility Manager	August 2012
3	Improve Waste Acceptance procedures on-site	Continue to ensure that any unacceptable waste is quarantined and any hazardous waste is disposed of using only fully certified carriers and only to fully certified facilities. Maintain details of hazardous materials used on-site.	Facility Manager, Vehicle Drivers, Weighbridge Operators, Operations Manager	New Procedures in place by Q1 and active immediately. Further training if required by end of Q3
4	Maintain and improve the EMS	Continue to hold quarterly and annual Environmental management review meetings at the site.	Environmental Compliance Manager	31 December 2012

4.5. Waste Management Activities

The facility is licensed to accept the following waste types as specified in Schedule A of the Waste Licence: -

- Household,
- Commercial,
- Construction & Demolition,
- Industrial Non-Hazardous Solids

Hazardous waste is not accepted at the facility, with the exception of small quantities of machinery batteries that inadvertently arrive in waste deliveries. Such batteries are stored in a designated skip pending collection by an off-site recycling organisation. Any other materials suspected either to be hazardous or not acceptable under licence conditions (e.g. gas cylinders, sheets of asbestos) are temporarily stored on-site in the waste quarantine area, before removal off-site for treatment/disposal at an appropriate facility.

4.5.1. Household and Commercial Waste Containing Putrescible Materials

Household and commercial wastes (originating in factories, hotels, pubs and supermarkets) containing an organic fraction are either deposited on the floor of the transfer building, or tipped directly into open trailers. All the household waste deposited on the floor is either pushed into an open trailer, or compacted for removal off-site for disposal at an off-site landfill, as agreed with the Agency. The commercial waste is inspected and segregated into recyclable cardboard, bottles, domestic waste, or compactor waste (supermarkets are generally the main origin of this waste). All uncontaminated cardboard and plastic packaging material, which is suitable for baling, is collected for recycling. Drink cans are collected, baled and stored on-site pending removal off-site for recycling. Glass bottles, which are either segregated prior to arrival on-site or deposited at the civic amenity area, are stored on-site pending removal for recycling off-site.

4.5.2. Non Putrescible Household and Commercial Waste

Non putrescible household wastes, arising from the kerbside collection, and non putrescible commercial/industrial waste is deposited onto the floor of the transfer building and inspected for disposable and/or recoverable fractions. Non-recyclable/ recoverable waste is stored within the building before transfer for disposal to an off-site landfill, as agreed with the Agency.

4.5.3. Construction and Demolition Waste

All construction and demolition waste is inspected to determine if it is suitable for transfer and/or recovery. Wood and metal are separated using a mechanical grab and subsequently removed off-site to approved recovery/recycling facilities. The residual material is passed through a trommel to remove the fine fraction containing subsoil and topsoil. This material is either used on-site for restoration purposes, or is sold for agricultural and/or horticultural purposes. The heavy fraction from the trommel

containing concrete, brick etc is then passed through the crusher to produce a crushed inert aggregate.

4.5.4. Wood, Timber Waste

Wood delivered to and recovered on-site is shredded and removed off-site for disposal.

4.5.5. Other recovery Infrastructure

External storage bays are located at the facility for storing waste recovered for recycling. Concrete storage bays for soil, rubble green waste and chipped wood are located at the north east of the facility. At the south-west of the waste transfer building there will be bays for glass and scrap metal and also a quarantine area for white and electrical goods.

4.6. Quantity & Composition of Waste Recovered

Details of the quantities of waste recovered are contained in Appendix I.

5. *REPORT ON ENVIRONMENTAL NUISANCES & CONTROLS*

The site is inspected daily and weekly by the manager and recorded on separate inspection sheets as required by Condition 8.10. The daily inspection sheet records environmental nuisances such as flies, loose litter, vermin, birds, odour, dust, fires and complaints. The sheet also provides for the recording of descriptions of works on the day of inspection and provides for comments and required actions.

5.1. Litter Control

Litter picking is carried out daily and as required. Daily and weekly inspection sheets are maintained at the site office. The site manager carries out daily litter inspection in the area surrounding the waste transfer station. An overhead CCTV camera is located at the weighbridge to enable inspection of loads brought to the facility. The weighbridge operator inspects each load brought to the facility and ensures that they are covered with appropriate netting.

Weekly inspection sheet provides for the recording of nuisances as well as site security, infrastructure and housekeeping.

A road sweeper vehicle attachment has been procured for use on the site and for local access roads when required.

5.2. Odour Control

Operations at the waste transfer facility involve the transfer and compaction of solid waste only. No liquids, agricultural or sewage sludges will be accepted at the site.

Waste accepted at the facility will have generally undergone relatively little decomposition. The storage of waste in sealed containers following compaction and

fast turnaround times on site means that the potential for odour problems arising at the facility will be minimised.

5.3. Dust Control

In dry weather all site access roads will be sprayed with a water bowser to suppress dust. To minimise dust generation traffic restrictions on the site will be implemented including a speed limit of 15 mph. Dust deposition monitoring at the site show that present dust emissions are unlikely to cause a nuisance.

However management propose to implement the following mitigation measures:

- Sprinkling water by applying a fine water mist over dusty waste as it's unloaded inside the transfer building
- Covering/dampening any external dusty waste stockpiles of C&D waste
- Sweeping and washing down the transfer building floor regularly
- Using a road sweeper on the facility yard and local road during dry weather

Dust deposition levels were recorded twice a year using Bergerhoff gauges, during the period May to September.

5.4. Noise Control

Noise measurements have been recorded annually at the facility since 2003. The results from the monitoring indicate that noise from the facility is not a source of nuisance outside the perimeter of the facility. The doors of the waste transfer building remain closed during trommeling of waste. There have been no reports of noise nuisance complaints made to the facility manager.

Noise levels will continue to be monitored annually at locations. The $L_{Aeq,}$ L_{A10} and L_{A90} are monitored at each location for a thirty-minute duration.

APPENDIX I

PRTR WASTE TRANSFR DATA

AER Returns Workbook

Version 1.1.13

REFERENCE YEAR	2011

1. FACILITY IDENTIFICATION

Parent Company Name	Ted O'Donoghue & Sons Limited
Facility Name	Ted O'Donoghue and Sons Limited
PRTR Identification Number	W0214
Licence Number	W0214-01

Waste or IPPC Classes of Activity

No.	class_name
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
3.11	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.

Address 1	Knockpogue
Address 2	Waterfall
Address 3	County Cork
Address 4	
	Cork
Country	Ireland
Coordinates of Location	-8.59891 51.8388
River Basin District	IESW
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Pat Power
AER Returns Contact Email Address	ppower@glenenv.ie
AER Returns Contact Position	Consultant
AER Returns Contact Telephone Number	021-4810016
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	021-4875183
Production Volume	23000.0
Production Volume Units	Tonnes
Number of Installations	1
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(c)	Installations for the disposal of non-hazardous waste
5(c)	Installations for the disposal of non-hazardous waste
50.1	General

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatme	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer
						M/C/E	Method Used			
Within the Country	19 12 07	No	110.0	wood other than that mentioned in 19 12 06	R5	M	Weighed	Offsite in Ireland	Eirbloc,.	Macroom,.,.,.,Ireland
Within the Country	19 12 05	No	29.0	glass	R5	M	Weighed	Offsite in Ireland	Kenmare Waste Disposal,CKWMC320-05	Kenmare,Co. Kerry,.,.,Ireland
Within the Country	17 05 04	No	510.0	soil and stones other than those mentioned in 17 05 03	R5	M	Weighed	Offsite in Ireland	Finbarr O Neill,CKwMC 536-08	Ovens,Cork,.,.,Ireland
Within the Country	17 05 04	No	31.0	soil and stones other than those mentioned in 17 05 03	R5	M	Weighed	Offsite in Ireland	O Connell Plant Hire,CKS509/07	.,.,.,.,Ireland
Within the Country	19 12 07	No	857.0	wood other than that mentioned in 19 12 06	R5	M	Weighed	Offsite in Ireland	VARIOUS,NONE	Varoius,.,.,.,Ireland
Within the Country	19 12 03	No	91.0	non-ferrous metal	R5	M	Weighed	Offsite in Ireland	ATOA Recycling,.	.,.,.,.,Ireland
Within the Country	19 12 03	No	213.0	non-ferrous metal	R5	M	Weighed	Offsite in Ireland	Pouladuff Dismantlers,CKWMC 146/04	Pouladuff Road,Forge Hill Cork,.,.,Ireland
Within the Country	19 12 03	No	45.0	non-ferrous metal	R5	M	Weighed	Offsite in Ireland	National Recycling,CKWMC1462/04	.,.,.,.,Ireland
Within the Country	19 12 12	No	7451.0	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D14	M	Weighed	Offsite in Ireland	Panda Waste,CKWMC 381-08	.,.,.,.,Ireland
Within the Country	19 12 01	No	315.0	paper and cardboard	R3	M	Weighed	Offsite in Ireland	Panda Waste,CKWMC 381-08	.,.,.,.,Ireland
Within the Country	16 02 14	No	53.0	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Offsite in Ireland	KMK Recycling,W0133-03	Tullamore,Co. Offaly,.,.,Ireland
Within the Country	20 03 01	No	635.0	mixed municipal waste	D15	M	Weighed	Offsite in Ireland	Dollin Waste,.	Tralee,Co. Kerry,.,.,Ireland
Within the Country	19 12 07	No	31.0	wood other than that mentioned in 19 12 06	R5	M	Weighed	Offsite in Ireland	Grainger Sawmills,.	Ballineen,Co. Cork,.,.,Ireland
Within the Country	20 01 10	No	3.0	clothes	R5	M	Weighed	Offsite in Ireland	Lentec Ltd,WCP 09.0258.01	Kilkenny,.,.,.,Ireland
Within the Country	17 08 02	No	295.0	gypsum-based construction materials other than those mentioned in 17 08 01	R5	M	Weighed	Offsite in Ireland	Gypsum Recycling Ireland,238/2006	.,.,.,.,Ireland
Within the Country	19 12 05	No	86.0	glass	R5	M	Weighed	Offsite in Ireland	Glassco,.	Naas,Co. Kildare,.,.,Ireland
Within the Country	19 12 05	No	84.0	glass	R5	M	Weighed	Offsite in Ireland	Tullagower Quarries,.	Kilrush,Co. Clare,.,.,Ireland
Within the Country	20 02 01	No	237.0	biodegradable waste	R10	M	Weighed	Offsite in Ireland	CTO Recycling,.	Cork,.,.,.,Ireland
Within the Country	19 12 12	No	1132.0	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D1	M	Weighed	Offsite in Ireland	Youghal Landfill,.	Youghal Landfill,.,.,.,Ireland
Within the Country	19 12 07	No	110.0	wood other than that mentioned in 19 12 06	R5	M	Weighed	Offsite in Ireland	Eirbloc,.	Macroom,.,.,.,Ireland
Within the Country	17 05 04	No	2727.0	soil and stones other than those mentioned in 17 05 03	R5	M	Weighed	Offsite in Ireland	Kevin McCarthy,WFPCK 10-55	Upton,Cork,.,.,Ireland
Within the Country	17 05 04	No	1591.0	soil and stones other than those mentioned in 17 05 03	R5	M	Weighed	Offsite in Ireland	Pat Ahern,.	Carrigtohill,.,.,.,Ireland
Within the Country	19 12 05	No	29.0	glass	R5	M	Weighed	Offsite in Ireland	Kenmare Waste Disposal,CKWMC320-05	Kenmare,Co. Kerry,.,.,Ireland
Within the Country	17 05 04	No	510.0	soil and stones other than those mentioned in 17 05 03	R5	M	Weighed	Offsite in Ireland	Finbarr O Neill,CKwMC 536-08	Ovens,Cork,.,.,Ireland
Within the Country	17 05 04	No	1151.0	soil and stones other than those mentioned in 17 05 03	R5	M	Weighed	Offsite in Ireland	Kevin McCarthy,WFPCK 10-55	Upton,Cork,.,.,Ireland

APPENDIX II

INTERCEPTOR RUN-OFF WATER ANALYSIS RESULTS

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Glenside Environmental
24 The Heathers
Classes Lake
Ballincollig
Co. Cork

Attention: Patrick Power

CERTIFICATE OF ANALYSIS

Date:	10 February 2011
Customer:	D_GLENSD_BCG
Sample Delivery Group (SDG):	110127-94
Your Reference:	SW1 January
Location:	SW1 January
Report No:	115142

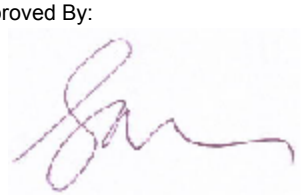
We received 1 sample on Thursday January 27, 2011 and 1 of these samples were scheduled for analysis which was completed on Thursday February 10, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:



Sonia McWhan

Operations Manager

UKAS TESTING
1291

CERTIFICATE OF ANALYSIS

SDG:	110127-94	**Location:**	SW1 January	**Order Number:**	
Job:	D_GLENSD_BCG-8	**Customer:**	Glenside Environmental	**Report Number:**	115142
Client Reference:	SW1 January	**Attention:**	Patrick Power	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
2761697	SW1 January			27/01/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	110127-94	**Location:**	SW1 January	**Order Number:**	
Job:	D_GLENSD_BCG-8	**Customer:**	Glenside Environmental	**Report Number:**	115142
Client Reference:	SW1 January	**Attention:**	Patrick Power	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	
			2761697	SW1 January			H2SO4 (Dublin)	PLAS BOT (D)
Ammonium	All	NDPs: 0 Tests: 1					X	
Anions by Kone (w)	All	NDPs: 0 Tests: 1						X
BOD True Total	All	NDPs: 0 Tests: 1						X
COD Unfiltered	All	NDPs: 0 Tests: 1						X
Coliforms (W)	All	NDPs: 0 Tests: 1						X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 1						X
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 1						X
pH Value	All	NDPs: 0 Tests: 1						X
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1						X
Total Suspended Solids	All	NDPs: 0 Tests: 1						X

CERTIFICATE OF ANALYSIS

SDG:	110127-94	**Location:**	SW1 January	**Order Number:**	
Job:	D_GLENSD_BCG-8	**Customer:**	Glenside Environmental	**Report Number:**	115142
Client Reference:	SW1 January	**Attention:**	Patrick Power	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	SW1 January
			Depth (m)	.
			Sample Type	Water(GW/SW)
			Date Sampled	27/01/2011
			Date Received	27/01/2011
			SDG Ref	110127-94
			Lab Sample No.(s)	2761697
			AGS Reference	
Faecal Coliforms (W)*	CFU/100m	SUB		0
Coliforms, Total*	CFU/100m	SUB		1800
Suspended solids, Total	<2 mg/l	TM022		48 #
BOD, unfiltered	<1 mg/l	TM045		41 #
Ammoniacal Nitrogen as NH4	<0.3 mg/l	TM099		1.4 #
COD, unfiltered	<7 mg/l	TM107		136 #
Conductivity @ 20 deg.C	<0.014 mS/cm	TM120		1.27 #
Mineral oil >C10 C40 (aq)	<10 µg/l	TM172		162
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #
Phosphorus (tot.unfilt)	<20 µg/l	TM191		289 #
pH	<1 pH Units	TM256		7.77 #

CERTIFICATE OF ANALYSIS

SDG:	110127-94	**Location:**	SW1 January	**Order Number:**	
Job:	D_GLENSD_BCG-8	**Customer:**	Glenside Environmental	**Report Number:**	115142
Client Reference:	SW1 January	**Attention:**	Patrick Power	**Superseded Report:**	

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
SUB		Subcontracted Test		
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM191	Standard Methods for the examination of waters and wastewaters 16th Edition, ALPHA, Washington DC, USA. ISBN 0-87553-131-8.	Determination of Unfiltered Metals in Water Matrices by ICP-MS		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	110127-94	**Location:**	SW1 January	**Order Number:**	
Job:	D_GLENSD_BCG-8	**Customer:**	Glenside Environmental	**Report Number:**	115142
Client Reference:	SW1 January	**Attention:**	Patrick Power	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	2761697
Customer Sample Ref.	SW1 January
AGS Ref.	
Depth	
Type	LIQUID
Ammoniacal Nitrogen	31-Jan-2011
Anions by Kone (w)	31-Jan-2011
BOD True Total	02-Feb-2011
COD Unfiltered	28-Jan-2011
Coliforms (W)	10-Feb-2011
Conductivity (at 20 deg.C)	30-Jan-2011
Mineral Oil C10-40 Aqueous (W)	02-Feb-2011
pH Value	28-Jan-2011
Total Metals by ICP-MS	01-Feb-2011
Total Suspended Solids	28-Jan-2011

SDG:	110127-94	**Location:**	SW1 January	**Order Number:**	
Job:	D_GLENSD_BCG-8	**Customer:**	Glenside Environmental	**Report Number:**	115142
Client Reference:	SW1 January	**Attention:**	Patrick Power	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH-MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS-MS	DCM	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC-MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Glenside Environmental
24 The Heathers
Classes Lake
Ballincollig
Co. Cork

Attention: Patrick Power

CERTIFICATE OF ANALYSIS

Date:	16 March 2011
Customer:	D_GLENSD_BCG
Sample Delivery Group (SDG):	110303-99
Your Reference:	O Donoghue Waste
Location:	O Donoghue Waste
Report No:	120950

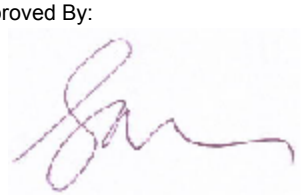
We received 1 sample on Thursday March 03, 2011 and 1 of these samples were scheduled for analysis which was completed on Wednesday March 16, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:



Sonia McWhan

Operations Manager

UKAS TESTING
1291

CERTIFICATE OF ANALYSIS

SDG:	110303-99	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-10	**Customer:**	Glenside Environmental	**Report Number:**	120950
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
2996273	SW1 March			03/03/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	110303-99	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-10	**Customer:**	Glenside Environmental	**Report Number:**	120950
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container		
			2996273	SW1 March			H2SO4 (Dublin)	Micro	PLAS BOT (D)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1					X		
Anions by Kone (w)	All	NDPs: 0 Tests: 1							X
BOD True Total	All	NDPs: 0 Tests: 1							X
COD Unfiltered	All	NDPs: 0 Tests: 1							X
Coliforms (W)	All	NDPs: 0 Tests: 1						X	
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 1							X
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 1							X
pH Value	All	NDPs: 0 Tests: 1							X
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1							X
Total Suspended Solids	All	NDPs: 0 Tests: 1							X

CERTIFICATE OF ANALYSIS

SDG:	110303-99	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-10	**Customer:**	Glenside Environmental	**Report Number:**	120950
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	SW1 March
			Depth (m)	.
			Sample Type	Water(GW/SW)
			Date Sampled	03/03/2011
			Date Received	03/03/2011
			SDG Ref	110303-99
			Lab Sample No.(s)	2996273
			AGS Reference	
Faecal Coliforms (W)*	CFU/100m	SUB		1000
Coliforms, Total*	CFU/100m	SUB		101000
Suspended solids, Total	<2 mg/l	TM022		26.5 #
BOD, unfiltered	<1 mg/l	TM045		24.1 #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		1.49 #
COD, unfiltered	<7 mg/l	TM107		111 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		1.13 #
Mineral oil >C10 C40 (aq)	<10 µg/l	TM172		288
Sulphate	<2 mg/l	TM184		448 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		0.065 #
Phosphorus (tot.unfilt)	<20 µg/l	TM191		443 #
pH	<1 pH Units	TM256		7.71 #

CERTIFICATE OF ANALYSIS

SDG:	110303-99	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-10	**Customer:**	Glenside Environmental	**Report Number:**	120950
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

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Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
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Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	2996273
Customer Sample Ref.	SW1 March
AGS Ref.	
Depth	
Type	LIQUID
Ammoniacal Nitrogen	11-Mar-2011
Anions by Kone (w)	09-Mar-2011
BOD True Total	09-Mar-2011
COD Unfiltered	04-Mar-2011
Coliforms (W)	16-Mar-2011
Conductivity (at 20 deg.C)	09-Mar-2011
Mineral Oil C10-40 Aqueous (W)	11-Mar-2011
pH Value	04-Mar-2011
Total Metals by ICP-MS	08-Mar-2011
Total Suspended Solids	10-Mar-2011

CERTIFICATE OF ANALYSIS

SDG:	110303-99	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-10	**Customer:**	Glenside Environmental	**Report Number:**	120950
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1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

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employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

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SOLID MATRICES EXTRACTION SUMMARY

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CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH-MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS-MS	DCM	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC-MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Glenside Environmental
24 The Heathers
Classes Lake
Ballincollig
Co. Cork

Attention: Patrick Power

CERTIFICATE OF ANALYSIS

Date:	17 May 2011
Customer:	D_GLENSD_BCG
Sample Delivery Group (SDG):	110428-89
Your Reference:	O Donoghue Waste
Location:	O Donoghue Waste
Report No:	129211

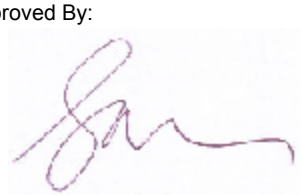
We received 1 sample on Thursday April 28, 2011 and 1 of these samples were scheduled for analysis which was completed on Tuesday May 17, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:



Sonia McWhan

Operations Manager

UKAS TESTING
1291

CERTIFICATE OF ANALYSIS

SDG:	110428-89	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	129211
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3377789	SW1 April			28/04/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	110428-89	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	129211
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	
			3377789	SW1 April			H2SO4 (Dublin)	PLAS BOT (D)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1					X	
Anions by Kone (w)	All	NDPs: 0 Tests: 1						X
BOD True Total	All	NDPs: 0 Tests: 1						X
COD Unfiltered	All	NDPs: 0 Tests: 1						X
Coliforms (W)	All	NDPs: 0 Tests: 1						X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 1						X
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 1						X
pH Value	All	NDPs: 0 Tests: 1						X
Total Suspended Solids	All	NDPs: 0 Tests: 1						X

CERTIFICATE OF ANALYSIS

SDG:	110428-89	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	129211
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	SW1 April
			Depth (m)	.
			Sample Type	Water(GW/SW)
			Date Sampled	28/04/2011
			Date Received	28/04/2011
			SDG Ref	110428-89
			Lab Sample No.(s)	3377789
			AGS Reference	
Faecal Coliforms (W)*	CFU/100m	SUB		40000
Coliforms, Total*	CFU/100m	SUB		40000
Suspended solids, Total	<2 mg/l	TM022		33.5 #
BOD, unfiltered	<1 mg/l	TM045		3.4 #
Ammoniacal Nitrogen as NH4	<0.3 mg/l	TM099		1.67 #
COD, unfiltered	<7 mg/l	TM107		30.2 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.102 #
Mineral oil >C10 C40 (aq)	<10 µg/l	TM172		298
Sulphate	<2 mg/l	TM184		4.6 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		0.064 #
pH	<1 pH Units	TM256		7.86 #

CERTIFICATE OF ANALYSIS

SDG:	110428-89	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	129211
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
SUB		Subcontracted Test		
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	110428-89	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	129211
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	3377789
Customer Sample Ref.	SW1 April
AGS Ref.	
Depth	
Type	LIQUID
Ammoniacal Nitrogen	06-May-2011
Anions by Kone (w)	05-May-2011
BOD True Total	05-May-2011
COD Unfiltered	09-May-2011
Coliforms (W)	17-May-2011
Conductivity (at 20 deg.C)	10-May-2011
Mineral Oil C10-40 Aqueous (W)	11-May-2011
pH Value	04-May-2011
Total Suspended Solids	11-May-2011

CERTIFICATE OF ANALYSIS

SDG:	110428-89	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	129211
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH-MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS-MS	DCM	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC-MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

An ESG Company

AMS
ADVANCED MICRO SERVICES
& ENVIRONMENTAL LABORATORIES LTD

Carrigeen Business Park, Clonmel, Co. Tipperary
Tel: 052 6178100 • Fax: 052 6178133
www.amslabs.ie

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO.166T

Report No: GSET-270010611

Document No: EF0011

CERTIFICATE OF ANALYSIS

Client **Glenside Environmental**
24 The Heathers,
Calsses lake
Ballincollig
Cork

Date Received 01/06/2011
Date Tested 01/06/2011
Date Reported 15/06/2011
Order Number N/A

For the Attention Pat Power

Sample Reception 1 sample(s) received in good condition.

Comments N/A

Note: A # next to the result indicates that there was insufficient sample to carry out testing as per SOP .

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

Conditions:
1. Results in this report relate only to the items tested
2. Reports may not be reproduced except in full without the approval of Advanced Micro Services & Environmental Laboratories Ltd
3. All queries regarding this report should be addressed to the Technical Manager at the above address
*4. A * next to a method reference signifies that Advanced Micro Services & Environmental Laboratories Ltd are NOT INAB accredited for this method.*
5. Results reported as CFU/cm^2 are calculated based on information supplied by customer regarding area swabbed
6. CFU indicates Colony Forming Units, MPN indicates Most Probable Number

AMS
ADVANCED MICRO SERVICES
& ENVIRONMENTAL LABORATORIES LTD
An ESG Company

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO.166T

Report No: GSET-270010611

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received 01/06/2011

Date Tested 01/06/2011

Date Reported 15/06/2011

Order Number N/A

Sample Type Water
Client ID surface water sample from interceptor at waste facility
AMS ID 462505

Test	Result	Unit	Method
Coliform bacteria	0	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B
Faecal coliform bacteria	<1	MPN/100ml	SP 047 Based on ISO 9308-2 (1990)*

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

Advanced Micro Services & Environmental Laboratories Ltd
Carrigeen Business Park, Clonmel, Co. Tipperary
Tel: 052 6178100 Fax: 052 6178133
www.amslabs.ie

TEST CERTIFICATE

Ms Denise Doyle
Advance Micro Services & Environmental
Laboratories Ltd
Carrigeen Industrial Estate
Clonmel, Co. Tipperary
Ireland
Fax: 052 78133

Certificate Number: TWAT019114-1 Final

Order Number: GSET -267010611

Date Analysis Started: 02/06/2011

Date Reported: 17/06/2011

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
WAT37480	Desc: Glenside Environmental Surface water sample from interceptor at waste facility Order No: GSET -267010611 Date Received: 02/06/2011	P280	BOD Total 5 Day without ATU	3.6	mg / l	
		P210	COD Total	27	mg / l O2	
		P212	Orthophosphate	0.04	mg / l P	
		P243	Sulphate	6	mg / l SO4	
		P207	Total Phosphorus	0.11	mg / l P	
		P236	Ammonia	0.07	mg / l N	
		P227	Conductivity	88.6	µS / cm	*
		P233	pH Value	8.8	Units	
		P202	Solids Suspended	26	mg / l	

Denise E Doyle

Site Quality Officer, Chemistry

Disclaimers:

Results reported in this Test Certificate relate only to the samples tested on an as received basis.
Opinions and interpretations expressed herein are outside the scope of INAB accreditation.
'*' Indicates a test which is not included in the INAB accreditation schedule of this laboratory.

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Glenside Environmental
24 The Heathers
Classes Lake
Ballincollig
Co. Cork

Attention: Patrick Power

CERTIFICATE OF ANALYSIS

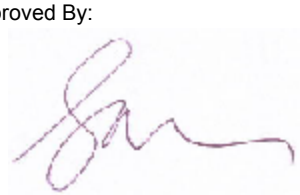
Date:	14 July 2011
Customer:	D_GLENSD_BCG
Sample Delivery Group (SDG):	110630-140
Your Reference:	O Donoghue Waste
Location:	O Donoghue Waste
Report No:	139776

We received 1 sample on Thursday June 30, 2011 and 1 of these samples were scheduled for analysis which was completed on Thursday July 14, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	110630-140	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	139776
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3782790	SW1 June			30/06/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	110630-140	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	139776
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	
			3782790	SW1 June			1plastic (ALE221)	H2SO4 (Dublin)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1						X
Anions by Kone (w)	All	NDPs: 0 Tests: 1					X	
BOD True Total	All	NDPs: 0 Tests: 1					X	
Coliforms (W)	All	NDPs: 0 Tests: 1					X	
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 1					X	
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 1					X	
pH Value	All	NDPs: 0 Tests: 1					X	
Suspended Solids	All	NDPs: 0 Tests: 1					X	
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1					X	

CERTIFICATE OF ANALYSIS

SDG:	110630-140	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	139776
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1 June
			Depth (m)	.
			Sample Type	Water(GW/SW)
			Date Sampled	30/06/2011
			Date Received	30/06/2011
			SDG Ref	110630-140
			Lab Sample No.(s)	3782790
			AGS Reference	
Faecal Coliforms (W)*	CFU/100m	SUB		30
Coliforms, Total*	CFU/100m	SUB		30
Suspended solids, Total	<2 mg/l	TM022		7.33 #
BOD, unfiltered	<1 mg/l	TM045		3.06 #
Ammoniacal Nitrogen as NH4	<0.3 mg/l	TM099		0.626 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.073 #
Mineral oil >C10 C40 (aq)	<10 µg/l	TM172		<10
Sulphate	<2 mg/l	TM184		<2 #
Phosphate (ortho) as P	<0.03 mg/l	TM184		<0.03 #
Phosphorus (tot.unfilt)	<20 µg/l	TM191		79.4 #
pH	<1 pH Units	TM256		7.77 #

CERTIFICATE OF ANALYSIS

SDG:	110630-140	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	139776
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
SUB		Subcontracted Test		
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM191	Standard Methods for the examination of waters and wastewaters 16th Edition, ALPHA, Washington DC, USA. ISBN 0-87553-131-8.	Determination of Unfiltered Metals in Water Matrices by ICP-MS		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	110630-140	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	139776
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	3782790
Customer Sample Ref.	SW1 June
AGS Ref.	
Depth	
Type	LIQUID
Ammoniacal Nitrogen	12-Jul-2011
Anions by Kone (w)	13-Jul-2011
BOD True Total	06-Jul-2011
Coliforms (W)	14-Jul-2011
Conductivity (at 20 deg.C)	01-Jul-2011
Mineral Oil C10-40 Aqueous (W)	14-Jul-2011
pH Value	01-Jul-2011
Suspended Solids	04-Jul-2011
Total Metals by ICP-MS	01-Jul-2011

SDG:	110630-140	**Location:**	O Donoghue Waste	**Order Number:**	
Job:	D_GLENSD_BCG-4	**Customer:**	Glenside Environmental	**Report Number:**	139776
Client Reference:	O Donoghue Waste	**Attention:**	Patrick Power	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GCFID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GCEZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GCEZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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24 The Heathers
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Ireland

Certificate No.: 617488
Job Ref: 11G09347
Sample Ref No.: *LSN* 49/80595
Page No.: 1 of 1
Date Received: 22/07/2011
Date Reported: 27/07/2011

TEST REPORT

Sample Description SW1 O'Donoghue Waste July

Date Testing Initiated: 22/07/2011
Category: MICRO
Sample Condition: Satisfactory
Order No.: NA
Supplier Code:

Test	Result	Unit	Method	Comments	Est.
* **Total Coliform MPN per 100mls**	**93**	**MPN/100mls**	**MT048 / APHA 2005 9221B**		
* **Faecal Coliform MPN per 100mls**	**23**	**MPN/100mls**	**MT049 / APHA 2005 9221E.1**		

Tests marked * are not accredited.

Comments, opinions and interpretations expressed herein are outside this current scope of INAB accreditation.
Results apply only to samples tested, and as received at the Laboratory.

Signed for and on behalf of Exova (Ireland) Ltd.

Peter Piggott
Dip. Food Tech.
Manager Microbiology Division

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Certificate No.: 625438
Job Ref: 11G09353
Sample Ref No.: *LSN* 49/80642
Page No.: 1 of 1
Date Received: 22/07/2011
Date Reported: 09/08/2011

TEST REPORT

Sample Description SW 1 July - O'Donoghue Waste

Date Testing Initiated: 22/07/2011
Category: ENVIRONMENTAL
Sample Condition: Satisfactory
Order No.: NA

Test	Test Result	Unit	Method
Ammonia Nitrogen (as N)	**0.8**	**mg/l**	**ET 038 MEWAM 1981**
Suspended Solids	**8**	**mg/l**	**ET 042 Based on APHA 2540:D**
Conductivity @ 25degC	**83**	**uS/cm**	**ET 056 APHA 2005:2510:B**
cBOD 5d with nitrification inhib	**<2**	**mg/l**	**ET 066 APHA 2005:5210:B**
Chemical Oxygen Demand (COD)	**17**	**mg/l**	**ET 067 APHA 2005:5220:C**
pH Value	**8.1**	**pH unit**	**ET 124 APHA 2005:4500:H:B**
Sulphate by IC	**4**	**mg/l**	**ETC98 Based on APHA 4110 B**
Total Phosphorus (as P)	**<0.05**	**mg/l**	**ET G01 based on ISO 6838:2004**
Soluble Reactive Phosphorus (as P)	**<0.03**	**mg/l**	**ETG02 Based on EN ISO6878:2004**

All tests are carried out according to our INAB schedule of accreditation.

Comments, opinions and interpretations expressed herein are outside this current scope of INAB accreditation.
Results apply only to samples tested, and as received at the Laboratory.

Signed for and on behalf of Exova (Ireland) Ltd.

Dan Healy
B.Sc (Hons)
Technical Manager

183T

An ESG Company

AMS
ADVANCED MICRO SERVICES
& ENVIRONMENTAL LABORATORIES LTD

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www.amslabs.ie

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO.166T

Report No: GSET-186310811

Document No: EF0011

CERTIFICATE OF ANALYSIS

Client **Glenside Environmental**
24 The Heathers,
Calsses lake
Ballincollig
Cork

Date Received 31/08/2011
Date Tested 31/08/2011
Date Reported 08/09/2011
Order Number N/A

For the Attention Pat Power

Sample Reception 1 sample(s) received in good condition.

Comments N/A

Note: A # next to the result indicates that there was insufficient sample to carry out testing as per SOP .

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

Conditions:
1. Results in this report relate only to the items tested
2. Reports may not be reproduced except in full without the approval of Advanced Micro Services & Environmental Laboratories Ltd
3. All queries regarding this report should be addressed to the Technical Manager at the above address
*4. A * next to a method reference signifies that Advanced Micro Services & Environmental Laboratories Ltd are NOT INAB accredited for this method.*
5. Results reported as CFU/cm^2 are calculated based on information supplied by customer regarding area swabbed
6. CFU indicates Colony Forming Units, MPN indicates Most Probable Number

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ADVANCED MICRO SERVICES
& ENVIRONMENTAL LABORATORIES LTD
An ESG Company

ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO.166T

Report No: GSET-186310811

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received	31/08/2011
Date Tested	31/08/2011
Date Reported	08/09/2011
Order Number	N/A

Sample Type Water
Client ID Surface water sample from interceptor at waste facility.
AMS ID 512245

Test	Result	Unit	Method
Faecal coliform bacteria	<1	MPN/100ml	SP 047 Based on ISO 9308-2 (1990)*
Coliform bacteria	75	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

Advanced Micro Services & Environmental Laboratories Ltd
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TEST CERTIFICATE

Ms Denise Doyle
Advance Micro Services & Environmental
Laboratories Ltd
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Clonmel, Co. Tipperary
Ireland
Fax: 052 78133

Certificate Number: TWAT020638-1 Final

Order Number:

Date Analysis Started: 01/09/2011

Date Reported: 12/09/2011

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
WAT39895	Desc: ESG sample No 512470, Surface water sample from interceptor at waste facility. Glenside environmental. Date Received: 31/08/2011	P280	BOD Total 5 Day without ATU	2.6	mg / l	
		P210	COD Total	<10	mg / l O2	
		P212	Orthophosphate	<0.03	mg / l P	
		P243	Sulphate	<5	mg / l SO4	
		P207	Total Phosphorus	<0.1	mg / l P	
		P236	Ammonia	<0.03	mg / l N	
		P227	Conductivity	75.5	µS / cm	*
		P233	pH Value	9.1	Units	
		P202	Solids Suspended	<10	mg / l	

Denis M Kent

Technical Manager

Disclaimers:

Results reported in this Test Certificate relate only to the samples tested on an as received basis.
Opinions and interpretations expressed herein are outside the scope of INAB accreditation.
'*' Indicates a test which is not included in the INAB accreditation schedule of this laboratory.

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ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO.166T

Report No: GSET-323300911
Document No: EF0011

CERTIFICATE OF ANALYSIS

Client **Glenside Environmental**
24 The Heathers,
Calsses lake
Ballincollig
Cork

Date Received 30/09/2011
Date Tested 30/09/2011
Date Reported 07/10/2011
Order Number N/A

For the Attention Pat Power

Sample Reception 1 sample(s) received in good condition.

Comments N/A

Note: A # next to the result indicates that there was insufficient sample to carry out testing as per SOP .

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

Conditions:
1. Results in this report relate only to the items tested
2. Reports may not be reproduced except in full without the approval of Advanced Micro Services & Environmental Laboratories Ltd
3. All queries regarding this report should be addressed to the Technical Manager at the above address
*4. A * next to a method reference signifies that Advanced Micro Services & Environmental Laboratories Ltd are NOT INAB accredited for this method.*
5. Results reported as CFU/cm^2 are calculated based on information supplied by customer regarding area swabbed
6. CFU indicates Colony Forming Units, MPN indicates Most Probable Number

ADVANCED MICRO SERVICES & ENVIRONMENTAL LABORATORIES LTD
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ISO 17025 IVNAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO.166T

Report No: GSET-323300911

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received	30/09/2011
Date Tested	30/09/2011
Date Reported	07/10/2011
Order Number	N/A

Sample Type Water
Client ID surface water sample from interceptor at waste facility
AMS ID 531826

Test	Result	Unit	Method
Escherichia coli(presumptive)	70	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B
Coliform bacteria(presumptive)	>100	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

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TEST CERTIFICATE

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Certificate Number: TWAT021408-1 Final

Order Number:

Date Analysis Started: 30/09/2011

Date Reported: 12/10/2011

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
WAT40937	Desc: Glenside Environmental Surface water sample from interceptor at waste facility. Date Sampled: 30/09/11 @ 10.00 a.m. Date Received: 30/09/2011	P280	BOD Total 5 Day with ATU	16.4	mg / l	
		P210	COD Total	85	mg / l O2	
		P212	Orthophosphate	0.42	mg / l P	
		P243	Sulphate	80.36	mg / l SO4	
		P236	Ammonia	0.24	mg / l N	
		P227	Conductivity	486	µS / cm	*
		P233	pH Value	6.3	Units	
		P202	Solids Suspended	93	mg / l	

Denis M Kent

Technical Manager

Disclaimers:

Results reported in this Test Certificate relate only to the samples tested on an as received basis.
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'*' Indicates a test which is not included in the INAB accreditation schedule of this laboratory.

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TEST CERTIFICATE

Ms Denise Doyle
Advance Micro Services & Environmental
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Ireland
Fax: 052 78133

Certificate Number: TWAT022279-1 Final

Order Number:

Date Analysis Started: 28/10/2011

Date Reported: 08/11/2011

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
WAT41800	Desc: Glenside Environmental Surface Water Sample from Interceptor at Waste Facility 28/10/11 @ 10.00 Date Received: 28/10/2011	P280	BOD Total 5 Day with ATU	1.5	mg / l	
		P210	COD Total	<10	mg / l O2	
		P212	Orthophosphate	<0.03	mg / l P	
		P243	Sulphate	<5	mg / l SO4	
		P236	Ammonia	0.47	mg / l N	
		P227	Conductivity	87.3	µS / cm	*
		P233	pH Value	7.4	Units	
		P202	Solids Suspended	<10	mg / l	

Denise E Doyle

Site Quality Officer, Chemistry

Disclaimers:

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Opinions and interpretations expressed herein are outside the scope of INAB accreditation.
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ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO.166T

Report No: GSET-148281011
Document No: EF0011

CERTIFICATE OF ANALYSIS

Client **Glenside Environmental**
24 The Heathers,
Calsses lake
Ballincollig
Cork.

Date Received 28/10/2011
Date Tested 28/10/2011
Date Reported 08/11/2011
Order Number N/A

For the Attention Pat Power

Sample Reception 1 sample(s) received in good condition.

Comments N/A

Note: A # next to the result indicates that there was insufficient sample to carry out testing as per SOP .

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

Conditions:
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6. CFU indicates Colony Forming Units, MPN indicates Most Probable Number

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ISO 17025 INAB ACCREDITED TESTING
DETAILED IN SCOPE REG NO.166T

Report No: GSET-148281011

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received	28/10/2011
Date Tested	28/10/2011
Date Reported	08/11/2011
Order Number	N/A

Sample Type Water
Client ID Surface water sample from interceptor at waste facility.
AMS ID 553895

Test	Result	Unit	Method
Escherichia coli	0	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B
Coliform bacteria	0	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

Advanced Micro Services & Environmental Laboratories Ltd
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TEST CERTIFICATE

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Certificate Number: TWAT023076-1 Final

Order Number: gset-549301111

Date Analysis Started: 30/11/2011

Date Reported: 09/12/2011

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
WAT42708	Desc: Glenside environmental surface water sample from interceptor at waste facility. Date Sampled: 30/11/11 @ 10.00. Order No: gset-549301111 Date Received: 30/11/2011	P280	BOD Total 5 Day without ATU	26.1	mg / l	
		P210	COD Total	100	mg / l O2	
		P212	Orthophosphate	0.49	mg / l P	
		P243	Sulphate	261.05	mg / l SO4	
		P207	Total Phosphorus	0.64	mg / l P	
		P236	Ammonia	0.49	mg / l N	
		P227	Conductivity	1423	µS / cm	*
		P233	pH Value	3.0	Units	
		P202	Solids Suspended	50	mg / l	

Note - pH is not INAB accredited as the result is not in our range of accreditation.

Denis M Kent

Technical Manager

Disclaimers:

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Fax: 052 78133

Certificate Number: TWAT023407-1 Final

Order Number: GSET-362211211

Date Analysis Started: 21/12/2011

Date Reported: 05/01/2012

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
WAT43363	Desc: ESG: 609393 Surface water sample from interceptor at waste facility- GLENSIDE ENV Order No: GSET-362211211 Date Received: 21/12/2011	P280	BOD Total 5 Day without ATU	1.8	mg / l	
		P210	COD Total	<10	mg / l O2	
		P212	Orthophosphate	0.06	mg / l P	
		P243	Sulphate	5.99	mg / l SO4	
		P207	Total Phosphorus	0.17	mg / l P	
		P236	Ammonia	0.58	mg / l N	
		P227	Conductivity	93.9	µS / cm	*
		P233	pH Value	7.5	Units	
		P202	Solids Suspended	12.6	mg / l	

Denis M Kent

Technical Manager

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Report No: GSET-358211211

Document No: EF0011

CERTIFICATE OF ANALYSIS

Client **Glenside Environmental**
24 The Heathers,
Calsses lake
Ballincollig
Cork.

Date Received 21/12/2011
Date Reported 27/12/2011
Order Number N/A

For the Attention Pat Power

Sample Reception 1 sample(s) received in good condition.

Comments N/A

Note: A # next to the result indicates that there was insufficient sample to carry out testing as per SOP .

Report Authorised by: Graham O'Halloran

Graham O Halloran
Group Microbiology Manager

Conditions:
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6. CFU indicates Colony Forming Units, MPN indicates Most Probable Number

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Report No: GSET-358211211

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received 21/12/2011
Date Reported 27/12/2011
Order Number N/A

Sample Type Water
Client ID surface water sample from interceptor at waste facility
Date Tested 22/12/2011
AMS ID 609385

Test	Result	Unit	Method
Faecal coliform bacteria	>18	MPN/100ml	SP 047 Based on ISO 9308-2 (1990)*
Coliform bacteria	>100	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B

Report Authorised by: Graham O'Halloran

Graham O Halloran
Group Microbiology Manager

APPENDIX II

SW3 RECEIVING WATER
DOWNSTREAM ANALYSIS RESULTS

Advanced Micro Services & Environmental Laboratories Ltd
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Advance Micro Services & Environmental Laboratories Ltd
Carrigeen Industrial Estate
Clonmel, Co. Tipperary
Ireland
Fax: 052 78133

Certificate Number: TWAT022278-1 Final

Order Number:

Date Analysis Started: 28/10/2011

Date Reported: 08/11/2011

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
WAT41799	Desc: Glenside Environmental Sample from Downstream Location. Date Sampled: 28/10/11 @ 10.00 Date Received: 28/10/2011	P280	BOD Total 5 Day with ATU	1.1	mg / l	
		P210	COD Total	<10	mg / l O2	
		P212	Orthophosphate	<0.03	mg / l P	
		P243	Sulphate	18.12	mg / l SO4	
		P236	Ammonia	<0.03	mg / l N	
		P227	Conductivity	205	µS / cm	*
		P233	pH Value	7.0	Units	
		P202	Solids Suspended	<20	mg / l	

Denise E Doyle

Site Quality Officer, Chemistry

Disclaimers:

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DETAILED IN SCOPE REG NO.166T

Report No: GSET-152281011
Document No: EF0011

CERTIFICATE OF ANALYSIS

Client **Glenside Environmental**
24 The Heathers,
Calsses lake
Ballincollig
Cork.

Date Received 28/10/2011
Date Tested 28/10/2011
Date Reported 08/11/2011
Order Number N/A

For the Attention Pat Power

Sample Reception 1 sample(s) received in good condition.

Comments N/A

Note: A # next to the result indicates that there was insufficient sample to carry out testing as per SOP .

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

Conditions:
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DETAILED IN SCOPE REG NO.166T

Report No: GSET-152281011

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received	28/10/2011
Date Tested	28/10/2011
Date Reported	08/11/2011
Order Number	N/A

Sample Type Water
Client ID Sample from downstream location
AMS ID 553909

Test	Result	Unit	Method
Escherichia coli	0	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B
Coliform bacteria	0	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B

Report Authorised by:

Ronan O' Keeffe
Microbiology Manager

APPENDIX III

GROUNDWATER WELL GW1
ANALYSIS RESULTS

Advanced Micro Services & Environmental Laboratories Ltd
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Certificate Number: TWAT023466-1 Final

Order Number: gset-328221211

Date Analysis Started: 22/12/2011

Date Reported: 06/01/2012

Lab Ref.	Sample Details	Method Number	Test	Result	Units	Flag
WAT43408	Desc: 610937 groundwater well sample 22/12/11@10.00 - glenside env. Order No: gset-328221211 Date Received: 22/12/2011	P235	Nitrate	30.5	mg / l NO3	*
		P205	Chloride	18.5	mg / l Cl	
		P236	Ammonia	<0.03	mg / l N	
		P227	Conductivity	162	µS / cm	*
		P233	pH Value	5.4	Units	

Denis M Kent

Technical Manager

Disclaimers:

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Report No: GSET-358211211

Document No: EF0011

CERTIFICATE OF ANALYSIS

Client **Glenside Environmental**
24 The Heathers,
Calsses lake
Ballincollig
Cork.

Date Received 21/12/2011
Date Reported 27/12/2011
Order Number N/A

For the Attention Pat Power

Sample Reception 1 sample(s) received in good condition.

Comments N/A

Note: A # next to the result indicates that there was insufficient sample to carry out testing as per SOP .

Report Authorised by: Graham O'Halloran

Graham O Halloran
Group Microbiology Manager

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Report No: GSET-358211211

Document No: EF0011

CERTIFICATE OF ANALYSIS

Date Received 21/12/2011
Date Reported 27/12/2011
Order Number N/A

Sample Type Water
Client ID surface water sample from interceptor at waste facility
Date Tested 22/12/2011
AMS ID 609385

Test	Result	Unit	Method
Faecal coliform bacteria	>18	MPN/100ml	SP 047 Based on ISO 9308-2 (1990)*
Coliform bacteria	>100	CFU/100ml	SP 140 Microbiology of Drinking Water Part 4,B

Report Authorised by:

Graham O'Halloran

Graham O Halloran
Group Microbiology Manager