



ANNUAL ENVIRONMENTAL REPORT
GREENSTAR LTD.
INTEGRATED WASTE MANAGEMENT FACILITY
FASSAROE, BRAY,
COUNTY WICKLOW
LICENCE NO. W0053-03
JANUARY – DECEMBER 2011

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Project Annual Environmental Report 2011				
Client Greenstar Ltd. W0053-03				
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1. INTRODUCTION

This is the 2011 Annual Environmental Report (AER) for the Greenstar Ltd. (Greenstar), Integrated Waste Management Facility at Fassaroe, Bray, County Wicklow (W0053-03) and covers the reporting period January 2011 to December 2011. The AER has been prepared in compliance with Condition 11.11 of the Licence.

The content of the AER is based on Schedule G of the Licence and the report format follows guidelines set in the “*Guidance Note for Annual Environmental Report*” issued by the Environmental Protection Agency (Agency)¹. Cognisance was also taken of the AER Draft Guidance Document issued in January 2012².

¹ EPA (Environmental Protection Agency) 1999 Waste Licensing – Draft Guidance on Environmental Management Systems and Reporting to the Agency

² EPA (Environmental Protection Agency) 2012 Draft AER Guidance Document

2. SITE DESCRIPTION

2.1 Site Location & Layout

The facility is located close to the N11 at Fassaroe, Bray, County Wicklow. The site comprises three main waste processing buildings, the original transfer building located close to the site entrance at the southern side of the site and adjoining Phase 1 & 2 buildings which are located in the centre of the site. There is also an administration building incorporating office, canteen and toilet facilities; a vehicle wash; 2 no. weighbridges and a weighbridge office; office type portacabins (formerly used as offices); truck and empty skip parking areas and vehicle maintenance shed which is adjacent the original transfer building.

2.2 Waste Management Activities

The depot is an integrated waste management facility. The licence allows for the following activities:

- bulking of municipal solid waste prior to transfer off-site for disposal;
- in-vessel composting of biodegradable waste;
- wood shredding;
- processing/storage of dry recyclables;
- recovery of construction and demolition waste;
- acceptance of waste at a civic waste facility, which includes hazardous waste such as bonded asbestos waste, WEEE and chlorofluorocarbons.

With the exception of composting, which has not yet started, all of the other activities are on-going. In December 2009, the agency technically amended the licence to allow for a change to the hours of operation so that Greenstar can carry out indoor processing of dry mixed recyclable material on a 24-hour day, 7-day week basis in the Phase 1 processing building.

2.2.1 Waste Type & Processes

The facility is licensed to accept a maximum of 200,000 tonnes of waste annually. This comprises the following waste types and volumes, as specified in Schedule A of the Licence: -

- Household and Commercial (143,560 tonnes),
- Construction & Demolition (54,040 tonnes),
- Hazardous (2,400 tonnes).

The following processes are carried out:

Mixed Municipal Solid Waste (MSW)

All mixed MSW containing a putrescible fraction is handled inside the original Transfer Building. The incoming waste is deposited on the floor of the building and is then either pushed into an open trailer or compacted, for removal and disposal at an approved off-site residual landfill facility.

Dry Mixed Recyclables (DMR)

DMR is deposited onto the floor of the Phase 1 Transfer Building. Mixed DMR is separated, using a sorting line, into paper, cardboard, aluminium, steel, plastic bottles and plastic film fractions, which are then baled separately and stored pending removal for recycling. Source segregated DMR is baled directly and stored pending consignment.

Non Putrescible Commercial and Industrial (C&I)

Non putrescible C&I waste delivered by waste contractors is off-loaded in the Phase 2 building. Non putrescible C&I from the site's civic waste facility (public and commercial enterprises) is transferred to the Phase 2 building.

The processing is carried out indoors. The materials are pre sorted to remove bulky items and the remaining waste is fed into the C&I/C&D processing line. A 3D trommel is used to remove oversize items and the material then passes through a star-screener unit to remove the fine fraction containing subsoil and topsoil. Over-band magnets are used to separate ferrous metals from the waste. Material is passed through a picking station to remove metals, concrete/stone, timber, hard plastics and residual material.

The concrete/stone is sent to the on-site crusher for further processing. Timber is sent to the on-site timber shredder. Metals are stored pending consignment from the site to an approved facility.

Construction and Demolition (C&D) Waste

The material is processed inside the Phase 2 building using the same processing line as for the C&I wastes described above. The fines are sent to landfill for use as cover material. The concrete/stone is sent to the on-site crusher to produce an inert aggregate. Timber is sent to the on-site timber shredder. Metals are stored pending consignment from the site.

Wood, Timber and Green Waste

The wood and timber recovered on-site is shredded externally in the north of the site and sent off-site for disposal or recovery. Untreated timber accepted at the site is classed as A-grade timber and segregated from treated & recovered timber.

Green waste is stored pending transfer to an off-site composting facility. Although the Licence allows for in-vessel composting of biodegradable waste, this has not yet started.

Civic Amenity Area

The civic amenity area is located to the Northwest of the original Transfer Building. There are a number of closed 14 yard skips for MSW and separate bays for timber, green waste, metals and mixed wastes.

Hazardous Wastes

The Licence allows the acceptance of small volumes of hazardous waste at the civic amenity area (WEEE, bonded asbestos materials and chlorofluorocarbons). These wastes are stored in the waste quarantine area in suitable receptacles pending removal off site to approved facilities.

2.2.2 Plant List

A list of the plant in use at the facility is given in Table 2.1. The plant provides 100% duty and 50% standby for waste processing.

Table 2.1 Existing Plant

No.	Plant	Model	Processing Capacity
1	Fuchs Grab F4	MHL340	30t/hr
1	Liebherr Grab/Excavator	L914	60t/hr
1	Volvo Loading Shovel	L70E	20t/hr
2	Liebherr Loading Shovel	564	85t/hr
1	O&K Loading Shovel	L15.5	20t/hr
1	Mitsubishi Forklift	2.5t	15hr/wk
1	Mitsubishi Forklift	3.0t	65hr/wk
1	JCB Teletruk	3.5t	65hr/wk
1	Forklift Road Sweeper	MS 750 C	15hr/wk
1	DMR Process line	Turmec	8t/hr
1	DMR Baler	Bollegraaf HBC 60	70t/day
1	Generator	FG Wilson	78hr/week
1	C&I/C&D Process Line	Waltec	35t/hr
1	Erin Stone Screener	Fingerscreen	400t/day
1	Hammel Timber Pre Shredder	VB 750 D	30t/hr
1	Beast Timber shredder	3680	40t/hr
1	Tractor	Massey Ferguson 4255	2hr/wk
1	MSW compactor		80t/day
1	Weighbridge 2 Scales	RiteWeigh Aran Series 18 m	62hr/wk

3. EMISSION MONITORING

Greenstar implements a comprehensive environmental monitoring programme to assess the significance of emissions from site activities. The programme for 2011 included groundwater, surface water, leachate, sewer emissions, landfill gas, biological, noise and dust monitoring. The monitoring locations are shown on Figure 3.1. The monitoring results are submitted to the Agency at quarterly intervals. An overview of the monitoring conducted in the reporting period is presented in this Section, with summary data tables in Appendix 1.

3.1 Groundwater

There are four (4) on-site groundwater monitoring wells (BH-2, BH-5, BH-6 and BH-7). Monitoring wells BH-2, BH-5 and BH-7 are positioned downgradient of the former landfill area while BH-6 is upgradient. The upgradient monitoring well (BH-6) was installed in March 2009 to replace the previous well which was removed during construction of the administration building. This location was dry throughout 2011.

3.1.1 *Groundwater Levels*

Groundwater levels were recorded at quarterly intervals in each of the wells. Based on the level data the direction of groundwater flow is north easterly.

3.1.2 *Groundwater Quality*

Groundwater quality was monitored at quarterly intervals. The sampling and analysis was carried out in accordance with recognised quality assurance and control procedures. The range of quarterly and annual analysis was as specified in Schedule C of the Waste Licence and includes pH, electrical conductivity, organic, inorganic and microbiological parameters. The summary of the results is included in Appendix 1.

The water quality in the three wells was generally consistent with that established in the previous monitoring and is generally reflective of the sites historic use as a landfill. The facility operated as both a quarry and landfill between 1947 and 2000. In 2006 Greenstar submitted proposed groundwater trigger levels to the Agency for its approval. Since 2006 the proposed trigger levels for conductivity and chloride in BH-2 and BH-5 have occasionally been exceeded.

3.1.3 Estimated Annual and Cumulative Quantity of Emissions to Groundwater

There are no direct emissions to groundwater. Indirect emissions include incident rainfall and storm water run-off from some of the paved areas. There were no changes to the site layout and operation during the reporting period that resulted in new or additional sources of direct or indirect discharges to groundwater.

All surface water from the paved areas and buildings is diverted away from the filled areas thereby reducing the potential indirect impact of surface water on groundwater quality. Section 3.2 discusses the quantities of emissions to surface water.

3.2 Surface Water

The surface water drainage system in and around the site is dominated by the proximity of the Glenmunder Stream along the north eastern boundary. The Glenmunder ultimately drains to the River Dargle, which is a designated salmonid river. Surface water run-off from the roof of the new administration building and new car park area discharges to the Glenmunder via a silt trap and oil interceptor.

Surface water quality is monitored at four locations (SW-1, SW-2, SW-3 and SW-4) on the Glenmunder and at one discharge point from the facility to the Glenmunder (SW-5). SW-1 is upstream of the site, SW-2 and SW-3 are along the site boundary and SW-4 is downstream of the site. SW-5 is the discharge point for rainfall runoff from the roof of the administration building and the car park area to the Glenmunder.

The monitoring was conducted at quarterly intervals and included in-situ and laboratory testing. It was not possible to collect a sample at SW-5 in the third quarter 2011 as the sampling location was dry. The range of analysis was as specified in Schedule C of the Waste Licence and includes dissolved oxygen, pH, electrical conductivity, and organic and inorganic parameters. The sampling and analysis was carried out in accordance with recognised quality assurance and control procedures. A summary of the monitoring results are included in Appendix 1.

The monitoring confirmed that the quality of the surface water was generally good and that the facility was not impacting on the stream.

The results of a biological assessment of the Glenmunder were submitted to the Agency on the 25th November 2011. The assessment showed a drop in water quality since 2009. The Q value is now Q3 indicating the stream is moderately polluted. Water quality both up and down stream is classed as poor and at risk. There are no significant differences recorded between the upstream and downstream location therefore it is assumed that the drop in quality can be ascribed to an impact occurring upstream of SW-1.

3.3 Wastewater

Wastewater from the facility (floor wash downs, vehicle washing) discharges to the municipal foul sewer. A wastewater sample was collected monthly from monitoring location SE-1. It was not possible to collect samples in August 2011, as there was no flow at the monitoring location. The range of analysis was as specified in Schedule C of the licence and included pH, COD, BOD, suspended solids, sulphates, oils, fats and greases, mineral oils and detergents. The monitoring results are included in Appendix 1. The facility was 100% compliant with the Emission Limit Values (ELVs) set in the Licence in 2011.

3.4 Leachate

Leachate is generated by rainfall in the former landfill area. There are three leachate monitoring wells the locations of which are shown on the drawing in Figure 3.1.

3.4.1 Leachate Levels

Levels were monitored at monthly intervals during the reporting period. In general the wells were either dry or contained very small volumes of liquid at the base which could not be sampled.

3.4.2 Leachate Quality

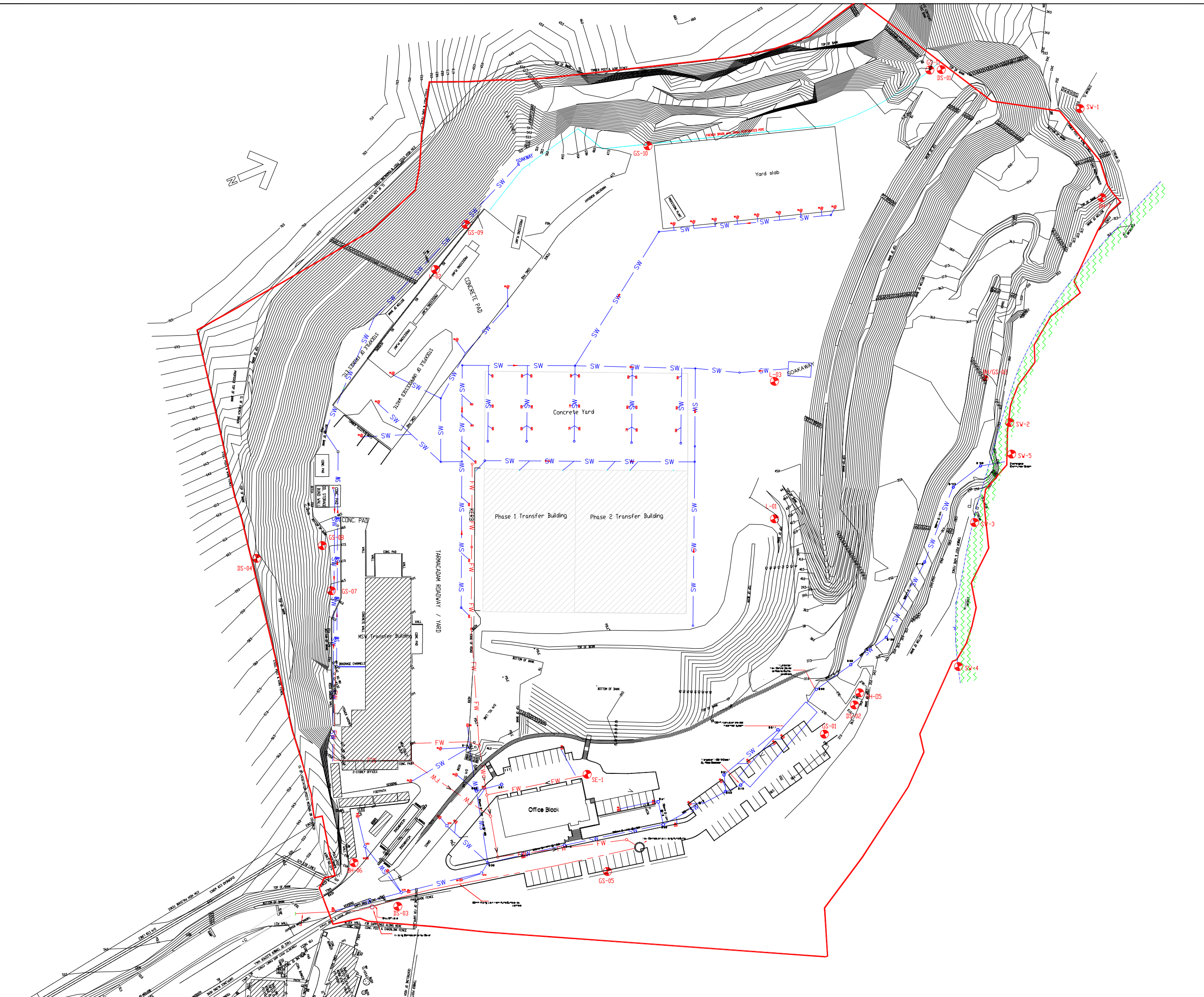
The Licence requires routine monitoring. However, over the reporting period the wells were either dry or there was an insufficient volume to collect samples.

3.5 Landfill Gas

Monitoring was carried out in accordance with Schedule C of the Waste Licence. The monitoring locations specified in the Licence include seven landfill gas wells (GS-05, GS-07, GS-08, GS-09, GS-10 and GS-11), the groundwater monitoring wells (BH-2, BH-5, BH-6 and BH-7) and the leachate boreholes (L-01, L-02 and L-03).

GS-01, GS-05, BH-2, BH-5, BH-6 and BH-7 are located outside the fill area. GS-07, GS-08, GS-09, GS-10, GS-11, L-01, L-02 and L-03 are located in the fill area. The nearest buildings to the filled area are the waste processing buildings and the site offices. OCM conducted gas monitoring in the waste processing buildings and the site offices during all monitoring events and the results are included in Appendix 1. The monitoring did not detect the presence of carbon dioxide or methane in any of the buildings.

Out of one hundred and fifty four landfill gas measurements made during the reporting period, methane was detected on fifteen (15) occasions in wells located in the fill area. Methane was not detected above the trigger level in any of the wells outside the waste body. Carbon Dioxide was measured at levels above the trigger level (1.5% v/v) on nine (9) occasions in wells outside the waste body. The monitoring results do not indicate that landfill gas is migrating from the former fill area.



NOTES

LEGEND: MONITORING LOCATIONS

- Denotes Monitoring Location (BH, GAS and LEACHATE)
- (SURFACE WATER, SEWER and DUST)

#	I.D.	EASTING	NORTHING
1	SE-1	324309.01	218051.50
2	BHS/GS-01	324311.85	218157.81
3	BH/GS-02	324212.67	218255.62
4	BH-6	324212.67	218266.62
5	BH-7	324330.71	217905.07
6	GS-05	324331.23	218071.80
7	GS-07	324146.36	218021.76
8	GS-08	324118.57	218049.52
9	GS-09	324094.55	218100.07
10	GS-11	324100.93	218272.43
11	L-01	324231.96	218165.23
12	L-02	324108.57	218077.92
13	L-03	324552.44	218035.59
14	SW-1	324132.36	218322.94
15	SW-2	324247.97	218240.29
16	SW-3	324326.38	218166.72
17	SW-4	324359.53	218124.20
18	SW-5	324289.90	218185.10
19	N1	324310.04	217965.54
20	N2	324313.86	218013.03
21	N3	324325.62	218143.04
22	N4	324209.97	218262.19
23	NSL1	324305.76	217858.30
24	NSL2	324299.20	217845.31
25	DS-01	324122.92	218288.56
26	DS-02	324265.71	218205.11
27	DS-03	324315.24	218005.08
28	DS-04	324161.16	218013.86

A	05.06.2008	LAYOUT	MW	JOC	JOC
REV	DATE	DESCRIPTION	DRN	CHKD	APP

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CLIENT
GREENSTAR

TITLE
**SITE LAYOUT
 FASSAROE
 Monitoring Locations**

SCALE	FIGURE No.	REV.
1250 A3	3.1	A

3.5.1 Landfill Gas Volumes

The occasional elevated carbon dioxide concentrations and the occasional presence of methane indicate that some degree of degradation of organic waste is occurring within the fill area. Based on the available information on the site history it appears that some biodegradable material may historically have been deposited at the site. The monitoring results do not indicate that landfill gas is migrating from the former fill area.

Given that the type and quantity of the biodegradable waste deposited on-site is not known, it is impossible to predict the volumes of landfill gas that may be generated. However, the monitoring results indicate that the volume of such degradable material is likely to be small and will reduce over time.

3.5.2 Landfill Gas Control

There is no landfill gas control system on-site. The landfill gas concentrations measured in the routine monitoring programme indicate there is no need for such control measures. However, this will be kept under review based on the results of the on-going landfill gas monitoring programme.

3.6 Noise Survey

Quarterly monitoring was carried out at the four on-site noise monitoring locations, N-1, N-2, N-3 and N-4 specified in the licence and two off-site noise sensitive locations NSL1 and NSL2. The surveys were conducted when the site was fully operational and a summary of the results are included in Appendix 1.

The facility was found to be in compliance with the licence conditions. Although recorded noise levels were on occasions above the 55 dB(A) limit set in the licence, noise emissions from the facility were not audible above this limit. Offsite noise sources particularly traffic contributed significantly to the local noise environment.

3.7 Dust Monitoring

Dust monitoring is carried out monthly at four monitoring locations, DS-01, DS-02, DS-03 and DS-04. DS-01 is located at the northern portion of the facility within the site boundaries and approximately 250 m from the nearest sensitive receptor. DS-02 is located away from operational areas, close to a formerly vegetated area along the northern boundary. This location is at the edge of the car park for the administration building. DS-03 is located within the site boundary close to the car park and to the east of the site weighbridges. DS-04 is located on the southern boundary of the facility at the top of an embankment. The facility was 100% compliant with the dust deposition limit set in the licence in 2011.

4. SITE DEVELOPMENT WORKS

4.1 Specified Engineering Works

The construction of an ESB substation was carried out and completed in Q1 2012. Due to limitations in the local electricity distribution network at the time of initial development of the Fassaroe facility the electricity supply was fed from two sources, the mains supply which supplies the office area and the diesel generator which supplied the main distribution board adjacent to the main recycling area. In December 2010 the local electricity network was upgraded in the Fassaroe area resulting in sufficient mains power supply to feed the entire Greenstar Facility. A substation was therefore constructed to upgrade the mains incoming power from 150kVA LV to a 750kVA supply capable of running the entire facility. The diesel generator has been retained as a standby unit.

4.2 Site Restoration

No site restoration works were carried out in 2011.

4.3 Site Development

No site development works were carried out on site in 2011.

In 2012 Greenstar proposes upgrading works to the surface water infrastructure at the Fassaroe facility. These works will be initiated to prevent the surface water ponding which occurs regularly adjacent to the Phase 1 and Phase 2 Buildings. A proposal was submitted to the Agency in February 2012 and approval was granted in March 2012.

The proposed works involve intercepting the roof water from the Phase 1 & 2 Buildings and diverting this significant run-off to a new stormwater storage tank. Only clean roof water run-off will enter the tank. It is proposed to harvest this collected surface water run-off for on site dust suppression purposes. The clean water discharge will join the connection which enters the stream at the licensed monitoring point SW5 and will be monitoring in accordance with the surface water requirements in the Licence. Works will commence in April 2012 and will take up to 8 weeks to complete.

4.4 Summary of Resource & Energy Consumption

Table 4.1 presents an estimate of the resources used on-site during the reporting period.

Table 4.1 Estimates of Resources Used On-Site

Resources	Quantities
Diesel	370,701 litres
Hydraulic, Transmission and Engine Oil	5,600 litres
Gear Oil	5,400 litres
Odour Neutraliser	1,000 kg
Truck Wash Detergent	None
Electricity	614,899 kWh
Gas	273,583 kWh

5. WASTE RECEIVED AND CONSIGNED FROM THE FACILITY

Table 5.1 shows the total quantities of waste received at and consigned from the facility in the reporting period. A breakdown of the waste types is provided in accordance with the European Waste Catalogue and Hazardous Waste list.

The total quantity of waste received was 138,048 tonnes. The total waste consigned was 155,995 tonnes. A significant quantity of construction and demolition material i.e. soil and stones was consigned from the facility in Q1 2011 which had been in storage at the end of 2010.

For comparative purposes Table 5.2 shows the total quantities of waste received at and consigned from the facility in 2010.

All the consigned wastes went to recovery and disposal facilities agreed with the Agency.

Table 5.1 Waste Received and Consigned 2011

EWC	Description	Waste In	Waste Out
13 02 08	Waste Oil		3.00
15 01 01	Segregated cardboard & paper packaging (e.g. corrugated cardboards, paper wrapping & bags)	11,108.00	14,049.00
15 01 02	Segregated plastic packaging (e.g. PVC, PET & PE bottles & jars, plastic bags, food wrappers)	461.00	3,885.00
15 01 03	Segregated wood packaging (e.g. crates, cartons, cheese boxes, fruit trays)	2,071.00	15.00
15 01 04	Segregated metal packaging - aluminium cans	99.00	51.00
15 01 05	Segregated tetrapacks	11.00	
15 01 06	Segregated mixed packaging	35,217.00	1,270.00
15 01 07	Segregated glass packaging (e.g. bottles, jars)	499.00	3,433.00
16 02 14 /20 01 36	White goods	1.00	
16 03 04	Polyurethane Foam	1.00	
16 05 04	Haz Gas Cylinders		1.00
17 05 04	Soil & Stones		12,986.00
17 09 04	Mixed C&D waste	4,196.00	99.00
19 12 01	Paper & cardboard	1.00	
19 12 04	Plastics and rubber from mechanical treatment	7.00	
19 12 07	Processed wood (e.g. chipped/shredded wood)	148.00	7,647.00
19 12 09	Minerals from mechanical treatment (e.g. inorganic fines, sand, stones)	3.00	23,071.00
19 12 12	Mixed Municipal Waste		66,376.00
20 01 01	Paper & cardboard from municipal sources	596.00	18,112.00
20 01 02	Glass from municipal sources	352.00	
20 01 08	Commercial food waste e.g. canteens, restaurants	503.00	384.00
20 01 08 /20 02 01	Household food & garden waste (typically brown bin)	1,760.00	
20 01 10 / 20 01 11	Textile waste from municipal sources (e.g. clothing, curtains)	89.00	
20 01 23	Haz Fridge Freezer		4
20 01 35	WEEE	1.00	25.00
20 01 38	Wood waste from municipal sources (e.g. furniture)	2,602.00	138.00
20 01 39	Plastic from municipal sources	44.00	15.00
20 01 40	Metals from municipal waste e.g. light iron	197	2,130.00
20 02 01	Green Waste		1,389.00
20 03 01	Mixed residual waste (typically black bin)	49,426.00	
20 03 01	Mixed dry recyclables (typically green bin)	4,270.00	
20 03 03	Street-cleaning residues	110.00	110.00
20 03 07	Bulky waste	24,275.00	802.00
	Total Received	138048	
	Total Consigned		155995

Table 5.2 Waste Received & Consigned 2010

EWC	Description	Waste In	Waste Out
01 01 01	Metal	1.00	
07 05 14	Filter Cake	17.00	
10 02 11	Oil Filters		0.20
15 01 01	Cardboard & Paper Packaging	5,518.00	10,592.36
15 01 02	Plastic Packaging	657.00	2,612.50
15 01 03	Wooden Packaging	1,653.00	12.00
15 01 04	Metallic Packaging	89.00	
15 01 06	Mixed Packaging	24,319.00	
15 01 07	Glass Packaging	853.00	1,768.98
16 01 03	Rubber		11.26
16 02 14	WEEE	1.00	
16 05 04*	Gas Cylinders		3.00
16 06 01*	Batteries		2.00
17 01 01	Mixture of concrete, bricks, tiles, ceramics from C&D Waste	4,856.00	
17 02 01	Wood from C&D Waste	48.00	
17 04 02	Aluminium from C&D Waste	18.00	
17 05 04	Soil & Stone from C&D waste	17.00	
19 08 05	Liquid Waste		12.66
19 09 04	C&D Inert Mixed		22.00
19 12 07	Processed Wood	169.00	9,944.22
19 12 09	C&I Fines		23,658.08
19 12 12	Mixed Residual Waste from mechanical treatment	58,772.00	79,904.96
20 01 01	Newspapers & Pamphlets	657.00	
20 01 01	Paper & Cardboard		11,418.38
20 01 02	Glass	846.00	
20 01 08	Commercial Food Wastes	135.00	
20 01 11	Textiles	41.00	1.5
20 01 23*	Fridge Freezer CFC		1.92
20 01 35*	WEEE	1.00	11.00
20 01 38	Wood from municipal sources	2,263.00	160.58
20 01 39	Plastic from municipal sources	37.00	191.64
20 01 40	Metal from municipal sources	443.00	2,107.00
20 02 01	Biodegradable garden & park waste	4,671.00	812.00
20 02 02	Green Waste	358.00	
20 03 01	Mixed Residual Waste	7,988.00	
20 03 07	Bulky Waste	27,937.00	
	Total Received	142,365.00	
	Total Consigned		143,248.24

6. ENVIRONMENTAL INCIDENTS AND COMPLAINTS

6.1 Incidents

The routine monitoring programme identified a number of incidents during the reporting period associated with exceedance of the landfill gas emission limit for carbon dioxide as described in Section 3. These exceedances were reported in the quarterly reports, as agreed with the Agency. A summary of the incidents is shown on Table 6.1.

There were no other reportable incidents in 2011.

Table 6.1 Summary of Incidents

Nature of Incidents	Cause	Corrective Action
Carbon dioxide exceeded the trigger limit at monitoring borehole: GS-05 in 5 events, BH-06 in 3 events BH-07 in 1 event.	Possible anaerobic degradation of small quantities of organic waste.	Continue routine monitoring to determine if landfill gas is being produced in significant quantities and is migrating off-site.

6.2 Register of Complaints

Greenstar maintains a register of complaints received in accordance with Condition 11.7 of the waste licence. There were no complaints received in 2011.

7. ENVIRONMENTAL DEVELOPMENT & CONTROL

7.1 Environmental Management Programme Report

Greenstar have implemented an Integrated Management System (IMS) in accordance with the requirements of Occupational Health and Safety Assessment Series (OHSAS) 18001:2007 and International Standard Organisation (ISO) 14001:2004 in order to manage the Health, Safety and Environmental performance of their business and to control health and safety risk and to minimise their environmental aspects and impacts.

The IMS has been developed for the achievement of continual improvement taking into the requirements of the Waste Licence Conditions. Greenstar has prepared and effectively implement documented procedures and instructions in accordance with the requirements of both the OHSAS 18001:2007 and ISO 14001:2004.

As part of this IMS Greenstar has developed a list of environmental, management, operating and maintenance procedures, details of which are outlined in Appendix 2. The schedule of Objectives and Targets, including their status for 2011 (Table 7.1), as well as the proposed Objectives and Targets for 2012 (Table 7.2) are presented below.

7.1.1 *Schedule of Objectives and Targets 2011*

The 2011 Schedule included 5 objectives, which are summarised in Table 7.1. An evaluation of what has been achieved to date is presented below.

Objective 1 – Awareness and Training

Weekly toolbox talks are carried out which include environmental updates and environmental procedural training.

Objective 2 – Energy & Resource Consumption

The usage of gas at the facility has decreased significantly since 2009. This follows the implementation of the recommendations of the energy audit which was carried out in 2008 in compliance with Condition 7.1 of the Licence. It is expected that energy consumption will be further reduced in 2012 through the diversion of electricity supply from the generator to the mains supply.

Objective 3 – Review and Assess the Effectiveness of Nuisance Control Procedures

All procedures were reviewed as part of the Integrated Management System. The facility did not create a nuisance in 2011.

Objective 4 – Pollution Prevention

The routine environmental monitoring has confirmed that the facility is not causing pollution in the local environment.

Objective 5 – Infrastructure

Certain scrap and decommissioned plant and machinery has been removed from the facility as of November 2011. Waste storage and segregation practices have been improved, through the upgrade of the DMR line in December 2011 to allow for better product segregation. No significant stockpiles of unprocessed materials are currently on site.

7.1.2 Site Management Structure

Details of the site management structure are given below.

Name: Sara Smyth

Responsibility: Operations Manager.

Experience: 13 years waste management experience. FÁS course completed.

Name: Arthur Walsh

Responsibility: Transport & Logistics Manager.

Experience: 20 years operations management experience. FÁS course completed.

Table 7.1 Schedule of Objective and Targets 2011

No	2011 Objective	Target	Responsibility	Status
1	Awareness and Training	Continue to ensure that appropriate training is carried out specific to all site personnel as per the Company's established Training Matrix.	Site Management	Q4 2011
2	Energy & Resource Consumption	Summarise energy and resource usage on a quarterly basis with a view to reducing consumption	Site Management	Q4 2011
3	Review and Assess the Effectiveness of Nuisance Control Procedures	Continually review and assess all nuisance control procedures to ensure minimal impact on the surrounding area.	Site Management	Q4 2011
4	Pollution Prevention	Strive to ensure that monitoring results comply with the licence limits and investigate any exceedances of emission limit values.	Site Management	Q4 2011
5	Infrastructure	Remove all scrap and decommissioned plant and machinery from the facility. Improve waste storage and segregation practices.	Site Management	Q4 2011

Table 7.2 Schedule of Objective and Targets 2012

No.	2012 Objective	Target	Responsibility	Timescale
1	Awareness and Training	Expand the environmental topics covered in weekly toolbox talks planned. Introduce job specific environmental training planned.	Site Management	Ongoing
2	Energy & Resource Consumption	Decrease the diesel usage on site by switching some plant over to mains power	Site Management	Q1 2012
3	Review and Assess the Effectiveness of Nuisance Control Procedures	Use the IMS and the results of the continual monitoring programme to assess nuisance control effectiveness.	Site Management	Ongoing
4	Pollution Prevention	Continue to implement the IMS and monitoring programme.	Site Management	Ongoing
5	Infrastructure	Upgrade the drainage network to include the provision of roof water attenuation tank	Site management	Q2 – Q3 2012

7.2 Reduction of Water Demand

As outlined in Section 4.3. Greenstar intends to upgrade the surface water drainage system as agreed with the Agency in March 2012. The intended works include the installation of an attenuation tank to collect the roof water from the processing building and this will be reused for dust suppression on site. This will lead to a further reduction in water usage at the facility.

7.3 Volume of Wastewater Produced and Transported off site

The total amount of wastewater produced during the reporting period was 855 m³ which was discharged to the municipal sewer.

7.4 Pollution Emission Register

The Pollution Emission Register (PER) has been replaced by the European Pollutant Release and Transfer Register Regulation (EC) No. 166/2006. A copy of the information submitted to the Agency via the web-based data reporting system is included in Appendix 3.

7.5 Nuisance Controls

Greenstar has contracted a vermin control company Pestgard to carry out nuisance control at the facility. Pestgard undertake a six weekly review of the vermin activity on-site along with an inspection of the bait traps that are located throughout the facility.

7.6 Tank & Pipeline Testing

Tank and pipeline testing was carried out in 2010 and confirmed to be fit for purpose. Testing will be required again in 2013.

7.7 Slope Stability Assessment

An assessment of the stability of the slopes was carried out in compliance with Condition 6.10 of the licence in April 2008 and was reported to the Agency as part of the 2008 AER. No further site restoration work was carried out and therefore it was not necessary to carry out a further stability assessment.

7.8 Programme for Public Information

Greenstar is committed to setting the standard in waste management and ensuring environmental compliance in all operations. In addition, Greenstar's Environmental Policy makes a specific commitment to make the environmental policy and records available to the public and interested parties. To this end Greenstar has drawn up a Communications Programme, which details how members of the public are facilitated in accessing environmental information at the facility. Records available for public inspection on site include:-

- Environmental Policy,
- Waste Licence,
- Licence Application and Review documentation,
- Monitoring Records,
- Complaints File,
- EPA Correspondence File.

Visits to the site should be arranged in advance by ringing the Facility Manager or Supervisor at 1890 600 900.

7.9 Waste Recovery Report

The facility, which is designed to increase the recycling of biodegradable materials and reduce the volume of waste disposed to landfill, meets the needs identified in EU and national waste policy statements and contributed to the achievement of these goals as out of approximately 138,048 tonnes of waste accepted approximately 67% was sent for recovery.

7.10 Revised Closure, Restoration & Aftercare Management Plan

A Closure, Restoration & Aftercare Management Plan (CRAMP) was prepared and submitted to the Agency in May 2008. A revised CRAMP was submitted at the request of the Agency on November 25th 2011.

7.11 Measures in Relation to Prevention of Environmental Damage and Remedial Actions (Environmental Liabilities)

A revised Environmental Liabilities Risk Assessment was submitted to the Agency in February 2009.

Greenstar Ltd. has adequate insurance cover for environmental liabilities to €10,000,000 for any one occurrence, which will apply to “sudden identifiable and unintended incidents”.

The facility has an Integrated Management System (IMS) in place. The IMS serves as a guidance document for facility staff and describes operational control and management practices that are applied at the facility. The IMS is designed to ensure that management of site activities complies with regulatory requirements and best practice. The IMS includes a detailed Emergency Response Procedure which sets out the steps to be taken in the event of an incident at the facility with the potential to cause environmental damage. Greenstar also implements a comprehensive monitoring programme which will highlight any potential environmental incidents with the potential to cause environmental damage.

8. OTHER REPORTS

No other reports were requested by the Agency during the reporting period.

APPENDIX 1

Environmental Monitoring Summary Tables

GROUNDWATER SUMMARY TABLES

Results 2011 Fassaroe W0053-03: BH-2

Parameter	Units	1 st Quarter 2011 15/02/2011	2 nd Quarter 2011 19/04/2011	3 rd Quarter 2011 14/09/2011	4 th Quarter 2011 09/11/2011
Temperature	°C	12	10.7	12.9	11.9
Chloride	mg/l	37	40.7	46.4	42
Ammoniacal Nitrogen -N	mg/l	0.11	0.19	0.04	0.05
Conductivity	mS/cm	2.687	2.781	2.561	2.622
Dissolved Oxygen	mg/l	11	6	7	9
pH	pH Units	7.91	8.08	7.76	7.87
Nitrate	mg/l			1	
Boron	mg/l			0.523	
Calcium	mg/l			529.7	
Potassium	mg/l			33.9	
Sodium	mg/l			68.7	
Magnesium	mg/l			44.6	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			1211.25	
Mercury	mg/l			<0.001	
Cadmium	µg/l			<0.5	
Chromium	mg/l			<0.0015	
Copper	µg/l			<7	
Iron	µg/l			<20	
Manganese	µg/l			258	
Lead	µg/l			9	
Nickel	µg/l			9	
Zinc	µg/l			6	
VOC	µg/l			ND	
SVOC	µg/l			ND.	
Pesticides	µg/l			<0.01	
Total Coliforms	cfu/100ml			8.2	
Faecal Coliforms	cfu/100ml			0	

Results 2011 Fassaroe W0053-03: BH-5

Parameter	Units	1 st Quarter 2011 15/02/2011	2 nd Quarter 2011 19/04/2011	3 rd Quarter 2011 14/09/2011	4 th Quarter 2011 09/11/2011
Temperature	°C	12.4	12.8	12.2	12.6
Chloride	mg/l	37.8	52.3	52.8	38.3
Ammoniacal Nitrogen -N	mg/l	0.07	0.08	0.07	0.05
Conductivity	mS/cm	2.756	2.239	2.274	1.64
Dissolved Oxygen	mg/l	11	6	9	10
pH	pH Units	7.87	7.55	7.8	7.59
Nitrate	mg/l			8.2	
Boron	mg/l			0.215	
Calcium	mg/l			389.9	
Potassium	mg/l			18.8	
Sodium	mg/l			57.7	
Magnesium	mg/l			25.4	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			991.88	
Mercury	mg/l			<0.001	
Cadmium	µg/l			<0.5	
Chromium	mg/l			0.0062	
Copper	µg/l			<7	
Iron	µg/l			<20	
Manganese	µg/l			7	
Lead	µg/l			<5	
Nickel	µg/l			<2	
Zinc	µg/l			<3	
VOC	µg/l			ND	
SVOC	µg/l			ND	
Pesticides	µg/l			<0.01	
Total Coliforms	cfu/100ml			<1	
Faecal Coliforms	cfu/100ml			0	

Results 2011 Fassaroe W0053-03: BH-7

Parameter	Units	1 st Quarter 2011 15/02/2011	2 nd Quarter 2011 19/04/2011	3 rd Quarter 2011 14/09/2011	4 th Quarter 2011 09/11/2011
Temperature	°C	12	9.9	12.7	11.4
Chloride	mg/l	28.7	27.8	29.2	27.6
Ammoniacal Nitrogen -N	mg/l	0.75	0.5	0.26	0.95
Conductivity	mS/cm	0.784	0.636	0.579	0.525
Dissolved Oxygen	mg/l	5	5	3	4
pH	pH Units	7.64	7.71	8.33	8.29
Nitrate	mg/l			1.8	
Boron	mg/l			0.022	
Calcium	mg/l			102.6	
Potassium	mg/l			2.1	
Sodium	mg/l			16.6	
Magnesium	mg/l			8.6	
Orthophosphate	mg/l			<0.06	
Sulphate	mg/l			47.67	
Mercury	mg/l			<0.001	
Cadmium	µg/l			<0.5	
Chromium	mg/l			<0.0015	
Copper	µg/l			<7	
Iron	µg/l			29	
Manganese	µg/l			243	
Lead	µg/l			<5	
Nickel	µg/l			<2	
Zinc	µg/l			<3	
VOC	µg/l			ND	
SVOC	µg/l			ND	
Pesticides	µg/l			<0.01	
Total Coliforms	cfu/100ml			520	
Faecal Coliforms	cfu/100ml			20	

SURFACE WATER SUMMARY TABLES

Surfacewater Results 2011 Fassaro W0053-03: SW-1

Parameter	Units	1 st Quarter 2011 15/02/2011	2nd Quarter 2011 09/04/2011	3rd Quarter 2011 14/09/2011	4 th Quarter 2011 09/11/2011
Temperature	°C	13	9	12.8	11.4
Chloride	mg/l	22.8	26.7	28	28.9
COD	mg/l	8	7	<7	9
BOD	mg/l	1	<1	<1	1
Ammoniacal Nitrogen -N	mg/l	0.04	0.05	<0.01	0.02
Tot. Susp. Solids	mg/l	<10	<10	<10	<10
Conductivity	mS/cm	0.439	0.505	0.513	0.481
Dissolved Oxygen	mg/l	11	10	10	10
pH	pH Units	8.41	8.37	7.97	8.12
Nitrate	mg/l	-	-	20	
Calcium	mg/l	-	-	88.7	
Magnesium	mg/l	-	-	9.6	
Orthophosphate	mg/l	-	-	<0.06	
Sulphate	mg/l	-	-	35.01	
Mercury	µg/l	-	-	<1	
Potassium	mg/l	-	-	16.6	
Sodium	mg/l	-	-	16.9	
Boron	mg/l	-	-	0.021	
Cadmium	µg/l	-	-	<0.5	
Chromium	mg/l	-	-	0.0083	
Copper	µg/l	-	-	<7	
Iron	µg/l	-	-	<20	
Manganese	µg/l	-	-	<2	
Nickel	µg/l	-	-	12	
Lead	µg/l	-	-	<5	
Zinc	µg/l	-	-	18	
VOC	µg/l	-	-	ND	
SVOC	µg/l	-	-	ND	
Pesticides	µg/l	-	-	ND	
Total Coliforms	cfu/100ml	-	-	2419.6	11,199
Faecal Coliforms	cfu/100ml	-	-	500	2,600

- Not Required

Surfacewater Results 2011 Fassaro W0053-03: SW-2

Parameter	Units	1 st Quarter 2011 15/02/2011	2nd Quarter 2011 09/04/2011	3rd Quarter 2011 14/09/2011	4 th Quarter 2011 09/11/2011
Temperature	°C	13.5	9.5	12.8	11.5
Chloride	mg/l	23.3	27.3	28	29
COD	mg/l	9	8	<7	10
BOD	mg/l	<1	1	<1	<1
Ammoniacal Nitrogen -N	mg/l	0.04	0.04	<0.01	0.03
Tot. Susp. Solids	mg/l	<10	143	<10	<10
Conductivity	mS/cm	0.458	0.497	0.52	0.481
Dissolved Oxygen	mg/l	11	10	11	10
pH	pH Units	8.39	8.38	7.94	8.11
Nitrate	mg/l	-	-	19.7	14136
Calcium	mg/l	-	-	75.3	4200
Magnesium	mg/l	-	-	8.8	
Orthophosphate	mg/l	-	-	<0.06	
Sulphate	mg/l	-	-	25.1	
Mercury	µg/l	-	-	<1	
Potassium	mg/l	-	-	1.7	
Sodium	mg/l	-	-	16	
Boron	mg/l	-	-	0.024	
Cadmium	µg/l	-	-	<0.5	
Chromium	mg/l	-	-	0.081	
Copper	µg/l	-	-	<7	
Iron	µg/l	-	-	<20	
Manganese	µg/l	-	-	<2	
Nickel	µg/l	-	-	<2	
Lead	µg/l	-	-	<5	
Zinc	µg/l	-	-	7	
VOC	µg/l	-	-	ND	
SVOC	µg/l	-	-	ND	
Pesticides	µg/l	-	-	ND	
Total Coliforms	cfu/100ml	-	-	2419.6	14,136
Faecal Coliforms	cfu/100ml	-	-	400	4,200

- Not Required

Surfacewater Results 2011 Fassaro W0053-03: SW-3

Parameter	Units	1 st Quarter 2011 15/02/2011	2nd Quarter 2011 09/04/2011	3rd Quarter 2011 14/09/2011	4 th Quarter 2011 09/11/2011
Temperature	°C	13	9.5	12.8	11.5
Chloride	mg/l	23.1	26.8	28.2	28.8
COD	mg/l	7	7	<7	9
BOD	mg/l	<1	<1	<1	<1
Ammoniacal Nitrogen -N	mg/l	0.03	0.02	<0.01	0.03
Tot. Susp. Solids	mg/l	<10	<10	<10	<10
Conductivity	mS/cm	0.452	0.484	0.469	0.475
Dissolved Oxygen	mg/l	11	10	11	10
pH	pH Units	8.4	8.46	7.94	7.97
Nitrate	mg/l	-	-	20.7	12033
Calcium	mg/l	-	-	81.1	1700
Magnesium	mg/l	-	-	9.2	
Orthophosphate	mg/l	-	-	<0.06	
Sulphate	mg/l	-	-	26.71	
Mercury	µg/l	-	-	1	
Potassium	mg/l	-	-	1.8	
Sodium	mg/l	-	-	16.6	
Boron	mg/l	-	-	0.029	
Cadmium	µg/l	-	-	<0.5	
Chromium	mg/l	-	-	0.0091	
Copper	µg/l	-	-	<7	
Iron	µg/l	-	-	<20	
Manganese	µg/l	-	-	<2	
Nickel	µg/l	-	-	<2	
Lead	µg/l	-	-	<5	
Zinc	µg/l	-	-	12	
VOC	µg/l	-	-	ND	
SVOC	µg/l	-	-	ND	
Pesticides	µg/l	-	-	ND	
Total Coliforms	cfu/100ml	-	-	770.1	12,033
Faecal Coliforms	cfu/100ml	-	-	250	1,700

- Not Required

Surfacewater Results 2011 Fassaroo W0053-03: SW-4

Parameter	Units	1 st Quarter 2011 15/02/2011	2nd Quarter 2011 09/04/2011	3rd Quarter 2011 14/09/2011	4 th Quarter 2011 09/11/2011
Temperature	°C	13.5	9.5	12.8	11.5
Chloride	mg/l	23	26.7	28.7	29.2
COD	mg/l	12	7	<7	7
BOD	mg/l	5	<1	<1	<1
Ammoniacal Nitrogen -N	mg/l	0.03	0.02	<0.01	0.02
Tot. Susp. Solids	mg/l	<10	<10	<10	<10
Conductivity	mS/cm	0.445	0.484	0.529	0.49
Dissolved Oxygen	mg/l	11	10	11	10
pH	pH Units	8.42	8.38	8.17	7.77
Nitrate	mg/l	-	-	20.7	
Calcium	mg/l	-	-	49.7	
Magnesium	mg/l	-	-	5.7	
Orthophosphate	mg/l	-	-	<0.06	
Sulphate	mg/l	-	-	27.12	
Mercury	µg/l	-	-	<1	
Potassium	mg/l	-	-	1.1	
Sodium	mg/l	-	-	10.1	
Boron	mg/l	-	-	0.0017	
Cadmium	µg/l	-	-	<0.5	
Chromium	mg/l	-	-	0.0086	
Copper	µg/l	-	-	<7	
Iron	µg/l	-	-	<20	
Manganese	µg/l	-	-	<2	
Nickel	µg/l	-	-	<2	
Lead	µg/l	-	-	<5	
Zinc	µg/l	-	-	11	
VOC	µg/l	-	-	ND	
SVOC	µg/l	-	-	ND	
Pesticides	µg/l	-	-	ND	
Total Coliforms	cfu/100ml	-	-	2419.6	10,462
Faecal Coliforms	cfu/100ml	-	-	240	1,200

- Not Required

Surfacewater Results 2011 Fassaro W0053-03: SW-5

Parameter	Units	1 st Quarter 2011 15/02/2011	2nd Quarter 2011 09/04/2011	3rd Quarter 2011 14/09/2011	4 th Quarter 2011 09/11/2011
Temperature	°C	13	10.5	Dry	12.8
Chloride	mg/l	52.2	33.3	Dry	9
COD	mg/l	17	42	Dry	12
BOD	mg/l	1	4	Dry	2
Ammoniacal Nitrogen -N	mg/l	0.03	2.41	Dry	0.15
Tot. Susp. Solids	mg/l	<10	<10	Dry	76
Conductivity	mS/cm	1.529	0.516	Dry	0.166
Dissolved Oxygen	mg/l	11	10	Dry	9
pH	pH Units	7.59	8.58	Dry	7.31
Nitrate	mg/l	-	-	-	2.1
Calcium	mg/l	-	-	-	39.5
Magnesium	mg/l	-	-	-	1.6
Orthophosphate	mg/l	-	-	-	<0.06
Sulphate	mg/l	-	-	-	43.77
Mercury	µg/l	-	-	-	<1
Potassium	mg/l	-	-	-	3.9
Sodium	mg/l	-	-	-	7.9
Boron	µg/l	-	-	-	0.026
Cadmium	µg/l	-	-	-	<0.05
Chromium	mg/l	-	-	-	<0.0015
Copper	µg/l	-	-	-	<7
Iron	µg/l	-	-	-	23
Manganese	µg/l	-	-	-	<2
Nickel	µg/l	-	-	-	<2
Lead	µg/l	-	-	-	<5
Zinc	µg/l	-	-	-	16
VOC	µg/l	-	-	-	nd
SVOC	µg/l	-	-	-	nd
Pesticides	µg/l	-	-	-	nd
Total Coliforms	cfu/100ml	-	-	-	461,100
Faecal Coliforms	cfu/100ml	-	-	-	4,200

- Not Required

WASTEWATER SUMMARY TABLES

Wastewater Results 2011 Fassaroe W0053-03: SE-1

Parameter	units	January	February	March	April	May	June	July	August*	September	October	November	December
pH	pH Units	7.35	7.43	7.61	8.27	7.62	7.68	8.04	-	7.89	8.2	7.49	7.69
Temperature	°C	7.6	12	10	11.9	11.9	12.1	13.8	-	11.9	15.1	13.1	9.8
BOD	mg/l	146	48	120	534	208	138	172	-	171	233	164	20
COD	mg/l	NA	95	NA	1,331	NA	NA	NA	-	454	579	NA	NA
Sulphate	mg/l	NA	645.22	NA	113	NA	NA	NA	-	32.08	89.15	NA	NA
TSS	mg/l	NA	45	NA	237	NA	NA	NA	-	174	21	NA	NA
Surfactants	mg/l	NA	0.5	NA	1.7	NA	NA	NA	-	1.4	1	NA	NA
Oils, Fats & Greases	mg/l	NA	<0.01	NA	1.4	NA	NA	NA	-	<0.01	1.94	NA	NA
Mineral Oil	mg/l	NA	1.77	NA	3.6	NA	NA	NA	-	<0.01	2.41	NA	NA

* - It was not possible to collect a sample as there was no flow at the sampling location

LANDFILL GAS SUMMARY TABLES

Landfill Gas Results 2011 Fassaroo W0053-03

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sample Station Number	CH ₄	CH ₄	CH ₄	CH ₄	CH ₄	CH ₄	CH ₄	CH ₄	CH ₄	CH ₄	CH ₄	CH ₄
	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)
GS-01	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GS-05	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GS-07*	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GS-08*	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GS-09*	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GS-10*	#	0.0	0.0	0.0	0.0	1.0	0.8	0.0	0.0	0.0	0.0	1.1
GS-11*	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BH-2	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BH-5	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BH-6	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BH-7	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L-01*	#	0.0	0.0	0.0	2.1	3.6	2.9	1.7	2.1	1.5	1.2	2.6
L-02*	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L-03*	#	0.0	0.0	0.0	0.2	0.9	1.1	0.0	0.0	0.0	0.0	0.8

- Problem with gas meter therefore it was not possible to take measurement

Landfill Gas Results 2011 Fassaroo W0053-03

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sample Station Number	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂	CO ₂
	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)
GS-01	#	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.0
GS-05	#	2.4	0.0	0.7	3.6	4.3	4.1	0.0	0.0	0.0	0.0	2.6
GS-07*	#	3.7	0.6	4.2	3.0	4.2	4.0	5.2	4.6	0.7	0.1	4.1
GS-08*	#	4.6	0.0	0.0	3.4	4.4	3.2	0.0	0.0	0.0	0.0	2.8
GS-09*	#	0.0	0.0	0.0	2.4	3.8	2.8	0.0	0.0	7.5	1.9	3.2
GS-10*	#	2.1	0.0	0.0	10.6	11.0	10.1	12.0	11.2	10.0	9.6	6.6
GS-11*	#	0.6	0.6	7.7	8.0	10.0	9.1	11.8	11.7	1.9	0.0	4.3
BH-2	#	0.0	0.0	0.0	0.2	0.2	0.1	0.3	0.3	0.5	0.2	0.2
BH-5	#	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BH-6	#	0.0	0.0	0.7	1.2	1.4	1.8	0.0	1.6	1.6	1.1	0.1
BH-7	#	0.2	0.0	0.7	0.0	0.0	0.0	0.4	0.2	0.4	0.2	4.1
L-01*	#	0.5	0.0	0.0	9.8	7.7	7.2	2.1	1.7	0.8	0.9	6.4
L-02*	#	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L-03*	#	0.0	0.0	0.0	4.0	9.8	6.7	1.0	1.3	0.0	0.0	10.1

- Problem with gas meter therefore it was not possible to take measurement

Landfill Gas Results 201 Fassaroe W0053-03

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sample Station Number	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂
	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(% v/v)
GS-01	#	21.2	21.2	21.7	21.2	21.4	21.3	21.1	21.2	21.3	20.9	21.2
GS-05	#	17.3	21.2	20.6	18.2	16.5	16.9	21.3	21.4	21.6	21.6	14.8
GS-07*	#	15.6	20.7	15.5	18.0	16.2	15.9	15.0	16.9	20.7	21.3	16.8
GS-08*	#	15.2	21.1	21.1	17.7	16.7	16.9	21.2	21.3	21.3	21.6	14.2
GS-09*	#	20.3	20.3	21.1	16.2	13.9	14.2	21.1	21.1	8.2	20.0	16.8
GS-10*	#	16.5	20.9	21.1	3.4	3.3	3.7	7.4	7.3	7.6	8.1	4.2
GS-11*	#	20.4	20.4	9.1	9.2	6.2	6.6	8.3	8.1	20.1	21.2	16.2
BH-2	#	20.8	21.4	21.7	21.0	21.1	21.0	20.5	20.9	20.4	2.0	20.6
BH-5	#	21.3	21.3	21.7	21.1	21.5	21.2	21.4	21.3	21.7	21.2	21.1
BH-6	#	20.6	20.6	19.6	18.5	18.6	17.1	21.3	17.8	18.3	20.1	21.0
BH-7	#	20.8	21.3	19.9	21.2	21.3	21.1	20.5	20.6	20.8	20.8	16.8
L-01*	#	19.0	20.5	21.5	0.7	0.7	1.9	14.8	15.9	14.3	15.1	2.5
L-02*	#	20.0	20.7	21.1	21.3	21.3	21.2	21.3	21.0	21.1	21.7	21.2
L-03*	#	21.4	21.4	21.6	16.1	2.5	4.2	19.5	18.2	21.2	21.4	3.4

- Problem with gas meter therefore it was not possible to take measurement

Landfill Gas Results 2011 Fassaroe W0053-03

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sample Station Number	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)	Barometric Pressure (mb)
GS-01	#	993	1034	1011	999	1001	999	1002	1008	1021	999	1000
GS-05	#	993	1034	1011	999	1001	999	1002	1008	1021	999	1000
GS-07*	#	993	1034	1009	999	1001	999	1002	1008	1021	999	1000
GS-08*	#	993	1034	1009	999	1001	999	1002	1008	1021	999	1000
GS-09*	#	993	1034	1009	999	1001	999	1002	1008	1021	999	1000
GS-10*	#	993	1034	1009	999	1001	999	1002	1008	1021	999	1000
GS-11*	#	993	1034	1011	999	1001	999	1002	1008	1021	999	1000
BH-2	#	993	1034	1011	999	1001	999	1002	1008	1021	999	1000
BH-5	#	993	1034	1011	999	1001	999	1002	1008	1021	999	1000
BH-6	#	993	1034	1009	999	1001	999	1002	1008	1021	999	1000
BH-7	#	993	1034	1011	999	1001	999	1002	1008	1021	999	1000
L-01*	#	993	1034	1011	999	1001	999	1002	1008	1021	999	1000
L-02*	#	993	1034	1009	999	1001	999	1002	1008	1021	999	1000
L-03*	#	993	1034	1011	999	1001	999	1002	1008	1021	999	1000

- Problem with gas meter therefore it was not possible to take measurement

DUST SUMMARY TABLES

Dust Results 2010 Fassaroe W0053-03

	Jan	Feb	Mar-Apr	Apr-May	May-Jun	Jun- Jul	Jul-Aug	Aug-Sept	Sept -Oct	Oct – Nov	Nov - Dec	Dec - Jan
DS-01	93.03	*	137.8	94.2	199	134.7	52.5	30.5	50.5	17.7	62.7	51.6
DS-02	62.96	210.22	147.5	91.5	261.1	100.5	79.8	57.6	101	26.6	42.3	73.7
DS-03	109.48	294.09	236.5	197	115.9	198.5	139.9	240.6	138.9	30.5	83.6	22.2
DS-04	12.48	152.03	44.2	78.7	163.5	113.1	49.8	25.5	47.1	52.7	158.1	327.1

* - Dust gauge damaged during monitoring period

** - Dust gauge contaminated with bird excrement

NOISE SUMMARY TABLES

Noise Results 2011 Fassaroo W0053-03 Q1

Location	Time	Measured Noise Levels (dB re. 2x10 ⁻⁵ Pa)				Comments
		L _{Aeq}	L _{A10}	L _{A90}	Specific level*	
N1	12.26-12.56	57	59	50	57	Intermittent truck movements through entrance and weighbridge dominant when present. Truck audible at low level idling near weighbridge until 12.55. Generator emissions audible at low level in background. N11 traffic slightly audible in background. Intermittent traffic through roundabout significant. Bird song/calls. Aircraft. Lawnmower operating at 50 m audible until 12.34.
N2	11.47-12.17	58	58	51	58	Intermittent truck movements through entrance and weighbridge, and occasional car movements through carpark, dominant when present. Generator emissions audible at low level in background. N11 traffic slightly audible in background. Bird song/calls. Aircraft.
N3	10.39-11.09	48	50	44	<44	Continuous emissions from Greenstar wood shredder slightly audible. N11 traffic continuously audible at low level. Bird song/calls significant in valley. Watercourse in valley faintly audible. Aircraft.
N4	11.12-11.42	43	45	41	<41	Greenstar wood shredder faintly audible. No other site emissions audible. Noise environment dominated by valley bird song/calls and watercourse. Aircraft.
NSL1	10.04-10.34	48	50	45	45	Site emissions audible from 2 sources: vehicles through entrance and weighbridge area, particularly trucks, and continuous generator with tone at 80 Hz, not of audible significance. N11 traffic continuously audible and dominant in background. Intermittent traffic on Thornhill road also significant when present. Bird song/calls & aircraft.
NSL2	09.00-10.00	52	52	57	<38	No site emissions audible. N11 traffic continuously audible and dominant. Intermittent local traffic dominant when present. Bird song/calls significant, particularly crows in valley. Watercourse in valley floor also slightly audible. Aircraft.

* Specific level: Sound pressure level contribution considered attributable to facility, determined from field notes, time history profiles, statistical analysis, frequency spectra and other parameters.

Noise Results 2011 Fassaro W0053-03 Q2

Location	Time	Measured Noise Levels (dB re. 2x10 ⁻⁵ Pa)				Comments
		L _{Aeq}	L _{A10}	L _{A90}	Specific level*	
N1	0901-0931	57	58	48	57	Vehicles using Greenstar facility entrance dominant when present. Otherwise, facility emissions (chiefly genset and fans) continuously audible at low level in background. Extraneous noise audible from bird song/calls, traffic through roundabout outside entrance, aircraft, rustling vegetation, and agricultural machinery in nearby field.
N2	1120-1150	56	58	51	56	Vehicle movements through entrance and weighbridge area dominant when present. During lulls in movements, continuous emissions from genset, and intermittent noise from glass bottle management and plant movement, audible at low level. Rustling vegetation, aircraft and bird song/calls audible.
N3	1044-1114	47	49	43	43	Wood shredder emissions continuously audible at low level. Vehicle/plant movement around yard areas also audible at low level occasionally. Extraneous emissions from bird song/calls, rustling vegetation and aircraft.
N4	1008-1038	44	47	39	<39	Wood shredder emissions faintly audible. No other emissions audible apart from rustling vegetation, bird song/calls and watercourse flow in valley.
NSL1	0933-1003	52	55	48	<48	Vehicles through Greenstar entrance audible intermittently. Continuous Greenstar emissions and occasional plant movements on external yard slightly audible during lulls in other sources. Extraneous sources dominant: Thornhill Road and roundabout traffic, bird song/calls, rustling vegetation and aircraft. N11 traffic slightly audible.
NSL2	0826-0856	61	66	47	<40	During local traffic lulls, emissions occasionally slightly audible from Greenstar facility, chiefly plant/truck movements. Frequent passing traffic on Thornhill Road dominant and intrusive. Bird song/calls, aircraft and rustling vegetation contributing. N11 traffic slightly audible.

* Specific level: Sound pressure level contribution considered attributable to facility, determined from field notes, time history profiles, statistical analysis, frequency spectra and other parameters.

Noise Results 2011 Fassaro W0053-03 Q3

Location	Time	Measured Noise Levels (dB re. 2x10 ⁻⁵ Pa)				Comments
		L _{Aeq}	L _{A10}	L _{A90}	Specific level*	
N1	0837-0907	59	60	49	55-58	Greenstar generator set continuously audible at low level. Other site emissions almost continuously present at low level, incl facade fans, waste processing activities, plant and truck movements. Last dominant when passing through entrance and weighbridge. Intermittent road traffic on roundabout outside entrance dominant when present. N11 traffic continuously clearly audible in background, and significant. Bird song/calls and aircraft.
N2	0943-1013	55	56	50	55	Continuous emissions from genset and facade fans audible at low level. Plant movements on yard areas also audible, although decreasing from 0950. Infrequent passing cars to carpark. Sporadic truck movements through weighbridge area dominant when present, and occasionally idling for several minutes. During absence of weighbridge traffic, N11 traffic continuously clearly audible to NE, and dominant in mid frequency bands. Road traffic on roundabout outside site entrance slightly audible. Bird song/calls and aircraft.
N3	1144-1214	48	49	46	46	N11 traffic to NE continuously dominant. Site emissions slightly audible in background, chiefly occasional truck movements through nearest part of site, truck movements through entrance, and car movements in carpark. Bird song/calls and aircraft.
N4	1112-1142	43	45	40	<40	No facility emissions audible. N11 traffic to NE continuously clearly audible, and dominating noise environment. Bird song/calls and lightly rustling vegetation audible within valley. Aircraft.
NSL1	0909-0939	49	51	47	40-45	Local traffic movements on Thornhill Road and roundabout outside site entrance dominant when present. Otherwise, N11 traffic to NE continuously clearly audible, and dominating mid frequencies. Continuous emissions from Greenstar genset and facade fans audible at low level in background. Sporadic truck movements through entrance and weighbridge area significant when present. Bird song/calls and aircraft.
NSL2	1219-1249	64	56	51	<42	N11 traffic to N and NE continuously dominant. No Greenstar emissions audible. Occasional Thornhill Road traffic dominant when present. Bird song/calls and aircraft.

* Specific level: Sound pressure level contribution considered attributable to facility, determined from field notes, time history profiles, statistical analysis, frequency spectra and other parameters.

Noise Results 2011 Fassaroe W0053-03 Q4

Location	Time	Measured Noise Levels (dB re. 2x10 ⁻⁵)				Comments
		L _{Aeq}	L _{A10}	L _{A90}	Specific level*	
N1	0923-0953	57	58	51	55-56	Intermittent vehicle movements through entrance and weighbridge area dominant when present, including trucks idling on weighbridge. Mobile plant and truck manoeuvres within site also audible at low level. N11 traffic continuously audible, and dominant outside of truck movements through Greenstar entrance. Intermittent traffic movements audible through roundabout outside entrance. Bird song/calls and aircraft.
N2	0904-0934	57	59	52	55-56	Intermittent truck movements through Greenstar entrance and weighbridge area dominant when present, particularly trucks idling on weighbridge. Sporadic car movements adjacent to N2, accessing carpark, dominant when present. Noise emissions audible at low level from within site, including genset, mobile plant and facade fans. N11 traffic continuously audible in background, and significant. Bird song/calls and aircraft.
N3	0946-1016	50	51	48	<48	Emissions from several onsite sources audible at low level, chiefly wood shredder operating continuously, but also grab near NW corner, facade fans, trucks around site, skip manipulation and mobile plant. However, all sources combined less significant than N11 traffic, continuously audible to SE. Bird song/calls and aircraft.
N4	1003-1033	41	43	40	<40	No emissions audible from Greenstar facility, apart from faintly audible wood shredder above embankment. Bird song/calls and watercourse flow in valley floor significant. N11 traffic continuously dominant to E. Aircraft.
NSL1	0850-0920	55	58	53	50	N11 road traffic continuously dominant along corridor. No emissions audible from Greenstar site over traffic apart from intermittent truck movements through entrance and weighbridge area. Intermittent traffic on Thornhill Road dominant when present. Birdsong locally significant.
NSL2	1047-1117	57	52	46	<46	No Greenstar emissions audible. N11 traffic continuously dominant to NE. Sporadic traffic on Thornhill Road dominant when present. Voices audible at nearby house significant 1049-1109, followed until end of interval by domestic construction noise, incl. hammering and drilling. Bird song/calls and aircraft.

* Specific level: Sound pressure level contribution considered attributable to facility, determined from field notes, time history profiles, statistical analysis, frequency spectra and other parameters.

LEACHATE LEVELS

Leachate Level Results 2011 Fassaroe W0053-03

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
L-01	19	18.95	18.79	18.64	18.64	18.64	18.64	18.64	18.64	18.63	6.93	18.21
L-02	6.95	6.95	6.93	6.93	6.92	6.93	6.93	6.92	6.93	18.65	6.92	18.2
L-03	18.55	18.48	18.42	18.2	18.19	18.2	18.2	18.2	18.2	18.63	6.93	18.21

Well Blocked

APPENDIX 2

Procedures Index



Doc. No.: Control	Revision No.: As Shown	Issue Date: As Shown
Approved By:	Malcolm Dowling – <i>Group Environmental Manager</i> Oliver Callan – <i>Group H&S Manager</i>	Page 1 of 4

Integrated Procedures - IP

IP-01	Document & Record Control Procedure	Rev 01, 05/07/10
IP-02	Health & Safety Risk Assessment Procedure	Rev 01, 05/07/10
IP-03	Environmental Aspects & Impacts Procedure	Rev 01, 05/07/10
IP-04	Legal & Regulatory Requirements Procedure	Rev 02, 05/11/10
IP-05	Objectives, Targets & Management Programmes Procedure	Rev 01, 05/07/10
IP-06	Competence, Training & Awareness Procedure	Rev 01, 05/07/10
IP-07	Communication & Consultation Procedure	Rev 01, 05/07/10
IP-08	Monitoring, Measurement & Improvement Procedure	Rev 01, 05/07/10
IP-09	Evaluation of Compliance Procedure	Rev 02, 15/09/11
IP-10	Non Conformances, Corrective/Preventive Actions Procedure	Rev 03, 01/02/11
IP-11	Internal Audit Procedure	Rev 02, 07/06/11
IP-12	Management Review Procedure	Rev 01, 05/07/10
IP-13	Control of Contractors/Visitors Procedure	Rev 02, 29/10/10
IP-14	Health & Safety & Environmental Monitoring	Rev 02, 29/10/10
IP-15	Emergency Preparedness & Response Procedure	Rev 02, 01/02/11

Safety Procedures - SP

SP-01	Permit to Work Procedure	Rev 01, 05/07/10
SP-02	Maintenance & Calibration Procedure	Rev 03, 04/04/11
SP-03	Mobile Plant Procedure	Rev 01, 05/07/10
SP-04	Fork Truck Procedure	Rev 01, 05/07/10
SP-05	Operation of Fixed Plant Procedure	Rev 01, 05/07/10
SP-06	Lock Out / Tag Out Procedure	Rev 01, 05/07/10
SP-07	Health & Safety Notification Procedure	Rev 01, 05/07/10
SP-08	Motor Claim Notification Procedure	Rev 01, 01/02/11
SP-09	MSW Shredder routine Maintenance & Clearing of Blockages Procedure (SCGT)	Rev 01, 01/12/11
SP-10	Weighbridge & Tipping Procedure (SCGT)	Rev 01, 01/12/11



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Environmental Procedures - EP		
EP-01	Office Waste & Energy Management Procedure	Rev 01, 05/07/10
EP-02	Decommissioning and Aftercare Procedure	Rev 02, 14/09/11
EP-03	Environment Communications Procedure	Rev 02, 13/09/10
EP-04	Waste Permits & Licences Procedure	Rev 01, 05/07/10
EP-05	Waste Acceptance Procedure	Rev 01, 05/07/10
EP-06	Unacceptable Waste Procedure	Rev 01, 05/07/10
EP-07	Waste & Material Storage Procedure	Rev 01, 05/07/10
EP-08	Waste Processing Procedure	Rev 01, 05/07/10
EP-09	Site Infrastructure Procedure	Rev 01, 05/07/10
EP-10	Nuisance Management Procedure (Site Specific)	(Site Specific)
EP-11	Civic Amenity Site Procedure	Rev 01, 05/07/10



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Amendment History

Date	Amendment No.	Procedure No:	Revision No:	Comment	Authorised By
05.07.10	01	All	01	Initial Issue	M.D & O.C
13.09.10	02	EP-03	02	Issue of Incident Reports	M.D
20.09.10	03	IP-10	02	Env issues not logged on WIMS Database	M.D
29.10.10	04	IP-13	02	Use of M&M equipment by contractors	M.D & O.C
29.10.10	05	IP-14	02	Use of M&M equipment by contractors	M.D & O.C
29.10.10	06	SP-02	02	Inclusion of Maintenance Schedule	M.D & O.C
05.11.10	07	IP-04	02	Inclusion of other requirements	S.B & O.C
01.02.11	08	SP-08	01	Inclusion of new procedure	O.C
01.02.11	09	IP-10	03	Inclusion of SP-08	O.C
01.02.11	10	IP-15	02	Removal of SF-022	O.C
01.02.11	11	Contents	As shown	EP-10 Site Specific	M.D & O.C
01.02.11	12	Circ List	02	Amendment to document control	M.D & O.C
04.04.11	13	SP-02	03	Inclusion of Site Specific Maintenance schedules	O.C
07.06.11	14	IP-11	02	Inclusion of H&S & Env Internal Audit Schedules	M.D & O.C
14/09/11	15	EP-02	02	Inclusion of decommissioning of plant/equipment	S.B
15/09/11	16	IP-09	02	Inclusion of Statutory Inspections	O.C
01/12/11	17	SP-09	01	Inclusion of new procedure for SCGT	O.C
01/12/11	18	SP-10	01	Inclusion of new procedure for SCGT	O.C

APPENDIX 3

European Pollutant Release and Transfer Register



Environmental Protection Agency

| PRTR# : W0053 | Facility Name : Greenstar Limited | Filename : W0053_2011.xls
| Return Year : 2011 |

[Guidance to completing the PRTR workbook](#)

AER Returns Workbook

Version 1.1.13

REFERENCE YEAR	2011
-----------------------	------

1. FACILITY IDENTIFICATION

Parent Company Name	Greenstar Limited
Facility Name	Greenstar Limited
PRTR Identification Number	W0053
Licence Number	W0053-03

Waste or IPPC Classes of Activity

No.	class name
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.11	Blending or mixture 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.
4.11	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
4.12	Exchange of waste for 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	Bray Depot
Address 2	La Vallee House
Address 3	Fassaroe
Address 4	Bray, Co. Wicklow
	Wicklow
Country	Ireland
Coordinates of Location	-6.14136 53.1998
River Basin District	IEEA
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Suzanne Byrne
AER Returns Contact Email Address	suzanne.byrne@greenstar.ie
AER Returns Contact Position	Environmental Engineer
AER Returns Contact Telephone Number	01-2947949
AER Returns Contact Mobile Phone Number	0860433983
AER Returns Contact Fax Number	01-2947900
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
5(c)	Installations for the disposal of non-hazardous waste
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 ?	

4.1 RELEASES TO AIR

[Link to previous years emissions data](#)

| PRTR# : W0053 | Facility Name : Greenstar Limited | Filename : W0053_2011.xls | Return Year : 2011 |

26/03/2012 12:33

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

POLLUTANT		RELEASERS TO AIR			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	METHOD		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
						0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

POLLUTANT		RELEASERS TO AIR			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	METHOD		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
						0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

POLLUTANT		RELEASERS TO AIR			Please enter all quantities in this section in KGs			
Pollutant No.	Name	M/C/E	METHOD		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
						0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill:

Greenstar Limited

Please enter summary data on the quantities of methane flared and / or utilised

T (Total) kg/Year	M/C/E	Method Used		Facility Total Capacity m3 per hour
		Method Code	Designation or Description	
Total estimated methane generation (as per site model)	0.0			N/A
Methane flared	0.0			0.0 (Total Flaring Capacity)
Methane utilised in engine/s	0.0			0.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0			N/A

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

| PRTR# : W0053 | Facility Name : Greenstar Limited | Filename : W0053_2011.xls | Return Year : 2011 |

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as t

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT		M/C/E	Method Used		QUANTITY			
No. Annex II	Name		Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT		M/C/E	Method Used		QUANTITY			
No. Annex II	Name		Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT		M/C/E	Method Used		QUANTITY			
Pollutant No.	Name		Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

[Link to previous years emissions data](#)

| PRTR# : W0053 | Facility Name : Greenstar Limited | Filename : W0053_2011.xls | Return Year : 201

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SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Method Used Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs				
POLLUTANT		METHOD			QUANTITY				
Pollutant No.	Name	M/C/E	Method Code	Method Used Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
303	BOD	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited		143.6	143.6	0.0	0.0
306	COD	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited		467.2	467.2	0.0	0.0
343	Sulphate	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited		177.7	177.7	0.0	0.0
240	Suspended Solids	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited		96.44	96.44	0.0	0.0
308	Detergents (as MBAS)	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited		0.93	0.93	0.0	0.0
314	Fats, Oils and Greases	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited		1.35	1.35	0.0	0.0
324	Mineral oils	C	PER	Calculated based on annual flow rate. Analysis is ISO accredited		20.9	20.9	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

[Link to previous years emissions data](#)

| PRTR# : W0053 | Facility Name : Greenstar Limited | Filename : W0053_2011.xls | Return Year : 2011 |

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SECTION A : PRTR POLLUTANTS

POLLUTANT		RELEASES TO LAND			Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

POLLUTANT		RELEASES TO LAND			Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRT# : W0053 | Facility Name : Greenstar Limited | Filename : W0053_2011.xls | Return Year : 2011 |

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Please enter all quantities on this sheet in Tonnes

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Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste: Name and Licence/Permit No of Next Destination Facility		Name and Licence / Permit No. and Address of Final Recowerer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used		Haz Waste: Name and Licence/Permit No of Recover/Disposer	Non Haz Waste: Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer		
To Other Countries	15 01 01	No	7922.0	paper and cardboard packaging	R3	M	Weighed	Abroad	Cellmark USA,IRE/G180/11	200 Tamal Plaza, California.,95245,United States	Rosemount Business Park,Ballycoolin	
Within the Country	15 01 01	No	71.0	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Bailey Waste Recycling,WFP-FG-08-0002-01	Road,Blanchardstown ,Dublin 16 ,Ireland		
To Other Countries	15 01 01	No	2314.0	paper and cardboard packaging	R3	M	Weighed	Abroad	Peute Papier Recycling BV,IRE/G006/08	Veeplaat 40,3313 LJ Dordrecht,.,.,.Netherlands		
To Other Countries	15 01 01	No	803.0	paper and cardboard packaging	R3	M	Weighed	Abroad	Parry & Evans,TFS Broker IRE/G011/11	Desside,.,.,.,.United Kingdom		
Within the Country	15 01 01	No	327.0	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Irish Packaging Limited,TFS Broker IRE/AG113/11	.,.,.,.,.Ireland		
Within the Country	15 01 01	No	1690.0	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Marwin Environmental,926 MLM (ACN Europe) Ltd ,TFS Broker IRE/G022/11	7 Glyntown Heights ,Glanmire,Co. Cork,.,.Ireland		
To Other Countries	15 01 01	No	640.0	paper and cardboard packaging	R3	M	Weighed	Abroad	International Recycling Ltd.,IRE/G050/08	Agnsil ,TFS Broker	.,.,.,.,.United Kingdom	
To Other Countries	15 01 01	No	232.0	paper and cardboard packaging	R3	M	Weighed	Abroad	Agnsil ,TFS Broker IRE/AG117/11	.,.,.,.,.Ireland		
Within the Country	15 01 01	No	50.0	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Shabra Recycling,WFP-MN-08-0022-01	Estate,Castleblayney,Co. Monaghan,.,.Ireland		
To Other Countries	15 01 02	No	552.0	plastic packaging	R3	M	Weighed	Abroad	J & A Young ,TFS Broker IRE/G058/11	.,.,.,.,.United Kingdom		
To Other Countries	15 01 02	No	407.0	plastic packaging	R3	M	Weighed	Abroad	Cherry Pipes,IRE/G037/08	Unit 5 Nutts Corner Business Park,Dundrod Road,Crumlin,Co. Antrim BT29 4SR,United Kingdom		
To Other Countries	15 01 02	No	315.0	plastic packaging	R3	M	Weighed	Abroad	Alternative Waste Solutions,IRE/G009/08	Peute Papier Recycling BV,IRE/G006/08	Kingdom Veeplaat 40,3313 LJ Dordrecht,.,.,.Netherlands	
To Other Countries	15 01 02	No	513.0	plastic packaging	R3	M	Weighed	Abroad	Leinster Environmentals,WP 2008/06	Park,Haggardstown,Dundak, Co. Louth,Ireland		
To Other Countries	15 01 02	No	87.0	plastic packaging	R3	M	Weighed	Abroad	Cellmark USA,IRE/G180/11	200 Tamal Plaza,California.,95245,United States		
To Other Countries	15 01 02	No	798.0	plastic packaging	R3	M	Weighed	Abroad	C Green Plastics,IRE/AG075/08	The Murrugh,Co. Wicklow,.,.,.Ireland		
Within the Country	15 01 02	No	15.0	plastic packaging	R3	M	Weighed	Offsite in Ireland	Denmark House,Brick Close Kiln Farm,Milton Keynes Buckinghamshire,MK11 3DP,United Kingdom			
To Other Countries	15 01 02	No	208.0	plastic packaging	R3	M	Weighed	Abroad	Boost Recycling Ltd.,IRE/G082/11	47 Swaffham Road,Surwell,Cambridge,CB 25 0AN,United Kingdom		
To Other Countries	15 01 02	No	536.0	plastic packaging	R3	M	Weighed	Abroad	Bailey Waste Recycling,WFP-FG-08-0002-01	Road,Blanchardstown ,Dublin 16 ,Ireland		
Within the Country	15 01 02	No	140.0	plastic packaging	R3	M	Weighed	Offsite in Ireland	Rehab Enterprises Ltd ,WFP-DS-10-0008-03	Broomhill Rd , Tallaght ,Dublin 24,Dublin 24,Ireland		
Within the Country	15 01 02	No	12.0	plastic packaging	R3	M	Weighed	Offsite in Ireland	Max Pallet Services,Not Required	Colemanstown,Rathcoole,Co. Dublin,.,.Ireland		
Within the Country	15 01 03	No	15.0	wooden packaging	R3	M	Weighed	Offsite in Ireland				
Within the Country	15 01 04	No	51.0	metallic packaging	R4	M	Weighed	Offsite in Ireland	Marwin Environmental,926 Killarney Waste Disposal,W217-01	.,.,.Glyntown Heights ,Glanmire,Co. Cork,.,.Ireland		
Within the Country	15 01 06	No	588.0	mixed packaging	R3	M	Weighed	Offsite in Ireland				

Within the Country	15 01 06	No	12.0 mixed packaging	R3	M	Weighed	Offsite in Ireland	Greenstar Limited,W0183-01	Millennium Business Park,Grange,Ballycoolin,Dublin 11,Ireland
Within the Country	15 01 06	No	335.0 mixed packaging	R3	M	Weighed	Offsite in Ireland	WERS,WFP-G-09-0002-01	Galway,Ireland
Within the Country	15 01 06	No	117.0 mixed packaging	R3	M	Weighed	Offsite in Ireland	Clearpoint Ltd (Mr Binman),WP-TS-08-0079-01	Carrick on Suir,Tipperary,,Ireland
Within the Country	15 01 06	No	218.0 mixed packaging	R3	M	Weighed	Offsite in Ireland	Barna Waste ,W0106-02	Carrowbrowne , Headford Rd ,Galway,,Ireland
To Other Countries	15 01 07	No	3191.0 glass packaging	R3	M	Weighed	Abroad	Glassdon,LN/08/103	52 Creagh Road,Toomebridge,Co. Antrim,BT41 3SE,United Kingdom
Within the Country	15 01 07	No	242.0 glass packaging	R3	M	Weighed	Offsite in Ireland	Rehab Glasco,WFP-KE-08-0957-01	Nass,Kildare,,Ireland
Within the Country	16 05 04	Yes	gases in pressure containers (including halons) containing dangerous substances mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	R4	M	Weighed	Offsite in Ireland	Enva Ltd.,W0184-01,Clonminam Industrial Estate,Portlaoise,Co. Laois,,Ireland	Clonminam Industrial Estate,Portlaoise,Co. Laois,,Ireland
Within the Country	17 09 04	No	99.0	R3	M	Weighed	Offsite in Ireland	KTk Landfill,W0081-02	Harbour Trading,(Licence N/A),Bray,Wicklow,,Ireland
Within the Country	17 05 04	No	soil and stones other than those mentioned in 17 05 03	R3	M	Weighed	Offsite in Ireland	Greenstar Holdings Ltd.,W0165-02	Kilcullen,Co. Kildare,,Ireland
Within the Country	17 05 04	No	soil and stones other than those mentioned in 17 05 03	R3	M	Weighed	Offsite in Ireland	KTk Landfill,W0081-02	Ballynagran,Coolbeg & Kicandra,Co. Wicklow,,Ireland
Within the Country	17 05 04	No	soil and stones other than those mentioned in 17 05 03	R3	M	Weighed	Offsite in Ireland	Marrakesh Landfill,W0048-01	Kilcullen,Co. Kildare,,Ireland
Within the Country	19 12 07	No	42.0 wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Greenstar Limited,W0183-01	Kimuray South ,Bray ,Co Wicklow ,,Ireland
Within the Country	19 12 07	No	4401.0 wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Greenstar Holdings Ltd.,W0165-02	Millennium Business Park,Grange,Ballycoolin,Dublin 11,Ireland
Within the Country	19 12 07	No	419.0 wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Greenstar Holdings Ltd ,W0178-01	Ballynagran,Coolbeg & Kicandra,Co. Wicklow,,Ireland
Within the Country	19 12 07	No	240.0 wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	KTk Landfill,W0081-02	Connaught Regional Landfill ,Ballinasloe ,Co. Galway,,Ireland
Within the Country	19 12 07	No	70.0 wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Acorn Recycling ,W0249-01	Kilcullen,Co. Kildare,,Ireland
Within the Country	19 12 07	No	2475.0 wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	Ormonde Organics,W0237-01	Littleton ,Co Tipperary ,,Ireland
Within the Country	19 12 09	No	9721.0 minerals (for example sand, stones)	R3	M	Weighed	Offsite in Ireland	Greenstar Holdings Ltd.,W0165-02	Unit 643 Greenogue Industrial Estate,Rathcoole,Co. Dublin,,Ireland
Within the Country	19 12 09	No	2702.0 minerals (for example sand, stones)	R3	M	Weighed	Offsite in Ireland	KTk Landfill,W0081-02	Ballynagran,Coolbeg & Kicandra,Co. Wicklow,,Ireland
Within the Country	19 12 09	No	10648.0 minerals (for example sand, stones)	R3	M	Weighed	Offsite in Ireland	Greenstar Holdings Ltd.,W0165-02	Kilcullen,Co. Kildare,,Ireland
Within the Country	19 12 12	No	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R5	M	Weighed	Offsite in Ireland	Greenstar Limited,W0183-01	Ballynagran,Coolbeg & Kicandra,Co. Wicklow,,Ireland
Within the Country	19 12 12	No	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D5	M	Weighed	Offsite in Ireland	Greenstar Holdings Ltd.,W0165-02	Millennium Business Park,Grange,Ballycoolin,Dublin 11,Ireland
Within the Country	19 12 12	No	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D5	M	Weighed	Offsite in Ireland	KTk Landfill,W0081-02	Ballynagran,Coolbeg & Kicandra,Co. Wicklow,,Ireland
Within the Country	19 12 12	No	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D5	M	Weighed	Offsite in Ireland	Thorntons Waste Disposal ,W0195-01	Kilcullen,Co. Kildare,,Ireland
Within the Country	19 12 12	No	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R3	M	Weighed	Offsite in Ireland	Greyhound Recycling & Recovery Limited,W0205-01	Kimainhamwood ,Kells ,Co Meath,,Ireland
Within the Country	19 12 12	No	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D5	M	Weighed	Offsite in Ireland	Greenstar Holdings Ltd.,W0165-02	Crag Avenue,Clondakin Industrial Estate,Clondakin ,Dublin 22,Ireland
Within the Country	19 12 12	No	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D5	M	Weighed	Offsite in Ireland	KTk Landfill,W0081-02	Ballynagran,Coolbeg & Kicandra,Co. Wicklow,,Ireland

Within the Country	19 12 12	No	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D5	M	Weighted	Offsite in Ireland	Indaver IWMF ,W0167-02	Carlanstown , Duleek , Co Meath ,Ireland Rosemount Business Park,Ballycoolin Road,Blanchardstown ,Dublin 16 ,Ireland			
Within the Country	20 01 01	No	52.0 paper and cardboard	R3	M	Weighted	Offsite in Ireland	Bailey Waste Recycling,WFP-FG-08-0002-01				
To Other Countries	20 01 01	No	5793.0 paper and cardboard	R3	M	Weighted	Abroad	Peute Papier Recycling BV,IRE/G006/08	Veeplaat 40,3313 LJ Dordrecht,,Netherlands			
To Other Countries	20 01 01	No	1642.0 paper and cardboard	R3	M	Weighted	Abroad	Marwin Environmental,926	7 Glyntown Heights ,Glanmire,Co. Cork,,Ireland			
To Other Countries	20 01 01	No	10625.0 paper and cardboard	R3	M	Weighted	Abroad	Cellmark USA,IRE/G180/11 Waddocks	Plaza,California,,95245,United States			
Within the Country	20 01 08	No	202.0 biodegradable kitchen and canteen waste	R3	M	Weighted	Offsite in Ireland	Composting,W0111/04 & W01/02	Kilamaster,Co. Carlow,,Ireland			
Within the Country	20 01 08	No	150.0 biodegradable kitchen and canteen waste	R3	M	Weighted	Offsite in Ireland	Thorntons Waste Disposal ,W0195-01	Kimainhamwood ,Kells ,Co Meath,,Ireland			
Within the Country	20 01 08	No	10.0 biodegradable kitchen and canteen waste	R3	M	Weighted	Offsite in Ireland	O'Toole Composting ,WFP-CW-10-0003-01	Ballinrane ,Fenagh ,Co Carlow ,Ireland			
Within the Country	20 01 08	No	22.0 biodegradable kitchen and canteen waste	R3	M	Weighted	Offsite in Ireland	Acorn Recycling ,W0249-01	Littleton ,Co Tipperary ,Ireland			
Within the Country	20 01 23	Yes	discarded equipment containing 4.0 chlorofluorocarbons	R4	M	Weighted	Offsite in Ireland	KMK Metals,W0113-03,Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	KMK Metals,W0113-03,Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	
Within the Country	20 01 35	Yes	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous 18.0 components	R4	M	Weighted	Offsite in Ireland	WEEE Recycling (KMK Metals),W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	WEEE Recycling (KMK Metals),W0113-03,Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	
Within the Country	20 01 35	Yes	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous 3.0 components	R4	M	Weighted	Offsite in Ireland	KMK Metals,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	WEEE Recycling (KMK Metals),W0113-03,Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	
Within the Country	20 01 35	Yes	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous 4.0 components	R4	M	Weighted	Offsite in Ireland	NWP Recycling ,NWP Recycling	Portadown ,Co Armagh ,United Kingdom	NWP Recycling ,NWP Recycling ,Portadown ,Co Armagh ,United Kingdom	Portadown ,Co Armagh ,United Kingdom	
Within the Country	20 01 38	No	18.0 wood other than that mentioned in 20 01 37	R3	M	Weighted	Offsite in Ireland	Eirebloc ,CK(S)503/07	Lissarda , Co Cork ,Ireland			
Within the Country	20 01 38	No	56.0 wood other than that mentioned in 20 01 37	R3	M	Weighted	Offsite in Ireland	Greenstar Holdings Ltd.,W0165-02	Ballynagran,Coolbeg & Kicandra,Co. Wicklow,,Ireland			
Within the Country	20 01 38	No	64.0 wood other than that mentioned in 20 01 37	R3	M	Weighted	Offsite in Ireland	KTK Landfill,W0081-02	Kicullen,Co. Kildare,,Ireland			
Within the Country	20 01 39	No	15.0 plastics	R3	M	Weighted	Offsite in Ireland	C Green Plastics,IRE/AG075/08	The Murrough,Co. Wicklow,,Ireland			
Within the Country	20 01 40	No	294.0 metals	R4	M	Weighted	Offsite in Ireland	Multi Metals ,WFP-WW-09-0014-01	Blessington ,Co Wicklow ,Ireland			
Within the Country	20 01 40	No	1836.0 metals	R4	M	Weighted	Offsite in Ireland	Davis Recycling Ltd,W0134-01	10 The Anchorage Business Park,Charlotte Quay,Dublin 4,,Ireland			
Within the Country	20 02 01	No	1389.0 biodegradable waste	R3	M	Weighted	Offsite in Ireland	Enrich Environmental,WMP 2004/57	Kilcock Co. Kildare,,Ireland			
Within the Country	20 03 03	No	110.0 street-cleaning residues	D5	M	Weighted	Offsite in Ireland	Greenstar Holdings Ltd.,W0165-02	Ballynagran,Coolbeg & Kicandra,Co. Wicklow,,Ireland			
Within the Country	20 03 07	No	15.0 bulky waste	R3	M	Weighted	Offsite in Ireland	Greenstar Limited,W0183-01	Millennium Business Park,Grange,Ballycoolin,Dublin 11,Ireland			
Within the Country	20 03 07	No	80.0 bulky waste	D5	M	Weighted	Offsite in Ireland	Greenstar Holdings Ltd.,W0165-02	Ballynagran,Coolbeg & Kicandra,Co. Wicklow,,Ireland			
Within the Country	20 03 07	No	36.0 bulky waste	D5	M	Weighted	Offsite in Ireland	KTK Landfill,W0081-02	Kicullen,Co. Kildare,,Ireland			
Within the Country	20 03 07	No	671.0 bulky waste	D5	M	Weighted	Offsite in Ireland	Thorntons Waste Disposal ,W0195-01	Kimainhamwood ,Kells ,Co Meath,,Ireland			
Within the Country	13 02 08	Yes	3.0 other engine, gear and lubricating oils	R9	M	Weighted	Offsite in Ireland	Enva Ltd.,W0184-01	Clonminam Industrial Estate,Portlaoise,Co. Laois,,Ireland	Enva Ltd.,W0184-01,Clonminam Industrial Estate,Portlaoise,Co. Laois,,Ireland	Clonminam Industrial Estate,Portlaoise,Co. Laois,,Ireland	