



Greenclean Waste Management Ltd
Licence No. W0222-01

Annual Environmental Report
2010

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1.0 Company Details

Company Name: Green Clean Waste Management Ltd

Licence Register Number: W0222-01

Address: Coldwinters
Blake's Cross
Lusk
Co. Dublin

Managing Director: John Boardman

Operations Director: Derek Boardman

Operations Manager: Vincent Coleman

Environmental Co-ordinator: Paula Farrell

Contact Numbers:

Phone: 01 8438055

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Website: www.greenclean.ie

2.0 Overview

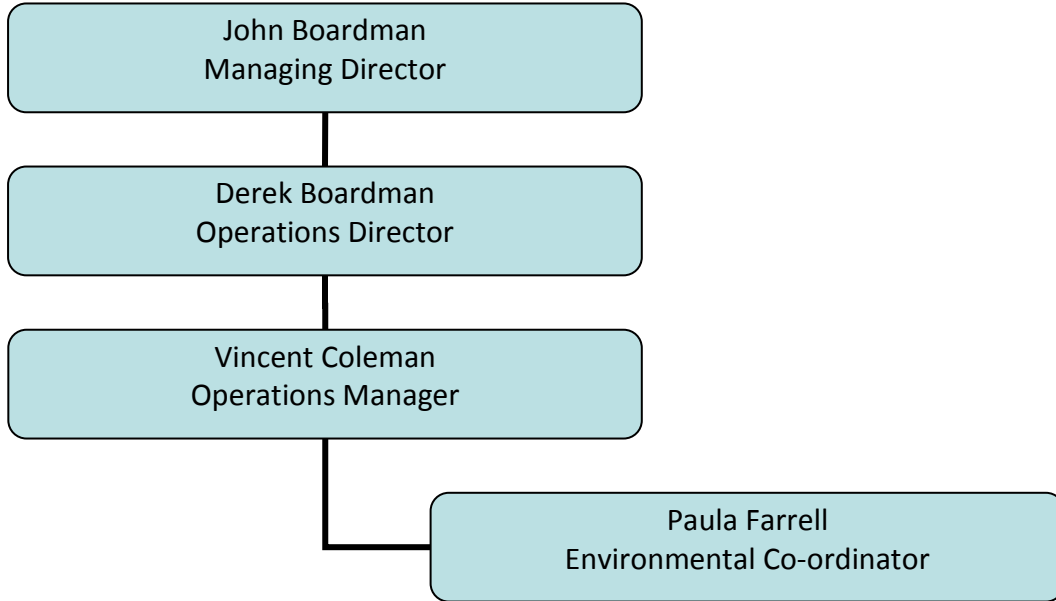
Greenclean Waste Management Ltd (Greenclean) commissioned Alcontrol Laboratories, Enva & Fitz Scientific Ltd. to carry out environmental monitoring and associated reporting at Greenclean Waste Management Ltd, Waste Licence 0222-01, situated at Blake's Cross, Lusk, County Dublin during 2010.

Under the conditions of W0222-01, the Greenclean facility is licensed to accept and dispatch waste between the hours of 0800 hours and 1800 Monday to Friday inclusive, and between the hours of 0800 and 1400 on Saturdays. The facility is licensed to be operational between the hours of 0700 and 2000 Monday to Friday inclusive, and 0700 to 1600 on Saturday

This annual environmental report summarises the environmental performance for the year 2010. This report has been compiled in accordance with the EPA Guidance note for an annual environmental report, using template spreadsheets from the Office of Environmental Enforcement.

3.0 Environmental Management

The current management structure at the Greenclean Blake’s Cross facility is detailed in the following Environmental Management Chart:



Name	Position	Responsibilities	Experience	Replacement
John Boardman	Managing Director	Directs and oversees all company affairs	Excess of 42 years in waste management industry and 20 years as managing director of his own firm.	Derek Boardman
Derek Boardman	Operations Director	Directs all company operations	21 years in waste management.	Vincent Coleman
Vincent Coleman	Operations Manager	General Facility Management, Staffing, Equipment Maintenance	11 years in waste management. Fetac Level 6 – Waste Management.	Paula Farrell
Paula Farrell	Environmental Co-ordinator	Environmental Management, Monitoring, Reporting & Record Keeping Quality Management, Licence & Permit Compliance.	12 years in waste management. Fetac Level 6 – Waste Management. DGSA, Qualified. Completed intensive waste law course in Trinity College and Quality system auditing course.	Stephen Deegan

4.0 Waste Activities

The Greenclean facility is licensed to handle a maximum of 95,000 tonnes of waste per annum which allows for 13,200 tonnes of household waste; 29,000 tonnes of non hazardous construction and demolition waste; and 52,800 tonnes of non hazardous commercial and industrial waste.

4.1 Waste Types

- Household Waste (EWC)

Household waste is collected from households in the Greater Dublin area.

- Construction and Demolition Waste (EWC 17 09 and 17 05)

Construction and demolition material arrives on-site in skips of varying sizes and comprises mixed construction and demolition wastes, soil and stone. The waste loads are inspected, segregated and recyclable materials are extracted from the waste for reuse prior to the transfer of residual materials to licensed landfill.

- Commercial and Industrial Waste (EWC code 20 01, 20 03)

Both mixed and segregated commercial waste is collected from commercial outlets throughout the Greater Dublin, Wicklow, Louth, east Meath and north Kildare region. Commercial waste rich in recyclables (paper, cardboard and plastic) is delivered to the facility by third party hauliers and by Greenclean vehicles. Recyclable material is segregated, where possible, from the waste stream. The remaining non-recyclable or residual material is transferred to licensed landfills.

4.2 Individual Waste Streams

Packaging Waste

Packaging waste including separately collected commercial packaging waste is accepted at the facility. Cardboard, paper and plastics are collected from commercial and industrial (C&I) premises such as supermarkets. Any mixed packaging waste is segregated using the C&I waste picking line. Cardboard and paper are baled using a Boa Mill-sized baler. The baling process involves placing the cardboard onto a conveyor, which feeds the baling press.

Paper and Cardboard generally arrive on-site in either pre-segregated or mixed waste loads.

Metals (EWC code 20 01 40) are segregated from incoming waste and transferred to metal recyclers.

Wood waste (EWC code 20 01 38) is segregated from incoming waste and transferred to timber recyclers.

Used Cooking Oil (EWC code 20 01 25) is accepted onsite and consolidated into shipping loads for export. All used cooking oil is stored separately from other waste material in a designated banded and tested container.

4.3 Processes

All waste streams are processed using the same equipment. Prior to processing the waste is emptied into one of three main areas dependent upon the source of the waste.

Area	Waste
1	Construction and demolition type wastes including household and other facilities clearance wastes; consists predominantly of soils, rubble, metal, timber and cardboard
2	Commercial waste and similar; consisting predominantly of dry recyclable materials, e.g. cardboard, plastics, etc
3	Waste inspection area; allows for examination of waste load prior to processing; allows for the removal of potentially difficult (e.g. handling) materials

4.4 Quantities and Composition of Waste

The facility is licensed to handle 95,000 tonnes of waste per annum. The quantities of material handled at the facility for 2009 are presented below.

As specified in the waste licence, only those categories and quantities listed in Schedule A.2 shall be lawfully accepted at the facility.

EWC Code	Waste Accepted	Waste Dispatched	Destination
20 01 08 20 02 01	9,964.86		
20 03 01	12,456.56		
20 03 01	298.56		
20 02 01	781.55		
20 01 08	416.18		
20 01 08		644.7	Advanced Environmental Solutions, Proudstown, Navan, Co. Meath, Licence No. W0131-02
20 01 08		744.40	Milltown Composting Systems Ltd., Miltownmore, Fethard, Co. Tipperary Permit No. WP01902
20 01 08		8,578.86	Milltown Composting Systems Ltd., Miltownmore, Fethard, Co. Tipperary Permit No. WP01902
20 02 01		48.60	Milltown Composting Systems Ltd., Miltownmore, Fethard, Co. Tipperary Permit No. WP01902
20 02 01		113.84	Enrich Composting, Kilcock, Co. Meath Permit No. 00101
20 02 01		397.24	Milltown Composting Systems Ltd., Miltownmore, Fethard, Co. Tipperary Permit No. WP01902
20 01 25	174.26		
20 01 25		103.10	Bolton RVO Ltd., Bellevue, Grangeford, Castledermot, Co. Kildare, Permit No. 260/2006
20 01 25		71.04	Sanders Products Ltd, Foster Street, Liverpool L20 8EX, England Licence No. WML/50352
15 01 01	1713.42		
15 01 01		825.89	Recycling UK Ltd., 11 Alvaston Business Park, Nantwichm Cheshire, UK CW56PF - Broker

EWC Code	Waste Accepted	Waste Dispatched	Destination
15 01 01		1,048.21	Irish Packaging & Recycling, Ballymount, Walkinstown, Dublin 24 WPR 021/2
15 01 01		95.26	Anthon B Nilsen UK (Broker)
15 01 01		47.42	Agnail Ltd., Unit 9 Rossfield, 50 Rosemount Business Park, Ballycoolin, Dublin 15 - Broker
15 01 01		399.76	Acorn Recycling Ltd., Littleton. Co. Tipperary Licence No. W0249-01
15 01 01		446.52	Boomerang Skips & Recycling, Kiltillane, Templemore, Co. Tipperary,
15 01 02	136.2		
15 01 02		16.28	C-Green Plastic Recycling Ltd, Block 1, Unit 1, Broomhill Business Park, Rathnew, Co. Wicklow Permit NoL WFP-WW-10-10019-01
15 01 02		122.92	Leinster Environmental Haggardstown, Dundalk, Co. Louth WP2004/30
15 01 02		2.60	Polymer Recovery, Portarlinton Business Park, Portarlinton, Co. Laois
15 01 03	220.35		
15 01 03		18.62	Greenstar, Knockharley, Co. Meath, Licence No., W0146-01
15 01 03		595.86	Ormond Organics, Kilowen, Portlaw, Co. Waterford (Section 51 exemption)
15 01 03		35.90	Acorn Recycling Ltd., Littleton. Co. Tipperary Licence No. W0249-01
15 01 03		456.75	Ormond Organics, Kilowen, Portlaw, Co. Waterford (Section 51 exemption)
15 01 03		72.80	Milltown Composting Systems Ltd., Milltownmore, Fethard, Co. Tipperary Permit No. WP01902
15 01 04	55.61		
15 01 04		31.32	Recyfin International NV, Halle Zoersel, Belgium Licence No. IRE/G177/08
15 01 06	106.4		
15 01 07	59.3		
16 01 03	9.92		
15 01 07		13.84	Rehab Recycling, Unit 4 Osberstown Industrial Park, Caragh Road, Naas, Co. Kildare, Waste Permit No: WFP-KE-08-0957-01

EWC Code	Waste Accepted	Waste Dispatched	Destination
17 01 07	19.75		
17 01 07		2,404.94	Ballealy Landfill, Lusk, Co. Dublin, Licence No W0009-03
17 02 01	702.55		
17 04 07	416.75		
17 04 07		52.91	Irish Metal Refinery, Unit 2, Duleek Business Park, Duleek, Co. Louth Permit No: SWP -09/03/01
17 04 07		754.34	Multi Metals Recycling Ltd., Hempstead, Blessington, Co. Wicklow Permit No. ESS/15/8/12 319
17 05 04	97.29		
17 08 02		16.21	Sandyhill Environmental Services Ltd., St. Margarets, Finglas, Dublin 11, Permit No. WPT 112
17 09 04	6679.95		
19 05 03	169.3		
20 01 10 / 20 01 11	4.52		
19 12 08		4.52	Textile Recycling Ltd., Belgard Road, Tallaght, Dublin 24.
19 12 12		23.84	Advanced Environmental Solutions, Proudstown, Navan, Co. Meath, Licence No. W0131-02
19 12 12		1,061.90	Advanced Environmental Solutions, Proudstown, Navan, Co. Meath, Licence No. W0131-02
19 12 12		405.46	Milltown Composting Systems Ltd., Milltownmore, Fethard, Co. Tipperary Permit No. WP01902
19 12 12		187.98	Bord Na Mona, Drehid Facility, Carbury, Co. Kildare W201-1
19 12 12		787.10	Greenstar, Knockharley, Co. Meath, Licence No., W0146-01
19 12 12		11,182.99	Ballealy Landfill, Lusk, Co. Dublin, Licence No W0009-03

5.0 Environmental Monitoring

Monitoring of surface water, ground water and noise was carried out in acceptance with W0222-01 during 2010. In accordance to the licence a visual inspection is carried out daily; COD, pH, Conductivity and Chloride, Suspended Solids, Oils, Fats & Greases must be analysed weekly; Total ammonia and Total nitrogen every quarter and metals and coliforms once per year.

5.1 Sampling locations

Monitoring Criteria	Sample Point	Location
Surface Water	SW1	Ballough Stream, upstream of site (southeast margin)
Surface Water	SW2	Ballough Stream, downstream of site (southeast margin)
Surface Water	SW3	At discharge point of the Klargester Interceptor to the Ballough Stream.
Ground Water	GW1	At Bring Centre
Ground Water	GW2	At rear of waste processing sheds
Noise	<i>Please refer to noise survey (appendix A)</i>	

The sampling points were agreed with the EPA.

5.2 Methodology

Surface water sampling was carried out by placing the designated sample container directly at the discharge points. During submergence every effort was made to keep containers steady as to prevent sediment disturbance.

Ground Water sampling was carried out by Fitz Scientific at each of the bore holes GW1 & GW2 by means of pumping water to the surface.

Noise Monitoring was carried out by trained personnel from Enva Ireland Ltd.

5.3 Results

5.3.1 Weekly results (SW3) :

COD, pH, Conductivity and Chloride Suspended Solids, Oils, Fats & Greases were analysed weekly during 2010. However there were some times particularly during Q4 where sampling was not possible due to extreme weather conditions. There were occasions whereby the water

level had exceeded the discharge point and it was not accessible. There were also other occasions where the discharge point was not accessible due to heavy snow.

Waste Licence COD emission limits were exceeded on 7 occasions ranging from 42.6 mg/l to 125 mg/l. All other parameters were within the specified limits at all times.

Waste Licence Suspended Solid limits was also exceeded on one occasion from SW3 at 62.6 mg/l

5.3.2 Quarterly results (SW 3);

Total Ammonia and Total Nitrogen were analysed quarterly during 2010. There are no specified emissions limits in the Waste Licence for those parameters.

Parameter	Units	Q1	Q2	Q3	Q4
Ammonical Nitrogen	mg/l as N	2.25	0.203	<0.2	<0.2

THP, BTEX and MTBE are not specified for quarterly monitoring as part of licence document with the EPA requested that these be tested during the year. Please see below results.

5.3.3 Quarterly results (SW 3);

SW 1:

Parameter	Units	Q1	Q2	Q3	Q4
TPH	Ug/L	<1	<3	n/a	n/a
BTEX	Ug/L	<10	<10	<10	<10
MTBE	Ug/L	<3	<3	<3	<3
Benzene	Ug/L	<4	<7	<7	<7
Toluene	Ug/L	<5	<4	<4	<4
Ethylbenzene	Ug/L	<8	<5	<5	<5
M,p,o-Xylene	Ug/L	<10	<10	<10	<10
GRO>C5-C12	Ug/L	<42	<50	<50	<50
EPH Range >C10-C40 (ag)	Ug/L	<46	<46	<46	<46

SW 2:

Parameter	Units	Q1	Q2	Q3	Q4
TPH	Ug/L	<1	<3	n/a	n/a
BTEX	Ug/L	<10	<10	<10	<10
MTBE	Ug/L	<3	<3	<3	<3
Benzene	Ug/L	<4	<7	<7	<7
Toluene	Ug/L	<5	<4	<4	<4
Ethylbenzene	Ug/L	<8	<5	<5	<5
M,p,o-Xylene	Ug/L	<10	<10	<10	<10
GRO>C5-C12	Ug/L	<42	<50	<50	<50
EPH Range >C10-C40 (ag)	Ug/L	<46	<46	<46	<46

5.3.4 Annual results (Surface Water):

The following parameters are analyzed annually at three different locations. None of the parameters analyzed exceeded the Waste Licence limits:

Parameter	Units	SW1	SW2
Coliforms Total	CFU/100 ml	60	8800
Suspended Solids Total	mg/L	5.73	13
BOD	mg/L	<1	1.2
Ammonical Nitrogen as N	mg/L	<0.2	<0.2
Ammonical Nitrogen as NH3	mg/L	<0.2	<0.2
COD	mg/L	14.5	14.5
Cadmium	ug/L	<0.1	<0.1
Cobalt	ug/L	0.141	0.148
Copper	ug/L	2.43	3.92
Lead	ug/L	0.099	0.124
Nickel	ug/L	1.6	1.64
Tin	ug/L	4.71	2.88
EPH Range >C10-C40	ug/L	<46	<46
Mercury	ug/L	<0.01	<0.01
Chloride	ug/L	44.2	44.3
Calcium	ug/L	118	116
Magnesium	ug/L	9.59	0.42
Iron	ug/L	<0.019	<0.019
GRO >C5-C12	ug/L	<50	<50
MTBE	ug/L	<3	<3
Benzene	ug/L	<7	<7
Toluene	ug/L	<4	<4
Ethylbenzene	ug/L	<5	<5
M,p-Xylene	ug/L	<8	<8
o-Xylene	ug/L	<3	<3
M,p,o-Xylene	ug/L	<10	<10
BTEX Total	ug/L	<10	<10

5.3.5 Annual results (Ground Water):

The following parameters are analyzed annually at two different locations.....

Parameter	Units	Monitoring Location	
		GW1	GW2
1,1,1,2- Tetrachloroethane	ug/L	<0.46	<0.46
1,1,1,- Tetrachloroethane	ug/L	<0.43	<0.43
1,1,2,2- Tetrachloroethane	ug/L	<5.00	<5
1,1,2-Trichloroethane	ug/L	<1.67	<1.67
1, 1- Dichloroethane	ug/L	<0.42	<0.42
1, 1- Dichloroetane	ug/L	<0.41	<0.41
1,1 – Dichloropropene	ug/L	<0.39	<0.39
1,2,3- Trichlorobenzene	ug/L	<0.34	<0.34
1,2,3- Trichloropropane	ug/L	<0.61	<0.61
1,2,4- Trichlorobenzene	ug/L	<0.51	<0.51
1,2,4- Trimethylbenzene	ug/L	<0.52	<0.52
1,2-Dibromo-3-chloropropane	ug/L	<5.00	<5.00
1,2 – Dibromoethane	ug/L	<0.63	<0.63
1,2 – Dichlorobenzene	ug/L	<0.51	<0.51
1,2 – Dichloroethane	ug/L	<0.45	<0.45
1,2 – Dichloropropane	ug/L	<0.75	<0.75
1,3,5-Trimethylbenzene	ug/L	<0.33	<0.33
1,3-Dichlorobenzene	ug/L	<0.47	<0.47
1,3- Dichloropropane	ug/L	<0.64	<0.64
1,4 – Dichloropropane	ug/L	<1.21	<1.21
2,2-Dichloropropane	ug/L	<5.00	<5.00
2-Chlorotoluene	ug/L	<0.55	<0.55
4-Chlorotoluene	ug/L	<0.43	<0.43
Ammonia	Mg/L as N	0.128	0.011
Benzene	ug/L	<0.35	<0.35
Bromobenzene	ug/L	<0.40	<0.40
Bromochloromethane	ug/L	<0.76	<0.76
Bromodichlormethane	ug/L	<0.63	<0.63
Bromoform	ug/L	<1.31	<1.31
Bromomethane	ug/L	<5.00	<5.00
Carbon Tetrachloride	ug/L	<0.41	<0.41
Chloride	ug/L	37.15	41.9
Chlorobenzene	ug/L	<0.49	<0.49
Chloroethane	ug/L	<5.00	<5.00
Chloroform	ug/L	<0.32	<0.32
Chloromethane	ug/L	<5.00	<5.00
Cis-1,2-Dichloroethane	ug/L	<0.56	<0.56
Cis-1,3 Dichloropropene	ug/L	<0.69	<0.69
COD	ug/L	<5.00	37

Parameter	Units	Monitoring Location	
		GW1	GW2
Coliforms (Total)	No/100ml	1730	200000
Conductivity	Uscm 1 @25C	690	700
Dibromochloromethane	ug/L	<0.47	<0.47
Dibromomethane	ug/L	<0.86	<0.86
Dichlorodifluoromethane	ug/L	<5.00	<5.00
Dichloromethane	ug/L	<5.00	<5.00
Ethylbenzene	ug/L	<0.42	<0.42
Hexachlorobutadine	ug/L	<0.36	<0.36
Isopropylbenzene	ug/L	<0.42	<0.42
Lead	ug/L	1.148	1.577
m-+ p-Xylene	ug/L	<0.49	<0.49
Naphthalene	ug/L	<0.43	<0.43
N-Butylbenzene	ug/L	<0.35	<0.35
Nitrate	ug/L	<0.272	2.540
Nitrogen (Total Kjeldahl)	ug/L	1.12	1.68
Nitrogen (Total Oxidised)	ug/L	<0.28	2.46
Nitrogen (Total)	ug/L	1.39	4.14
N-Propylbenzene	ug/L	<0.39	<0.39
o-Xylene	ug/L	<0.33	<0.33
PH	ug/L	7.5	8.2
p-Isopropyltoluene	ug/L	<0.40	<0.40
Sec-Butylbenzene	ug/L	<0.48	<0.48
Styrene	ug/L	<0.26	<0.26
Tert-Butylbenzene	ug/L	<0.59	<0.59
Tetrachloroethane	ug/L	<0.33	<0.33
Toluene	ug/L	<0.40	<0.40
Total Xylene	ug/L	<0.49	<0.49
trans-1,2-Dichloroethane	ug/L	<0.34	<0.34
trans 1,3-Dichloropropene	ug/L	<1.19	<1.19
Trichloroethane	ug/L	<5.00	<5.00
Trichlorofluoromethane	ug/L	<5.00	<5.00
Vinyl Chloride	ug/L	<5.00	<5.00
Zinc	ug/L	5.908	26.66

6.0 Noise Monitoring

6.1 Introduction

Paula Farrell of Green Clean Waste Management commissioned Enva Ireland Ltd to carry out a day time noise survey at 4 noise monitoring locations around the Green Clean Waste Management premises, Lusk, Co Dublin.

A full copy of this Noise Monitoring Report has been appended to this document (Appendix 1).

7.0 Resources and Energy Consumption

The following table summarises the volumes of fuel Gas Oil and electricity purchased and utilised at Green Clean Waste Management Facility during 2010.

	2008	2009	2010
<i>Electricity (KWh)</i>	210,525	252,479	186,459
<i>Diesel (l)</i>	422,787	270, 072	301,481
<i>Gas Oil (l)</i>	99,763	55,627	58,279

8.0 Development Works During the year 2010

There were no major development works carried out in 2010. There were a few minor works maintenance works carried out including filling of holes in the concrete surface yard and the re-enforcement of concrete lips at each of the doors at the waste acceptance areas.

9.0 Environmental Management System

The Environmental Management System was developed in 2007. The list below details the procedures developed which are now in use and will continue to be followed on site until site closure. The Environmental Management System (EMS) was implemented in 2007. Previously there had been no EMS in place at the facility. The EMS was reviewed and updated as necessary during 2009 and also in 2010. Additions made have been detailed in section 9.2 below.

It is the intention of the company to integrate the EMS with the company Quality Management System which has been accredited to ISO 9001 and have an integrated Quality and Environmental Management System accredited to ISO 14001. Consultations have already commenced with a certification company with a view to this and Greenclean expect this new system to be in place in early 2011.

9.1 Procedures included in the EMS:

- Control of Operating Procedures Manual
- Amendments to Operating Procedures Manual
- Control of Visitors/Contractors
- Emergency Response Procedure
- Third Party Enquiry
- Customer Enquiry
- Health & Safety
- Management of Waste Inputs
- Facility Inspection
- Quarantine
- Load Receipt and Acceptance Route
- Raw Materials/Resource Control and Usage
- Load Sample and Test Schedule
- Handling Hazardous or Difficult Wastes
- Load Rejection
- Vehicle Movements
- Processing of Non-Hazardous Waste
- Storage and Transfer of Non-Hazardous Waste and Recyclables
- Site Closure
- Legal and Other Requirements
- Inspection of Waste
- Recovery of Recyclables
- Permit to Work
- Inspection and Maintenance
- Management Review
- Environmental Monitoring and Reporting

Aspects, Objectives and Targets
Non-Conformance and Corrective Action
Waste Management facility/Collector Approval
Complaints Handling
Nuisance Management
Incident Recording and Reporting
Staff Awareness and Training
Communications
Site Audit
Purchasing
Capital Purchasing
Record Keeping
Gypsum Waste Procedure
Wood Processing Procedure

9.2 New procedures 2009 & 2010

Inspection procedure and non conforming material
Hazard Identification Procedures for staff and drivers
Sampling procedure

Procedure for handling & storage of Used Cooking Oil

Procedure for galley waste handling ex Dublin Port

10.0 Environmental Objectives and Targets

10.1 Objectives and Targets for 2010

Objective	Target	Responsibility	Timescale
<i>Training & Awareness</i>	Constant review and assessment of employee training requirements	V Coleman / Paula Farrell	Ongoing
<i>To Reduce resource consumption</i>	As there was a slight increase in energy consumption in 2009 this is to be monitored on a monthly basis throughout 2010 and reduced through staff training and awareness.	V Coleman	Ongoing
<i>Improve Recycling Rate</i>	Constant review of composition of the material received and to explore all possibilities of increased recovery	V Coleman/ Paula Farrell	To be reviewed quarterly
<i>To Improve on all environmental procedures</i>	To gain ISO 14001 Environmental Quality Assurance Certification. A pre audit has taken place by a Certification company and a certification audit is scheduled for April 2010.	P Farrell	Certification Audit has been scheduled for April 2010
<i>Eliminate/reduce all exceedances of licence limits.</i>	To continuously review, monitor and improve housekeeping issues to ensure that	V Coleman	Ongoing
<i>Improve Waste Acceptance Procedures</i>	To communicate with customers items which are not acceptable at the facility and ensure that all staff are familiar with acceptable waste types. This was achieved through customer site meetings and the introduction of a new waste profiling form for new customers.	Paula Farrell	In Place/Ongoing

10.2 Objectives and Targets for 2011

Objective	Target	Responsibility	Timescale
<i>Training & Awareness</i>	Constant review and assessment of employee training requirements	V Coleman / Paula Farrell	Ongoing
<i>To Reduce resource consumption</i>	As there was a slight increase in energy consumption in 2009 this is to be monitored on a monthly basis throughout 2010 and reduced through staff training and awareness.	V Coleman	Ongoing
<i>Improve Recycling Rate</i>	Constant review of composition of the material received and to explore all possibilities of increased recovery	V Coleman/ Paula Farrell	To be reviewed quarterly
<i>To Improve on all environmental procedures</i>	To gain ISO 14001 Environmental Quality Assurance Certification. A pre audit has taken place by a Certification company and a certification audit is scheduled for April 2010.	P Farrell	Pre-Audit took place in April 2010 Certification audit due early 2011
<i>Eliminate/reduce all exceedances of licence limits.</i>	To continuously review, monitor and improve housekeeping issues to ensure that	V Coleman	Ongoing
<i>Improve Waste Acceptance Procedures</i>	To communicate with customers items which are not acceptable at the facility and ensure that all staff are familiar with acceptable waste types. This was achieved through customer site meetings and the introduction of a new waste profiling form for new customers.	Paula Farrell	In Place/Ongoing
<i>Environmental Budget</i>	To prepare an Environmental budget which is to be reviewed quarterly to ensure finance is readily available for all environmental/compliance requirements	Paula Farrell	To be in place April 2011
<i>Source Segregation</i>	To improve source segregation where possible from all customers to ensure recyclability is maintained on all streams	Paula Farrell	In progress via waste profiling
<i>Encourage Green Teams within customer organisations</i>	Greenclean are working with many clients to promote the idea of green teams within their organisation and are representing Greenclean at these meetings on a monthly/quarterly basis to ensure principals of waste management hierarchy are implemented at source	Paula Farrell	In Progress since Feb 2011

11.0 Incidents and Complaints

There were several incidences of exceedences in COD limits and suspended solids, above the permitted thresholds set out in W0222-01. These were reported to the EPA as required. In total COD limits were exceeded one 7 occasions as a result of heavy rains that washed mud down drains. Corrective actions taken consisted in Interceptor emptying and a strict regime of yard surface and drain cleaning.

12.0 Financial Provision

Greenclean insurance policy provides an indemnity up to €13,000,000 for Employers Liability and €6,500,000 for Public/Products Liability. In terms of environmental pollution/contamination the indemnity applies “to damage to any buildings or other structures or of water or land or atmosphere caused by pollution or contamination. The policy covers pollution caused by a “sudden, identifiable, unintended and unexpected event and not gradual pollution”. This cover will be in excess of any environmental liability that may arise due to such incidents.

10.0 Programme for Public Information

All information and correspondence supplied to the EPA (other than commercially sensitive information) and received from the EPA, is available to the public to view at the facility. This includes a copy of the waste licence, all reports, monitoring results and interpretations required by the licence and other correspondence between the EPA and the facility. Any member of the public may view the information between the hours of 10.00 and 16.00 by appointment only.

Appendix A – Noise Monitoring Report



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Environmental Noise Survey at Green Clean Waste Management

Scope

The scope of this document is the provision of a noise survey at Greenclean Waste Management.

Introduction

Under the EPA act 1992 and the Protection of the Environment Act 2003, noise became an emission much like emissions to water and air. It is controlled and monitored by industry by carrying out annual noise surveys to comply with the conditions as determined by the EPA.

The following are the conditions of Green Clean Waste Management with respect to noise.

Condition 4.3

Noise from the facility shall not give rise to sound pressure levels (LAeq, T) measured at noise sensitive locations of the facility which exceed the limit values.



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Condition 6.16

The licensee shall carry out a noise survey of the site operations annually. The survey shall be undertaken in accordance with the methodology specified in the “Environmental noise survey guidance document” as published by the agency..

Schedule B3

Daytime dB(A) LAeq (30 minutes)	Night time dB(A) LAeq(30minutes)
55	45

There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive locations.

ENVA Ireland has been commissioned to carry out this survey on behalf of Green Clean Waste Management. The survey will comply with all relative legislation and specific EPA guidance documents.



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Background on the Environmental Noise Monitoring

People's response to noise varies especially during daytime and night time hours. The EPA have determined that daytime hours commence at 08:00 and end at 22:00 and night time hours commence at 22:00 and end at 08:00. As a person works during the day and rests at night they perceive noise differently and are more likely to complain when at rest. Also the World Health Organisation has determined that noise can and does affect people's health, therefore the EPA have set conditions in licensed facilities in relation to noise to reduce the public impact of industrial activity.

Noise Parameters

Noise is generally not steady; it is not accurate or often not possible to describe noise in terms of simple sound level values. **It is usual to quantify a noise level over a specified time period of time (T).** It is generally not necessary to know exactly how the level varies and it is sufficient to describe in terms of the mean level along with some description of how it fluctuates above the average.

This can be achieved by carrying out a statistical analysis of the recorded sound levels to produce a maximum level, minimum levels and percentile values.



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Maximum and Minimum Levels (L_{Amax}) and (L_{Amin})

The simplest statistical parameters are the maximum, $L_{Amax,T}$ and the minimum level $L_{Amin,T}$, recorded during the measuring period (T). These are the maximum A-weighted sound pressure level and the minimum A-weighted sound pressure level, respectively in the measured interval (T)

Percentile Values

The $L_{A90,T}$ is the A-weighted ninetieth percentile level and is the level exceeded for 90 percent of the time, T. The $L_{A90,T}$ is probably the most commonly used percentile level and is a good indicator of the background noise giving an indication of the underlying noise level or the level that is almost always there between intermittent noise events.

$L_{A10,T}$ is the A-weighted tenth percentile level. It is the level exceeded for 10% of the time. It is a useful parameter in assessing the noise environment. It can be used with the $L_{A90,T}$ and other parameters to see how constant the noise been measured is.

The “noise climate” is often described in terms of the L10 – L90 which gives a good indication of the typical range of noise levels over the measurement period.



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Equivalent continuous sound level ($L_{A,eq,T}$)

The generally accepted noise parameter and the most common parameter required to be monitored by the EPA is the **Equivalent Continuous Sound Level**. The $L_{A,eq,T}$ is an indicator of the average sound energy level over a specified time period, T. It is the most widely used noise parameter.

The $L_{A,eq,T}$ can be defined as:

The A – weighted equivalent continuous level of a steady sound which would contain the same sound energy as a fluctuating sound, over the same time period.

1/3 Octave Band Analysis for Tonal or Impulsive components of noise

A sound can be subdivided into frequency bands to look at the distribution of components across the frequency spectrum. A detailed subdivision of the frequency composition of a noise source is called **1/3 Octave Band Analysis**.

1/3 octave centre frequencies in hertz are:

25, 31.5, 40, 50, 63, 80, 100, 125, 160, 200, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3125, 4000, 5000, 6300, 8000, 10000.



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Both tonal and impulsive components of sound can be identified through examining these frequency bands. Tonal components tend to have at least 5db difference between adjacent frequency bands. Impulsive components tend to have differences in the individual bands compared to background noise.

Site Description

There are no noise sensitive locations of note at the Green Clean Waste Management Site. The area at the back of the site (N 4) is covered by very thick undergrowth of hedge with an associated noise attenuation of 3-5dB. Noise monitoring points 1 and 2 are lying quite close to the main N1 road, N2 specifically is lying within three meters of this busy main road

Noise monitoring point 3 is adjacent to a neighbouring garden centre. The area is bordered by large trees and shrubs and again attenuation from these natural features is expected to be between 3 – 5 dBA.



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Survey Details

1. 4 locations were chosen as detailed in **Attachment 1: Site Map**. These locations were chosen in order to obtain a objective evaluation of noise emissions from all activities on site.
2. A daytime survey 08:00 – 22:00 with tonal and impulsive monitoring was carried out.
3. The survey commenced on the 19/7/10. Whereby all locations were monitored during the daytime period.
4. Weather conditions during the survey were overcast with periodic showers.
5. The Castle Pro-DX Vocis (GA131) integrating averaging sound level monitor was used to carry out the survey with a class 1 condenser microphone for environmental noise monitoring.
6. 1/3 Octave band analysis was carried out for all 4 locations during daytime monitoring.
7. Statistical parameters monitored were the **$L_{Aeq, 30 \text{ minutes}}$, L_{10} , L_{90} and maximum and minimum levels.**
8. Results were obtained and tabulated and associated conclusions were derived.



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Results of Survey

Fig.1

Daytime Survey: 08:00 – 22:00

Statistical Parameters

Location 1 – N1

L_{Aeq,30mins}	L_{A90}	L_{A10}	L_{Amax}	L_{Amin}
64dBA	61dBA	66dBA	77dBA	59dBA

Location 2 – N2

L_{Aeq,30mins}	L_{A90}	L_{A10}	L_{Amax}	L_{Amin}
70dBA	57dBA	74dBA	85dBA	54dBA

Location 3 – N3

L_{Aeq,30mins}	L_{A90}	L_{A10}	L_{Amax}	L_{Amin}
63dBA	52dBA	67dBA	81dBA	47dBA

Location 4 – N4

L_{Aeq,30mins}	L_{A90}	L_{A10}	L_{Amax}	L_{Amin}
64dBA	49dBA	67dBA	83dBA	46dBA



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Examination of Results

Daytime Survey: 08:00 – 22:00

Location 1 – N1

The $L_{Aeq,30mins}$ monitored at this location was 64dBA. This was in exceedance of permitted daytime LAeq, T of 55dBA. A closer look at the noise climate shows that background noise levels are approximately 61dBA (derived from the L90 percentile) and incident levels were 66 dBA (derived from the L10 percentile). It must be noted that this location is within 12 meters of the main road and as such these levels are as a result of road traffic as much as activities on site. However this area is also quite close to the main entrance and Green Clean vehicles entering and leaving the site are also contributing to the levels.

There is evidence also for tonal components in noise levels monitored at this location as shown in attached graphs. Impulsive components were not measured.



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Location 2 – N2

The $L_{Aeq,30mins}$ monitored at this location was 70 dBA. This was in exceedance of permitted daytime $L_{Aeq, T}$ of 55 dBA. A closer look at the noise climate shows that background noise levels are approximately 57 dBA and incident noise levels were 74dBA. This location is within 3 meters of the main road and as such is exposed to substantial road traffic noise. These maximum levels measured equate well with accepted traffic noise monitored levels. Noise levels monitored were also contributed to by Green Clean traffic entering and leaving the site.

Some tonal components were monitored at this area. A graph of which is attached with this report. It is the objective opinion of this technician that the tonal nature was negligible. Impulsive components were not measured.

Location 3 – N3

The $L_{Aeq,30mins}$ monitored at this location was 63dBA. This was in exceedance of permitted daytime $L_{Aeq, T}$ of 55 dBA. A closer look at the noise climate in this area shows that background noise levels were 52dBA and incident levels were 67dBA. Therefore background levels were satisfactory. It must be noted that during the survey people from the outside the boundary were speaking quite close to this monitoring point for a minute or two. Also activities on site were having an effect on noise measured through the periodic operation of equipment within the facility.

There were no tonal or impulsive components monitored at this area.



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Location 4 – N4

The $L_{Aeq,30mins}$ monitored at this location was 64dBA. This was in exceedance of permitted daytime $L_{Aeq, T}$ of 55 dBA. A closer look at the noise climate in this area shows that background noise levels were 49dBA and incident levels were 67dBA. Background levels therefore were satisfactory. Periodic operations of equipment within the facility contributed significantly noise levels monitored at this location. It must be noted that heavy scrub growth will result in a 3 to 5dBA attenuation at this monitoring point.

There is evidence of tonal and impulsive components at this location

[Guidance to completing the PRTR workbook](#)

AER Returns Workbook

Version 1.1.11

REFERENCE YEAR	2010
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1. FACILITY IDENTIFICATION

Parent Company Name	Greenclean Waste Management Ltd
Facility Name	Greenclean Waste Management Ltd
PRTR Identification Number	W0222
Licence Number	W0222-01

Waste or IPPC Classes of Activity

No.	class_name
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
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.
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.
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.
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
Address 1	Coldwinters
Address 2	Blakescross
Address 3	Lusk
Address 4	Co. Dublin
Country	Ireland
Coordinates of Location	-6.19218 53.5045
River Basin District	IEEA
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
AER Returns Contact Name	Vincent Coleman
AER Returns Contact Email Address	vincentcoleman@greenclean.ie
AER Returns Contact Position	Operations Manager
AER Returns Contact Telephone Number	01 - 8438855
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	01-8438055
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

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

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	
Have you been granted an exemption?	
If applicable which activity class applies (as per Schedule 2 of the regulations)?	
Is the reduction scheme compliance route being used?	

