



Ms. Siobhain McDonnell,  
Office of Environmental Enforcement,  
South/South West Region,  
Environmental Protection Agency,  
Curraleigh,  
Inniscarra,  
Co. Cork

31<sup>st</sup> March 2010

RE: 2009 Annual Environmental Report - Greenstar Ltd. - Sarsfieldcourt (Reg. No. W0136-02)

Dear Ms. McDonnell,

Please find enclosed an original and 2 no. copies of the 2009 Annual Environmental Report (AER) for the above referenced facility. The AER file has been uploaded to the EPA website and is a true copy of the original Annual Environmental Report. The AER/PRTR emissions data reporting workbook has also been uploaded to the EPA website.

If you have any queries, please call me.

Yours sincerely,

  
Jim O'Callaghan

0904807/MG/MW

Encs.

c.c. Ms. Suzanne Byrne, Greenstar Ltd.  
Ms. Louise Demir, Greenstar Ltd.

**ANNUAL ENVIRONMENTAL REPORT**  
**FOR GREENSTAR LTD.**  
**SARFIELD COURT, CORK**  
**LICENCE NO. W0136-02**  
**JANUARY 2009 – DECEMBER 2009**

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**31<sup>st</sup> March 2010**

Project Annual Environmental Report 2009				
Client Greenstar Ltd. W0136-02				
Report No	Date	Status	Prepared By	Reviewed By
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## 1. INTRODUCTION

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This is the 2009 Annual Environmental Report (AER) for Greenstar Ltd's (Greenstar) Materials Recovery Facility (MRF) at Sarsfieldcourt Industrial Estate, Glanmire, County Cork. The report covers the period from the 1<sup>st</sup> January 2009 to the 31<sup>st</sup> December 2009. The content of the AER is based on Schedule H of the Waste Licence (W0136-02) and the report format follows guidelines set in the "Guidance Note for Annual Environmental Report" issued by the Environmental Protection Agency (Agency)<sup>1</sup>.

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 EPA (Environmental Protection Agency) 1999 Waste Licensing – Draft Guidance on Environmental Management Systems and Reporting to the Agency

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## 2. SITE DESCRIPTION

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### 2.1 Site Location and Layout

The facility is situated within the Sarsfieldcourt Industrial Estate, approximately 8 km northeast of Cork City and 5 km north of Glanmire in the townland of Sarsfieldcourt. The site occupies 1.56 ha and comprises one MRF building and ancillary infrastructure, including administration offices, yard and parking areas and a vehicle wash.

### 2.2 Waste Management Activities

The Licence allows Greenstar to accept and process 99,017 tonnes of waste per annum, comprising commercial/industrial non-hazardous waste, household waste, source separated biodegradable waste for composting and construction and demolition wastes. All waste processing takes place inside the waste transfer building, as specified in Condition 5.1 of the Licence. The existing plant used at the facility is listed on Table 2.1.

**Table 2.1 Existing Plant**

No.	Plant	Model	Operational Capacity	Standby Capacity
2	Conveyor lines	Generic	25 t/hr	25t/hr
1	Picking Line	7-bay sorting line	Not in Use	N/A
1	Baler	Bollegraaff	20 t/hr	0
21	Trucks	Curtain Sider * 1	66 hr/wk	-
		Roll on Roll Off Vehicles * 1	66 hr/wk	-
		Skip Trucks * 5	66 hr/wk	-
		Refuse Trucks * 8	66 hr/wk	-
		Crusher * 3	66 hr/wk	-
		Glass * 2	66 hr/wk	-
		Transit Tipper*1	66 hr/wk	-
1	Tromel	Turmec	25 t/hr	0
1	Loading Shovel	Liebherr L544	70 t/hr	0
2	Fork Lift	2 Jungheinrich 2.5tonnes	60 hr/wk	60 hr/wk
2	Grab	Liebherr 904	25 t/hr	25 t/hr
1	Weighbridge – 2 scales	-	56 hr/wk	56 hr/wk
1	Wheel Wash	Generic	56 hr/wk	0

### 2.2.1 *Waste Types*

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

- Household (42,129 tonnes)
- Commercial & Industrial (47,130 tonnes)
- Construction & Demolition (4,758 tonnes)
- Source separated biodegradable waste for composting (5,000 tonnes), however composting is not currently carried out

No hazardous wastes or liquid wastes are accepted.

The maximum tonnage of each waste type accepted, except the source separated biodegradable waste for composting, may be altered with the prior agreement of the Agency as long as the total maximum tonnage is not exceeded.

### 2.2.2 *Waste Handling*

The key processes carried out at the facility include: -

- Segregation of recyclable materials (paper, cardboards, plastic, wood, metals, glass)
- Baling of Municipal Solid Waste
- Segregation and bulking of C&D waste
- Transfer of recovered and residual materials to appropriately licensed recycling, recovery and disposal outlets
- Organic Separation of waste
- Separation of organic fines from MSW waste by shredding and trommelling of the waste

#### *Household Waste*

Mixed household waste delivered in refuse collection vehicles is transferred to large bulk transporters, once food waste has been extracted using the shredder and trommel, and is then sent to an appropriate licensed landfill. Greenstar also provides a skip hire service to private individuals in the Cork Region. All skips arriving at the facility are netted or covered. Recyclable material is segregated, where possible, from the waste and transferred off-site to suitable licensed or permitted recycling facilities. The

remaining non-recyclable and residual material is sent to licensed landfills post processing.

### *Commercial and Industrial Waste*

Greenstar provides skips of various sizes to a wide range of commercial and industrial premises in the Cork Region. Recyclable material is segregated, where possible, from the waste stream and transferred to suitable recycling facilities. The remaining non-recyclable and residual material is sent to licensed landfills.

In addition Greenstar provides a source segregation service for those clients which generate large quantities of commercial and industrial waste. Trained Greenstar staff sort and segregate waste at source and the waste is then collected in skips or bulker vehicles and appropriately transported. All material is transported to the Sarsfieldcourt facility and off-loaded in designated areas and stored pending consignment to recycling or to a licensed landfill.

### *Construction and Demolition Waste*

Construction and demolition material arrives on-site in skips of varying sizes. The loads are inspected and segregated on-site. Recoverable materials are extracted and sent off-site either for re-use or recycling. The non-recyclable materials are transferred to a licensed landfill.

### *Biodegradable waste for composting*

The facility is allowed to compost up to 5,000 tonnes/year of source separated biodegradable waste for composting. However, Greenstar has not yet started composting. Biodegradable wastes suitable for composting which is accepted at the facility are sent to an offsite composting facility.



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### **3. EMISSION MONITORING**

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Greenstar implements the comprehensive environmental monitoring programme specified in the Licence to assess the significance of emissions from site activities. The programme includes surface water, wastewater, groundwater, noise and dust monitoring. The monitoring locations are shown on Figure 3.1.

The monitoring results are submitted in reports to the Agency at quarterly intervals. An overview of the results of the monitoring is presented in this Section, with summary data in tables included.

#### **3.1 Surface Water Monitoring**

Surface water monitoring was carried out quarterly at three locations (SW-1, SW-2 and SW-3). SW-3 is the discharge point from the facility to a stream approximately 100 metres from the eastern boundary of the site. SW-2 is located to the north and upstream of the discharge point and SW-1 is located to the south and downstream of the outfall.

The range of analysis was as specified in Schedule D of the Waste Licence and includes pH, electrical conductivity, Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), total organic carbon (TOC), ammoniacal nitrogen, dissolved oxygen, total suspended solids, mineral oils and oils, fats and greases. The results are presented in Tables 3.1 to 3.3.

The Emission Limit Value (ELV) and Trigger Levels are set in Schedule C3 and Condition 6.4 of the Licence and apply solely to the discharge from the facility (SW-3). The ELV and Trigger Levels were not exceeded in 2009. The quality of the water in the stream is generally good.

The Agency carried out surface water monitoring in September 2006 and in a letter dated the 8<sup>th</sup> January 2007 (ref W0136-02/GC06SMcD) requested Greenstar to include nitrate and nitrite in the parameters measured. Total and faecal coliforms were added to the monitoring programme for Q3 and Q4 2009, also at the Agency's request. The nitrate levels measured in SW-3 in all monitoring events in 2009 were low and were below those detected by the Agency in 2006. High levels of total and faecal coliforms were detected in SW-3 on both occasions. While there is no evidence that the discharge had a significant effect on water quality in the receiving stream, Greenstar investigated the causes of high total and faecal coliforms. The results of this investigation were submitted to the Agency on the 10<sup>th</sup> December 2009. This report made several recommendations including connecting a number of drains to the process water system and sealing and blocking a storm-water manhole, which will be carried out by Greenstar.

**Table 3.1** Surface water Monitoring Results 2009: SW-1

Parameter	Units	Q1	Q2	Q3	Q4
pH	pH units	7.28	8.3	8.18	7.74
Conductivity	mS/cm	0.305	0.39	0.355	0.247
Temperature	°C	9.9	10.9	15.8	10.1
BOD	mg/l	<1	<1	<1	<4
COD	mg/l	<7	<7	10	15
Ammoniacal Nitrogen	mg/l	0.06	1.03	0.04	0.08
Dissolved Oxygen	mg/l	9	9	9	9
TOC	mg/l	3	7	<2	8
Total Suspended Solids	mg/l	<10	<10	<10	<10
Oils, Fats & Greases	mg/l	<0.01	<0.01	<0.01	0.443
Nitrate as NO <sub>3</sub>	mg/l	31.5	25.1	21.7	19.2
Nitrite as NO <sub>2</sub>	mg/l	0.05	0.04	0.09	<0.02
Mineral Oils	mg/l	<0.01	<0.01	<0.01	0.288
Total Coliforms	cfu/100 ml	-	-	14010	13700
Faecal Coliforms	cfu/100 ml	-	-	1553	1640

**Table 3.2** Surface water Monitoring Results 2009: SW-2

Parameter	Units	Q1	Q2	Q3	Q4
pH	pH units	7.9	8.38	8.15	7.97
Conductivity	mS/cm	0.308	0.296	0.341	0.224
Temperature	°C	10.3	11.3	16.7	9.9
BOD	mg/l	<1	<1	<1	<4
COD	mg/l	<7	<7	14	<15
Ammoniacal Nitrogen	mg/l	0.06	0.04	0.05	0.09
Dissolved Oxygen	mg/l	9	10	9	10
TOC	mg/l	<3	7	<2	9
Total Suspended Solids	mg/l	<10	<10	<10	<10
Oils, Fats & Greases	mg/l	<0.010	<0.010	<0.01	<0.01
Nitrate as NO <sub>3</sub>	mg/l	32.1	25.5	26.6	19
Nitrite as NO <sub>2</sub>	mg/l	0.05	0.03	0.08	<0.02
Mineral Oils	mg/l	<0.01	<0.01	<0.01	<0.01
Total Coliforms	cfu/100 ml	-	-	13540	10910
Faecal Coliforms	cfu/100 ml	-	-	1300	1370

**Table 3.3** Surface water Monitoring Results 2009: SW-3

Parameter	Units	Q1	Q2	Q3	Q4	Trigger Levels	Emission Limit
pH	pH units	8.28	8.28	8.22	7.8	N/A	N/A
Conductivity	mS/cm	0.551	0.479	0.378	0.425	N/A	N/A
Temperature	°C	9.9	12.5	16.1	10	N/A	N/A
BOD	mg/l	<1	<1	<1	10	25	N/A
COD	mg/l	<7	<7	13	34	N/A	N/A
Ammoniacal Nitrogen	mg/l	0.3	0.34	1.25	0.28	N/A	N/A
Dissolved Oxygen	mg/l	9	10	2	5	N/A	N/A
TOC	mg/l	<3	7	<2	8	35	N/A
Total Suspended Solids	mg/l	33	<10	<10	23	N/A	N/A
Oils, Fats & Greases	mg/l	<0.01	<0.01	<0.01	<0.01	N/A	N/A
Nitrate as NO <sub>3</sub>	mg/l	22.1	15.8	6.1	10.3	N/A	N/A
Nitrite as NO <sub>2</sub>	mg/l	0.25	0.15	1.22	0.1	N/A	N/A
Mineral Oils	mg/l	<0.01	<0.01	<0.01	<0.01	N/A	5
Total Coliforms	cfu/100 ml	-	-	1732900	782000	N/A	N/A
Faecal Coliforms	cfu/100 ml	-	-	81640	109100	N/A	N/A

### 3.2 Groundwater Monitoring

The Agency carried out groundwater monitoring in September 2006 and subsequently requested Greenstar to increase the monitoring frequency to biannually in a letter dated the 8<sup>th</sup> January 2007 (ref W0136-02/GC06SMcD). As with the surface water monitoring, the Agency requested that nitrite and nitrate be included in the list of parameters to be analysed for in the groundwater samples. Groundwater monitoring was carried out biannually at two locations (W-1 and W-2) in Q2 and Q4 2009. The direction of groundwater flow is considered to be from west to east towards the stream, which flows along the eastern side of the Industrial Estate. W-2 is at the upgradient and W-1 is at the downgradient side of the site.

The range of analysis was as specified in Schedule D of the Waste Licence and included TOC, pH, electrical conductivity, ammoniacal nitrogen, total suspended solids and mineral oils, plus the additional parameters requested by the Agency. There are no Emission Limit Value (ELV) and Trigger Levels. The tables also include the EPA Interim Guideline Values (IGVs) which were published in May 2003. The IGV levels represent typical background or unpolluted conditions. However, the Agency recognises that levels higher than the IGV may occur naturally depending on the local geological and hydrogeological conditions. The results are included on Tables 3.4 and 3.5.

The quality of the groundwater was good and generally consistent with the previous monitoring carried out. The results indicate that the facility is having no impact on groundwater. The levels of nitrate detected in both groundwater monitoring locations were

low and similar to those measured previously. Nitrite was not detected at either location in 2009.

**Table 3.4** Groundwater Monitoring Results 2009: W-1

Parameter	Units	May '09	Dec '09	IGV
pH	pH units	7.83	7.87	6.5-9.5
Conductivity	mS/cm	0.219	0.261	1
TOC	mg/l	6	<2	NAC
Ammoniacal Nitrogen	mg/l	<0.01	0.03	0.12
Total Suspended Solids	mg/l	660	31	N/A
Nitrate as NO <sub>3</sub>	mg/l	20.2	22.1	25
Nitrite as NO <sub>2</sub>	mg/l	<0.02	<0.02	0.1
Mineral Oils	mg/l	<0.01	<0.01	0.01

**Table 3.5** Groundwater Monitoring Results 2009: W-2

Parameter	Units	May '09	Dec '09	IGV
pH	pH units	7.81	7.26	6.5-9.5
Conductivity	mS/cm	0.198	0.178	1
TOC	mg/l	7	5	NAC
Ammoniacal Nitrogen	mg/l	0.03	0.03	0.12
Total Suspended Solids	mg/l	1,943	616	N/A
Nitrate as NO <sub>3</sub>	mg/l	14.8	11.7	25
Nitrite as NO <sub>2</sub>	mg/l	<0.02	<0.02	0.1
Mineral Oils	mg/l	<0.01	<0.01	0.01

### 3.3 Wastewater Monitoring

The wastewater drainage system discharges to a holding tank located to the east of the site security hut weighbridge building. The accumulated liquid is removed off-site as required to a wastewater treatment plant in Leixlip, County Kildare. The volume of wastewater removed in 2009 is shown on Table 5.1 (under code 16 10 02).

Wastewater monitoring was undertaken biannually. The range of analysis was as specified in Schedule D of the Waste Licence and included pH, BOD, COD, ammoniacal nitrogen, total suspended solids and mineral oils. There are no ELV or Trigger levels set for wastewater. The results indicate that the wastewater is suitable for treatment at the off-site wastewater treatment plant. The results are included on Table 3.6.

**Table 3.6** Wastewater Monitoring Results 2009

Parameter	Units	March '09	August '09
Temperature	°C	9.5	18.5
pH	pH units	7.98	7.83
Conductivity	mS/cm	0.484	0.481
BOD	mg/l	13	6
COD	mg/l	91	163
Ammoniacal Nitrogen	mg/l	1.11	1.05
Total Suspended Solids	mg/l	276	53
Mineral Oils	mg/l	72	<0.01

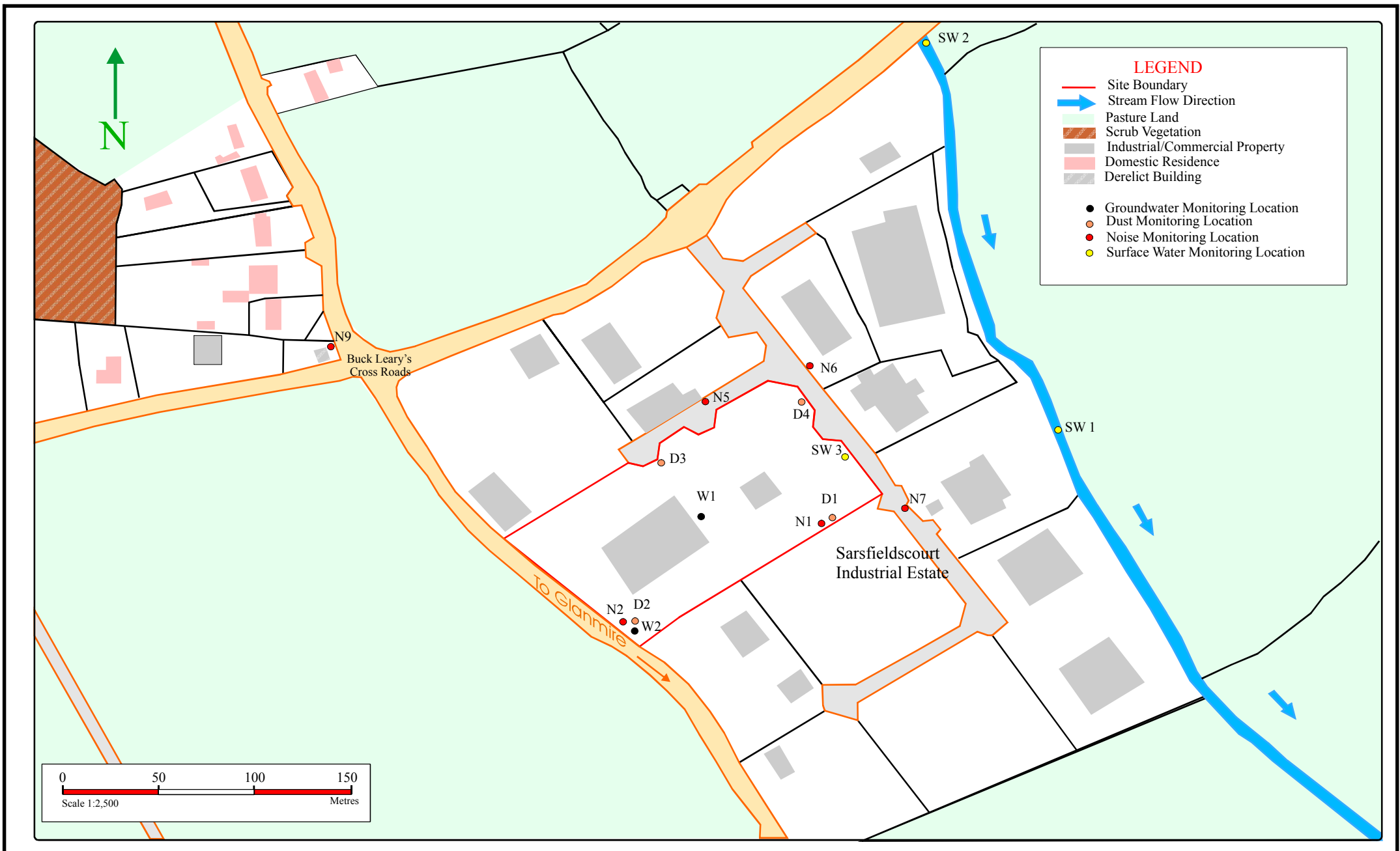
### 3.4 Noise Survey

Greenstar carried out the annual noise survey at the facility in June 2009 and the results were submitted to the Agency in July 2009. Monitoring was carried out at five noise monitoring locations, N-1, N-2, N-5, N-6 and N-7 specified in the licence and one off-site noise sensitive location N-9. The survey was conducted when the site was fully operational. The survey concluded that the facility was in compliance with its licence requirements. The results are included on Table 3.7.

The Waste Licence specifies a daytime noise emission limit of 55 dB at the measurement stations. However most waste licences currently issued by the Agency state that specified noise limits are to apply to noise sensitive locations only. Given that the Greenstar facility under discussion is located in a busy industrial estate, it is considered practical to adopt this approach here i.e. the 55 dB daytime and 45 dB night-time limits are most relevant to the offsite noise sensitive location N9. The  $L_{Aeq\ 30\ min}$  level measured at N9, the only station outside the industrial estate, was 66 dB. Traffic movements through the adjacent Buck Leary crossroads were almost continuous and dominant here. Although noise emissions from the nearest industrial premises contributed to the noise environment at N9, no emissions were audible from the Greenstar facility.

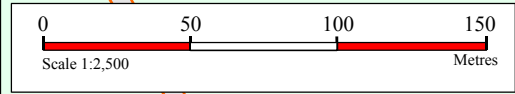
**Table 3.7** Noise Monitoring Results 2009

Station	Time	LAeq 30 min dB	LA10 30 min dB	LA90 30 min dB	Noise audible
N1	1016-1046	67	72	52	Intermittent truck movements through entrance dominant when present, particularly trucks idling close to SLM while queuing for weighbridge. Between movements, air handling system and generator/compressor audible continuously at low level. Offsite, emissions from frequent vehicle movements through surrounding industrial estate, most of which not associated with facility. General commercial/industrial noise also arising across estate.
N2	1050-1120	66	67	64	Generator set and compressor audible continuously and dominant. Latter audibly tonal. No other noise audible.
N5	1214-1244	53	55	49	Emissions from Greenstar air handling system audible at low level. Truck movements through site also audible. Offsite, compressor at nearby premises audible continuously and dominant. Regular power washing nearby also dominant. Vehicle movements through surrounding industrial estate audible.
N6	1409-1439	62	63	50	No emissions audible from site apart from bottle tipping event x1. Frequent vehicle movements in industrial estate roadway dominant, some of which Greenstar. Power tools at nearby premises regularly audible.
N7	1444-1514	65	65	53	No emissions audible from facility apart from intermittent truck movements through entrance. Noise from surrounding premises continuously clearly audible. Vehicle movements on industrial estate roadway dominant when present.
N9	1520-1550	66	69	48	Road traffic through adjacent junction dominant, and on approaches. No emissions audible from industrial estate apart from AHU at closest premises and truck movements near entrance. No Greenstar emissions audible.



**LEGEND**

- Site Boundary
- Stream Flow Direction
- Pasture Land
- Scrub Vegetation
- Industrial/Commercial Property
- Domestic Residence
- Derelict Building
- Groundwater Monitoring Location
- Dust Monitoring Location
- Noise Monitoring Location
- Surface Water Monitoring Location



**OM**  
 environmental management for business

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CLIENT  
**Greenstar Ltd**

TITLE  
**Sarsfieldscourt  
 Monitoring Locations**

Details  
 © Ordnance Survey Ireland. Government of Ireland.

FIGURE NUMBER  
**3.1**

Scale  
 Not To Scale

Revision  
**A**

### 3.5 Dust Monitoring

Greenstar conducted dust monitoring on three occasions (June, July and August) at four on-site locations (D-1, D-2, D-3 and D-4). The licence requires that two of these monitoring events be carried out between May and September. The results are included in Table 3.8.

In June 2009 and July 2009 there was exceedances of the deposition limit set in the licence (350 mg/m<sup>2</sup>/day) at D-1 (554 mg/m<sup>2</sup>/day and 351 mg/m<sup>2</sup>/day respectively). The exceedance in July was very marginal. All the other levels recorded were below the deposition limit set in the licence. The Agency were informed of the exceedances in letters dated the 21<sup>st</sup> July 2009 and 14<sup>th</sup> August 2009.

D-1 is located to the south of the weighbridge and main entrance and is approximately 20 m from the main access road of the Industrial Estate. It is considered that vehicle movements within the industrial estate, where many of the lots are not paved, and on the main access road way contributed to the elevated dust levels at this monitoring location.

**Table 3.8** Dust Monitoring Results 2009

	<b>June '09 mg/m<sup>2</sup>/day</b>	<b>July '09 mg/m<sup>2</sup>/day</b>	<b>August '09 mg/m<sup>2</sup>/day</b>	<b>Deposition Limit mg/m<sup>2</sup>/day</b>
D-1	554	351	179	350
D-2	156	80	96	350
D-3	152	57	34	350
D-4	264	210	77	350

### 3.6 Nuisance Control Review

Greenstar installed and commissioned an air emission abatement system in the MRF building in 2006. The system is designed to control dust and odour emissions from the facility and has been working successfully since June 2006. In 2007 the two deep bed carbon filters were removed and replaced with two 45,000 m<sup>3</sup>/hr annular vessels. This eliminates any possibility of carbon shifting and bed fluidisation. New automatic fast acting doors were installed on both the tunnel entrance and exit and the in and out doorways in the MRF. These systems in the main worked successfully in 2009. In 2009 additional sniff ports were added to the abatement system, these were fitted to facilitate monitoring of the odour characteristics from the stack emissions. The carbon serving the odour abatement system filters was replaced in 2009.

Other nuisance controls include routine inspections and litter collections, cleaning of site roads and yard areas, closing of the facility doors when not in use, vermin control (Rentokil/Quality Pest) and internal processing of wastes.



Greenstar has introduced an Environmental Management System (EMS). Greenstar, as part of this EMS, has developed a list of environmental management procedures, details of which are outlined in Section 7 and include nuisance control measures.

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## 4. SITE DEVELOPMENT WORKS

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### 4.1 Engineering Works

Table 4.1 and Table 4.2 show the development works carried out in 2009 and those proposed for 2010.

**Table 4.1 Site Infrastructural Works Carried Out in 2009**

Description of Works	Scheduled Date of Completion	Completion Date
Weighbridge Modification	Q2 2009	Completed
Removal of Porto cabin office	Q2 2009	Completed

**Table 4.2 Site Infrastructural Works Proposed for 2010**

Description of Works	Proposed Date of Completion
Replace trommel	Q2 2010
Replace Baler	Q2 - Q3 2010
Replace associated conveyors	Q2 - Q3 2010
Installation of tipping wall in tunnel	Q2 - Q3 2010
Upgrade wheel wash	Q2 - Q3 2010
Relay floor in MRF building	Q2 - Q3 2010

### 4.2 Summary of Resource & Energy Consumption

Table 4.3 presents an estimate of the resources used on-site during the reporting period.

**Table 4.3 Estimate of Resources Used On-Site**

Resources	Quantities
Road Diesel	5,685,446 litres
Ad Blue	2,000 litres
Hydraulic, Transmission, Engine Oil	3,000 litres
Electricity	247,800 units
Carbon	44,000 kg

### **4.3 Bund Integrity Test**

Bund integrity tests were carried out in July 2009. The fuel storage bund, quarantine area bunded container, processed water retention tank and the foul water retention tank were all tested and passed as fit for purpose. The full reports are included in Appendix 1.

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## 5. WASTE RECEIVED AND CONSIGNED FROM THE FACILITY

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Table 5.1 shows the total quantities of waste received and consigned from the facility in 2009. For comparative purposes the amounts of waste received and consigned in 2008 are presented in Table 5.2. Table 5.3 shows the quantities of waste received and consigned in previous years. A breakdown of the waste types is provided in accordance with the European Waste Catalogue and Hazardous Waste (EWC/HWL) list.

The total amount received in 2009 was 54,697.49 tonnes. The total amount consigned was 56,393.84 tonnes. 436 tonnes remained on site at the end of 2009 and was consigned in 2010 and 600.88 tonnes of waste was generated (liquid waste and activated carbon) onsite in 2009. The difference (~1%) is therefore considered insignificant and is most likely due to discrepancies with the weighbridge over the year.

The recovery rate is estimated at 27.52 %. The reason for the reduction in the recovery rate from 2006 (44%) is due to the acquisition by Greenstar of a dry recyclables facility permitted by Cork County Council (WFP-CK-0047-02) also located within Sarsfieldcourt Industrial Estate in late 2006. The dry recyclables waste stream, which was processed at the licensed site is now directed to the permitted site as this site specialises in the recovery of this waste type.

All the wastes consigned from the site went to recovery and disposal facilities agreed with the EPA.

It is Greenstar's intention to apply for a Waste Licence Review in Q2 2010. The aims of the review are to extend the waste acceptance and operational hours to allow for 24 hour waste acceptance and operation. To increase the waste acceptance limits pro-rata from 99,017 to 200,000 tonnes per annum. The waste types will remain household, construction & demolition, commercial and industrial and biodegradable non-hazardous wastes. To remove the existing requirement to achieve a 50% recovery rate and to revise the compliance locations for noise emission limits from the site boundary to the nearest noise sensitive locations as is best practice. The recycling rate has reduced in recent years due to the increase in MSW accepted at the facility and the reduction in recyclables which are diverted to specialised facility Glyntown Enterprises Ltd. Sarsfieldcourt Industrial Estate, Glanmire.

**Table 5.1 Waste Received & Consigned 2009**

<b>EWC</b>	<b>Description</b>	<b>Waste In</b>	<b>Waste Out</b>	
15 01 01	Cardboard Packaging	144.03		
15 01 02	Plastic Bottles		11.28	
	Plastic Packaging	46.69	1.10 47.82	
15 01 03	Pallets	9.92	44.30	
			114.06	
	Wood	0.50	4.26	
	Wooden Packaging	212.50	3.96	
15 01 06	Mixed Packaging	373.34	69.90	
15 01 07	Glass Packaging	169.66	1,794.50	
16 02 14	PC Complete Base Units	0.37		
16 10 02	Liq Waste		548.88	
17 01 07	C&D Inert Mixed	455.66	37.72	
17 05 04	C&D Inert Mixed	61.94		
19 05 01	LDF Non Composted Fraction	170.39		
19 09 02	Sludge	5.64	21.04	
19 09 04	LDF Activated Carbon		27.28	
19 12 07	Pallets		92.20	
	Wood	0.36	29.34	
			36.00	
			22.04	
19 12 12	C&I Dry Mixed	7,825.30	20.84	
			9,347.05	
			2,967.83	
			18,042.	
			2,607.92	
	MSW Municipal Mixed	4,830.08		16.66
				578.26
				9,865.55
				71.14
				2,110.25
Fines MSW		7,446.00		
LDF Activated Carbon		25.46		
20 01 01	Cardboard & Paper	12.86		
	Newsprint	0.35		
	Recy Paper	1.41		
20 01 02	Glass	1,615.05	55.86	
20 01 08	Kitchen and Canteen Waste	87.22		
20 01 35*	Rec Electronics & Electrics	1.22	4.62	
			6.62	
			5.88	
20 01 36	Rec Electronics & Electrics	19.37		
20 01 38	Wood	222.90	12.44	
			86.04	
20 01 39	Plastic	98.69		
20 01 40	Metal	50.75	87.81	
			129.36	

<b>EWC</b>	<b>Description</b>	<b>Waste In</b>	<b>Waste Out</b>
20 03 01	MSW Municipal Mixed	22,808.37	
20 03 07	C&I Dry Mixed	15,472.35	
	<b>Total Received</b>	54,697.49	
	<b>Total Consigned</b>		56,393.84
	<b>Total Recovered</b>		15,521.44
	<b>Total Disposed</b>		40,872.40
	<b>Recovery Rate</b>		27.52%

**Table 5.2 Waste Received & Consigned 2008**

EWC	Description	Waste In	Waste Out
02 07 05	Sludge	7.14	
06 13 99	LDF Activated Carbon		28.66
15 01 01	Cardboard Packaging	156.49	
15 01 02	Plastic Bottles	2.22	
	Plastic Packaging	136.92	4.76 185.07
15 01 03	Pallets	32.90	57.68
			233.94
			16.46
			6.90
	Wooden Packaging	153.86	
15 01 04	Steel Cans		27.00
15 01 06	Mixed Packaging	171.71	1.90
15 01 07	Glass Packaging	1,183.06	1,114.06
17 01 07	C&D Inert Mixed	13.34	444.62
17 05 04	C&D Inert Mixed	1,190.03	18.08
19 08 05	Liq Waste		214.90
19 09 02	Sludge	80.28	
19 12 09	Fines C&I	4.16	
19 12 12	C&I Dry Mixed	8,279.38	39,224.90
			328.31
			35.68
	MSW Municipal Mixed	15,854.92	1,281.92
			7,638.76
			21.20
	Fines MSW		45.26
			5,105.11
			5,575.01
20 01 01	Cardboard & Paper	17.27	
	Recy Paper	2.09	
20 01 08	Biodegradable kitchen & canteen waste	58.62	
20 01 35*	Rec Electronics & Electrics	38.53	4.08
			13.10
20 01 38	Wood	295.43	198.24
20 01 39	Plastic	161.97	
20 01 40	Metal	262.81	116.61
			26.42
			2.46
	Metal Dust	4.45	5.62
20 03 01	MSW Municipal Mixed	14,385.07	
20 03 07	C&I Dry Mixed	18,796.07	
	<b>Total Received</b>	61,288.71	
	<b>Total Consigned</b>		61,879.66
	<b>Total Recovered</b>		21,254.99
	<b>Total Disposed</b>		40,721.72
	<b>Recovery Rate</b>		34.29%

**Table 5.3 Waste Received & Consigned**

	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>
<b>Total Received</b>	61,288.71	88,009.32	68,962.92	67,272.68
<b>Total Consigned</b>	61,879.66	89,229.89	68,664.82	66,486.44
<b>Total Recovered</b>	21,254.99	23,797.77	29,861.54	26,719.68
<b>Total Disposed</b>	40,721.72	65,432.12	38,803.28	39,766.76
<b>Recovery Rate</b>	34.29%	26.67%	44%	40%



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## **6. ENVIRONMENTAL INCIDENTS AND COMPLAINTS**

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### **6.1 Incidents**

In 2009 there were three incidents, two related to exceedances of the dust deposition limit set in the licence (350 mg/m<sup>2</sup>/day). The Agency was informed of the exceedances in letters dated the 21<sup>st</sup> July 2009 and 14<sup>th</sup> August 2009. There was one incident when the fire alarm in the MRF/Weighbridge went off. There was smoke in the plant room but no fire and there was no emission with the potential to cause any environmental pollution. A copy of the incident report is included in Appendix 2.

### **6.2 Register of Complaints**

Greenstar maintains a register of complaints received in accordance with Condition 10.4 of the waste licence. Six complaints were received during the reporting period in relation to odours at the facility. A copy of the complaints register is included in Appendix 3.

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## 7. ENVIRONMENTAL DEVELOPMENT

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### 7.1 Environmental Management Programme Report

Greenstar has introduced an Environmental Management System (EMS) for the facility and the facility has been certified to ISO 14001. SGS carried out an ISO 14001 audit in 2009 and found the facility to be fully compliant. The EMS includes environmental, management, operating and maintenance procedures. An overview of the EMS including the proposed schedule of objectives and targets for 2010 is presented in this Section.

#### 7.1.1 *Site Management Structure*

Details of the site management structure are given below.

**Name:** Louise Demir

**Responsibility:** Operations Manager.

**Experience:** 2 years waste management experience. FÁS course completed except final module.

**Name:** Michael Hannon

**Responsibility:** Support Service Manager / Deputy Operations Manager.

**Experience:** 8 years waste management experience. FÁS course completed.

**Name:** Aidan Shanahan

**Responsibility:** General Manager.

**Experience:** 7 years waste management experience, 18 years operations management experience. FÁS course completed.

#### 7.1.2 *Staff Training*

Staff training carried out during the year included environmental training, manual handling, health and safety induction, human resources induction, lockout tagout, CPC training, driver safety awareness training and AMCS training.

## **7.2 Environmental Management Programme**

### *7.2.1 Schedule of Objectives 2009*

The objectives that were achieved during this reporting period are outlined in Table 7.1. Details on the progress made are also included on the table and an evaluation of what has been achieved to date is presented below.

#### **Objective 1 - Customer Communication & Awareness**

Progress is ongoing to improve customer recycling rates, increase route and truck efficiency and to monitor customer recycling rates.

#### **Objective 2 - Operational Management**

The position of diesel refilling area was reviewed and found to be most suitable location at present.

#### **Objective 3 - Assess & Continually Review Resources & Energy Consumption at the site**

Oversize metal is picked from MSW stream using waste handler prior to loading the shredder. A skip is now in place for this material.

#### **Objective 4 - Prevent Water Pollution from run-off, fire-water, flooding, etc.**

Additional spill kits have been implemented in key areas – diesel storage are, generator, garage and MRF.

#### **Objective 5 - Environmental Monitoring**

With the exception of dust monitoring, the environmental monitoring is in compliance with the limits set in the Licence.

#### **Objective 6 - Maintain & Develop the Environmental Management System**

The documentation for the EMS is maintained and implemented. Certification of ISO 14001 was retained.

#### **Objective 7 - Awareness & Training Programme**

Environmental training completed 18<sup>th</sup> November 2009. Standard induction is now in place for Greenstar employees and agency employees.

#### **Objective 8 - Housekeeping**

The facility is maintained in a tidy manner.

#### **Objective 9 - Odour Abatement System**

The model of the odour system has been completed. Additional sniff ports have been added to encompass exhaust from the stacks. Additional staff training in AAF unit has been

completed but not on formal documentation. Door alarms have been installed on pedestrian doors

### 7.2.2 *Schedule of Objectives 2010*

A schedule of targets and objectives for 2010 has been set by the management of the facility. These objectives are outlined in Table 7.3.

## **7.3 Communications Programme**

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 ensuring that the policy itself and records are available to the public and interested parties.

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.

Opening Times for Inspection of Records are from 10 am – 4 pm.

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

The facility manager meets with any interested other occupants of the Industrial Estate and the representatives of the Glanmire Residence Association to discuss the environmental performance of the facility and address any environmental issues or concerns that may arise.

**Table 7.2 Schedule of Objective and Targets 2009**

No	2009 Objective	Target	Responsibility	Progress
1	<b>Customer Communication &amp; Awareness</b>	Improve Customer Recycling Rates through the implementation of AMCS Environmental (GPS reporting system)	Transport and Logistics Manager	Ongoing
		Increase route and truck efficiency		
		Monitor customer recycling rates		
2	<b>Operational Management</b>	Review the bin storage system and ability to reuse bins	Facility Manager	Position of diesel refilling are reviewed and found to be most suitable location at present
		Review positioning of diesel fill area		
3	<b>Assess &amp; Continually Review Resources &amp; Energy Consumption at the site</b>	Continue to review-opportunities for energy efficiency	Facility Manager	Ongoing
		Implement system to recover additional metal from the MSW waste stream	Facility Manager	Oversize metal is now picked from MSW stream using waste handler prior to loading the shredder. A skip is now in place for this material
		Continue to review energy/resource usage on a quarterly basis.	Facility Manager	Ongoing
4	<b>Prevent Water Pollution from run-off, fire-water, flooding, etc.</b>	Ensure all drains and interceptors are maintained, and regularly serviced	Facility Manager	Ongoing
		Use drain cover mats to prevent release of liquid spills to sewer Install additional spill kits on site	Facility Manager	Drain cover mats are not in place. Additional spill kits have been implemented in key areas – diesel storage are, generator, garage and MRF
5	<b>Environmental Monitoring</b>	Ensure monitoring results comply with licence limits & investigate any exceedances of emission limit values (ELV's)	Facility Manager	Ongoing.
6	<b>Maintain &amp; Develop the Environmental Management System</b>	Maintain documentation for EMS and implement on site	Env Department/ Facility Manager	Ongoing
		Update Manual and Procedures when required	Env Department/ Facility Manager	Ongoing
		Change from biannual internal audits of the EMS to quarterly internal audits	Env Department/ Facility Manager	Ongoing
		Retain certification of ISO 14001 certification	Env Department/ Facility Manager	Ongoing

No	2009 Objective	Target	Responsibility	Progress
7	<b>Awareness &amp; Training Programme</b>	In-house environmental awareness training to be carried out.	Facility Manager	Environmental training completed 18 <sup>th</sup> November 2009  Standard induction now in place for GS employees and agency employees.
		Develop and implement standard training package for new employees		
8	<b>Housekeeping</b>	Continue to ensure that facility is maintained in a tidy manner and litter does not cause a nuisance	Facility Manager	Ongoing
		Implement bin less office recycling		
9	<b>Odour Abatement System</b>	Complete full review and model of the odour systems	Facility Manager	Model of odour system completed  Additional sniff ports added to encompass exhaust from the stacks.  Additional staff training in AAF unit completed but not on formal documentation. Door alarms installed on pedestrian doors
		Install additional sniff ports onto the system		
		Additional staff training on AAF unit		
		Install door alarms on MRF pedestrian doors		

**Table 7.3 Schedule of Objective and Targets 2010**

No	2010 Objective	Target	Responsibility	Timescale
1	<b>Awareness and Training</b>	Continue to ensure that appropriate training is carried out specific to all site personnel as per the Company's established Training Matrix.	Site Management	Ongoing
		Spill training, inclusive of a spill scenario to be carried out.		
2	<b>Energy &amp; Resource Consumption</b>	Summarise energy and resource usage on a quarterly basis with a view to reducing consumption	Site Management	Ongoing
		Review and implement findings of Energy Audit		
3	<b>Review and Assess the Effectiveness of Nuisance Control Procedures</b>	Continually review and assess all nuisance control procedures to ensure minimal impact on the surrounding area.	Site Management	Implement Odour Management Plan Q2 2010
4	<b>Pollution Prevention</b>	Strive to ensure that monitoring results comply with the licence limits and investigate any exceedances of emission limit values.	Site Management	Ongoing
		Continue to ensure the integrity and maintenance of all drainage infrastructure.		
5	<b>Infrastructure</b>	Install new concrete to the surface of the Materials Recovery Building.	Site Management	Q3 2010
6	<b>Equipment upgrade</b>	New trommel to be installed as part of upgrade works and achievement of Landfill Biodiversion targets.	Site Management	Q3 2010

#### **7.4 Report Financial Provision**

Greenstar has accrued over €3,000,000 in funds, to provide for any potential environmental liabilities at this facility. Greenstar also has adequate insurance cover for environmental liabilities to €6,350,000 for any one occurrence, which will apply to “sudden identifiable and unintended incidents”.

#### **7.5 European Pollutant Release and Transfer Register**

Under the European Pollutant Release and Transfer Register Regulation (EC) No. 166/2006 Greenstar are required to submit information annually to the Agency. A copy of the information submitted to the Agency via the web-based data reporting system is included in Appendix 4.



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## **8. OTHER REPORTS**

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In November 2009 a survey of the drainage system was carried out. The results of this survey were submitted to the Agency in a report dated the 10<sup>th</sup> December 2009.

# **APPENDIX 1**

## Bund Integrity Report

# Report on Inspection and Integrity Testing of Bunded Tanks

For

**Greenstar**

**At Sarsfield Court  
Glanmire  
Co. Cork**

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General Consultancy Services

- SEI Registered for Non Domestic (Commercial) & Domestic BER Assessments.
- Fetac Certified for Environmental Protection Agency Site Assessments & SR6 1991 Percolation Tests.
- All types of Planning Permission (Domestic, Agricultural, Commercial) and Waste Licence Applications prepared.
- Stage Payments and Building Costs for mortgages. Land & Property Valuations. Pre Purchase Building Surveys.
- Land Transfers, Boundaries Disputes, Declaration of Identities, Certifications of Compliance, Structural Surveys.
- Setting out for Building Foundations and Site Boundaries. Full Project Management services available

## Introduction

Cathal Lehane, Consulting Civil & Environmental Engineer was commissioned by Countywide Drain Services on behalf of Greenstar to conduct a series of inspections and integrity testing of bunded areas at Sarsfield Court, Glanmire, Co. Cork. There were 2 no. Bunds to be certified.

Bund No. 1 is a covered Diesel Oil Bund with a capacity of 32,000 litres. It contains 4 no. oil tanks.

Bund No. 2 is an enclosed tray bund at bottom of sealed container which holds various containers on a temporary basis. Items such as old batteries, empty gas cylinders and new oil drums are temporarily stored.

A preliminary site visit took place on Tuesday 7<sup>th</sup> July 2009. This preliminary site inspection was used to perform an initial visual inspection of the bunds

On Thursday 9<sup>th</sup> July 2009 bunds were cleaned of any debris and surfaces cleaned. . Effective capacities of bunds were calculated at this stage. A visual inspection of bunds was completed.

On Friday 10<sup>th</sup> July 2009 clean water was imported to site and bunds filled to appropriate level. Integrity testing of tanks was carried out.

## Inspection & Integrity Procedure

Following cleaning of bunds dimensions were recorded and bunds checked for any defects. When all preparations had been carried out the integrity/water tightness test was then performed according to the procedure defined in the Environmental Agency (England & Wales) R&D Technical Report P16. Initial water levels were taken and these were continuously monitored during the test. Any drop in water level would indicate bund failure. Although the test is described as a six hour test, if failure was noticed at an earlier stage then the test would be stopped immediately.

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## Results & Compliance

Tank	Length (m)	Width (m)	Depth (m)	Bund Effective Capacity (litres)	Max Volume Stored (litres)	Test Fill Height (m)	Comment
1	16.12	4.18	0.475	32,006	24,801	0.275	Tested & Passed
2	5.6	1.4	0.110	862	255	0.108	Tested & Passed

### Bund 1 – Diesel Oil Bund

Following visual inspection of bund no cracks or defects were visible. Construction is relatively new mass concrete construction. Bund is covered so there is no issue with rainwater.

The bund contained 4 no tanks.

Diesel Tank 1 volume	1,000 L
Diesel Tank 2 volume	2,500 L
Diesel Tank 3 volume	2,301 L
Diesel Tank 4 volume	19,000 L

Total 24,801 L

Bund was filled to level of bottom of lowest tank (to ensure floatation of tank did not take place). Capacity of bund is in excess of 125% the total volume of 4 no. individual tanks. No drop in water level was recorded during this monitoring period (6 hours) and so the bund has passed the integrity test and in compliance with licence requirements.

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## Tank 2

Following visual inspection of bund no rusting, cracks or defects were visible. Construction is relatively new metal tray in sealed container.

This bund/container is for temporary storage of vessels which contain liquids/gasses that pose a safety/pollution risk. On the day of test the following vessels were in bund area.

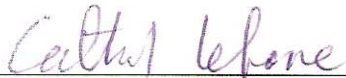
6 no batteries	15 L
12 no 20 L machine oil drums	240 L
Empty Gas Containers	-----
Total	255 L

Bund was filled to underside of grill. Capacity of bund in container is in excess of 125% the total volume of individual vessels. No drop in water level was recorded during this monitoring period (6 hours) and so the tank has passed the integrity test and in compliance with licence requirements.

## **Conclusion**

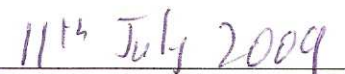
Both bunds tested during this visit were found to be without defects and their integrity confirmed from these tests. Capacity of both bunds exceeded 125% of volume of total of individual vessels contained in bund areas.

Signed:



Cathal Lehane

Dated:

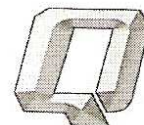


11<sup>th</sup> July 2009

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## PROFESSIONAL INDEMNITY INSURANCE POLICY SCHEDULE

<b>POLICY NUMBER:</b>	GEI/COM/01406911	
<b>THE INSURED:</b>	Cathal Lebane t/a Southwestern Architectural & Engineering	
<b>BUSINESS ADDRESS:</b>	Springville Ovens Co Cork	
<b>BUSINESS DESCRIPTION:</b>	Consulting Engineer	
<b>INCEPTION DATE:</b>	09 May 2009	<b>TIME:</b> 00:01 hours
<b>EXPIRY DATE:</b>	08 May 2010	<b>TIME:</b> 23.59 hours
<b>PERIOD OF INSURANCE:</b>	09 May 2009 to 08 May 2010	
<b>RENEWAL DATE:</b>	09 May 2010	
<b>ANNUAL (MINIMUM AND DEPOSIT PREMIUM):</b>	€ 1,923.00	Inclusive of 2% Government levy
<b>FIRST (MINIMUM AND DEPOSIT PREMIUM):</b>	€ 1,923.00	Inclusive of 2% Government levy
<b>TERRITORIAL LIMITS:</b>	Worldwide excluding USA/Canada	
<b>JURISDICTION:</b>	Worldwide excluding USA/Canada	
<b>RETROACTIVE DATE:</b>	09 May 2005	
<b>PROPOSAL FORM DATED:</b>	16 March 2009	
<b>LIMIT OF INDEMNITY:</b>	€ 500,000	
	For any one event	
<b>EACH &amp; EVERY OCCURRENCE EXCESS:</b>	€ 1,000	

# Report on Inspection and Integrity Testing of Underground Tanks

For

Greenstar

At Sarsfield Court  
Glanmire  
Co. Cork

---

General Consultancy Services

- SEI Registered for Non Domestic (Commercial) & Domestic BER Assessments.
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- Setting out for Building Foundations and Site Boundaries. Full Project Management services available.



## Introduction

Cathal Lehane, Consulting Civil & Environmental Engineer was commissioned by Countywide Drain Services on behalf of Greenstar to conduct a series of inspections and integrity testing of underground storage tanks at Sarsfield Court, Glanmire, Co. Cork.

The underground holding tanks receive leachate run off from waste handling process. There are 2 no. underground holding tanks on site. Sensors in these tanks indicate when leachate approaches invert level of inlet pipes. At this stage tanks are emptied and leachate removed off site to Licensed Facility which handles leachate.

A preliminary site visit took place on Tuesday 7<sup>th</sup> July 2009. 2 no. holding tanks contained leachate. Emptying of leachate by Countywide Drain Services commenced on this day.

On Wednesday 8<sup>th</sup> July 2009 emptying of tanks was completed. Tanks were cleaned and all sludge removed from floors. Inlet pipes were blocked and made secure to ensure no leachate could enter tanks. Inspection of tanks took place and capacities measured.

On Thursday 9<sup>th</sup> July 2009 clean water was imported on site. Integrity testing of tanks was carried out.

## Inspection & Integrity Procedure

Following emptying and cleaning of holding tanks were entered. Dimensions were recorded and tanks checked for any defects. When all preparations had been carried out the integrity/water tightness test was then performed according to the procedure defined in the Environmental Agency (England & Wales) R&D Technical Report P16. Initial water levels were taken and these were continuously monitored during the test. Any drop in water level would indicate tank failure. Weather conditions were dry on days tank inlets were blocked. It was important that inspection and integrity testing was performed during periods of little or no rainfall so as run off leachate in blocked pipe lines did not back up through pipeline excessively.

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### General Consultancy Services

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- All types of Planning Permission (Domestic, Agricultural, Commercial) and Waste Licence Applications prepared.
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- Setting out for Building Foundations and Site Boundaries. Full Project Management services available.

## Results & Compliance

Tank	Length (m)	Width (m)	Height (m)	Max Storage Volume (m <sup>3</sup> )	Inlet Invert Level (m)	Effective Storage Volume (m <sup>3</sup> )	Test Fill Height (m)	Comment
1	4.450	4.250	2.210	41.800	1.550	29.320	1.550	Tested & Passed
2	11.975	4.520	2.210	119.620	1.260	68.200	1.260	Tested & Passed

### Tank 1

Following visual inspection of holding tank no cracks or defects were visible. Construction is relatively new mass concrete construction. The only opening in tank was that for a 150 mm inlet pipe with invert 1550 mm from floor of tank. This was blocked at external manhole to West of tank. Tank was filled to invert level of inlet pipe i.e. no testing of pipework. No drop in water level was recorded during this monitoring period (6 hours) and so the tank has passed the integrity test and in compliance with licence requirements.

### Tank 2

Following visual inspection of holding tank no cracks or defects were visible. Construction is relatively new mass concrete construction. The only opening in tank was that for a 225 mm inlet pipe with invert 1260 mm from floor of tank. This was blocked at external manhole to North of tank. Tank was filled to invert level of inlet pipe i.e. no testing of pipework. No drop in water level was recorded during this monitoring period (6 hours) and so the tank has passed the integrity test and in compliance with licence requirements.


## Conclusion

Both underground holding tanks tested during this visit were found to be without defects and their integrity confirmed from these tests.

Signed:

  
Cathal Lehane

Dated:

  
11<sup>th</sup> July 2009

### General Consultancy Services

- SEI Registered for Non Domestic (Commercial) & Domestic BER Assessments.
- Fetac Certified for Environmental Protection Agency Site Assessments & SR6 1991 Percolation Tests.
- All types of Planning Permission (Domestic, Agricultural, Commercial) and Waste Licence Applications prepared.
- Stage Payments and Building Costs for mortgages. Land & Property Valuations. Pre Purchase Building Surveys.
- Land Transfers, Boundaries Disputes, Declaration of Identities, Certifications of Compliance, Structural Surveys.
- Setting out for Building Foundations and Site Boundaries. Full Project Management services available.

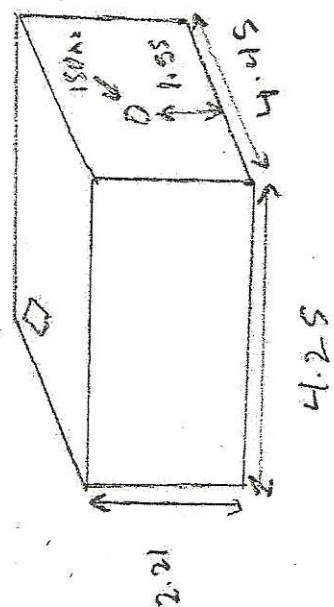
Public Liability Insurance €6,500,000

Professional Indemnity Insurance €500,000 e&e, €1,300,000 ER

Tank Full Volume - 41.8 m<sup>3</sup>

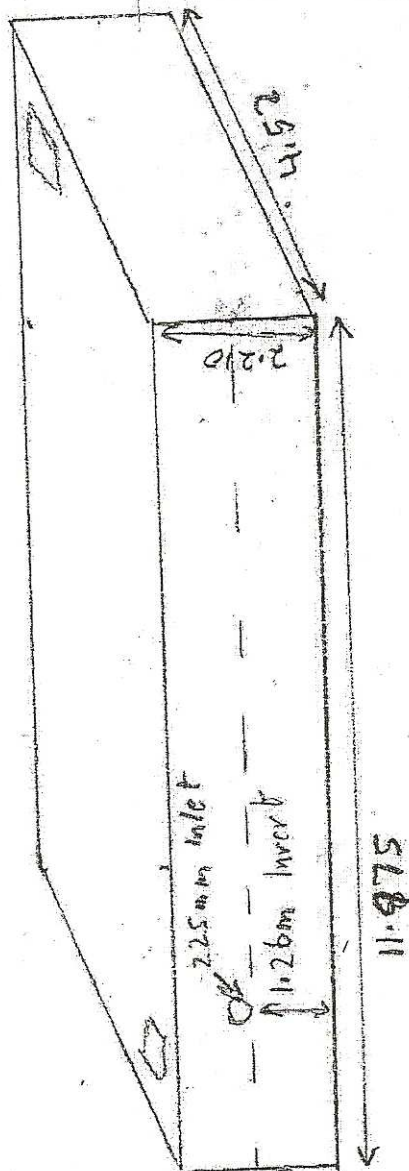
Sensor level - pipe in level 1.55 - volume ~ 29.32 m<sup>3</sup>

Tank 1

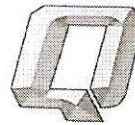


<b>CATHAL LEHANE BE MIEI</b>		Springville Dvens Co. Cork.	
Tel : 021 7432881 Fax : 021 7432881 e-mail: cathallehane@eircom.net		PROJECT No: C090020	
Consulting Civil & Environmental Engineer			
PROJECT:		PROJECT No: C090020	
Holding Tanks at Greenstar, Sarsfield			
Court, Glanmire, Co. Cork.			
DRAWING:			
Leachate Holding Tank 1			
CLIENT: Greenstar			
DRAWING No:	PREPARED BY:	CHECKED BY:	
P0-001	C Lehane	C Lehane	
DATE:	AREAS:	SQ.M	SQ.FT.
21/07/09			
SCALE:			
NTS			

Tank Full Volume = 119.62 m<sup>3</sup>  
 Tank 2 Sensor level - pipe in level - 0.126 - volume = 68.2 m<sup>3</sup>



<b>CATHAL LEHANE BE MIEI</b> Springville Dvens Co. Cork. Tel : 021 7432881 Fax : 021 7432881 e-mail: cathallehane@eircom.net		PROJECT: PROJECT No: C090020	
Consulting Civil & Environmental Engineer		Holding Tanks at Greenstar, Sarsfield Court, Glanmire, Co. Cork.	
DRAWING:		CLIENT: Greenstar	
Leachate Holding Tank 2		PREPARED BY: C Lehane CHECKED BY: C Lehane	
DATE: 21/07/09		AREAS: SQM SQ.FT.	
SCALE: NTS			



**PROFESSIONAL INDEMNITY INSURANCE POLICY SCHEDULE**

<b>POLICY NUMBER:</b>	GEI/COM/01406911	
<b>THE INSURED:</b>	Cathal Lebane t/a Southwestern Architectural & Engineering	
<b>BUSINESS ADDRESS:</b>	Springville Ovens Co Cork	
<b>BUSINESS DESCRIPTION:</b>	Consulting Engineer	
<b>INCEPTION DATE:</b>	09 May 2009	<b>TIME:</b> 00:01 hours
<b>EXPIRY DATE:</b>	08 May 2010	<b>TIME:</b> 23.59 hours
<b>PERIOD OF INSURANCE:</b>	09 May 2009 to 08 May 2010	
<b>RENEWAL DATE:</b>	09 May 2010	
<b>ANNUAL (MINIMUM AND DEPOSIT PREMIUM):</b>	€ 1,923.00	Inclusive of 2% Government levy
<b>FIRST (MINIMUM AND DEPOSIT PREMIUM):</b>	€ 1,923.00	Inclusive of 2% Government levy
<b>TERRITORIAL LIMITS:</b>	Worldwide excluding USA/Canada	
<b>JURISDICTION:</b>	Worldwide excluding USA/Canada	
<b>RETROACTIVE DATE:</b>	09 May 2005	
<b>PROPOSAL FORM DATED:</b>	16 March 2009	
<b>LIMIT OF INDEMNITY:</b>	€ 500,000	
	For any one event	
<b>EACH &amp; EVERY OCCURRENCE EXCESS:</b>	€ 1,000	

# **APPENDIX 2**

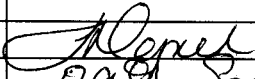
## Incident Report

## Incident Report – GS 023

<b>Date/Time of incident:</b>	04 <sup>th</sup> September 2009 8:30am approx.
<b>Incident Description:</b>	<p>At 8:30am the fire alarm in the MRF/Weighbridge alarmed. All people in the above locations left the area and Louise Demir/Pat Colman went to investigate. Smoke was seen exiting the vents on the door in the plant room.</p> <p>The plant room houses the compressor for the abatement system. It's function is to blast the filters in the RJP unit with compressed air in order to keep them free of dust and debris. The temperature sensor in the compressor had malfunctioned and so the system overheated resulting in a burst pipe. The pipe sprayed hot oil when ruptured resulting in a large amount of smoke but no fire in the room. Fire extinguisher was not utilized.</p> <p>Compressor was not scheduled for a service for another 100 hours at time of incident.</p>
<b>Location of Incident on-site:</b>	Plant room Sarsfield Court
<b>Date, Time &amp; Details of EPA/L.A. notification:</b> (The EPA/L.A. should be notified by phone and fax not later than 10am the following day and a written report submitted within 5 working days. Attach documents)	N/A
<b>If incident relates to foul or surface water has local authority and/or Fisheries Board been notified?</b> (Include contact names, dates etc. Attach correspondence)	N/A
<b>Remedial Action Required:</b>	<ol style="list-style-type: none"> <li>1. Compressor lockout. Complete 8:35am 04<sup>th</sup> Sept 2009</li> <li>2. Temporary compressor put in place. 10:30am 04<sup>th</sup> Sept 2009.</li> <li>3. Replacement of temperature sensor. Ongoing. Sensor due on site 16<sup>th</sup> September 2009 which associated repair scheduled for same.</li> </ol>
<b>Status of Remedial Action:</b>	

<b>Form Reference No.</b>	GS 023	<b>Issued by</b>	Fiona Farrell
<b>Issue</b>	1	<b>Date</b>	1/4/05

## Incident Report – GS 023

<p><b>Preventative Action Required:</b></p>  <p><b>Status of Preventative Action:</b></p>	<p>N/A. The compressor receives regular service and was inside the required hours. The next service wasn't due for another 100 hours. The compressor is visually checked three times a week as part of the checks on the abatement system. It was checked on the 02<sup>nd</sup> September 2009 and all appeared as normal.</p>
<p><b>Signed</b></p>	
<p><b>Date:</b></p>	<p>09<sup>th</sup> September 2009</p>

<b>Form Reference No.</b>	GS 023	<b>Issued by</b>	Fiona Farrell
<b>Issue</b>	1	<b>Date</b>	1/4/05



# **APPENDIX 3**

## Complaints Register

Complaints Register – GS 024b

*AD 22/11/2005*

Date	Complaint/Enquiry Details	Information supplied	Signed
<i>22/11/2005</i>	<i>J. Forder</i>	<i>Deliver complaint</i>	<i>J. Forder</i>
<i>23/11/2005</i>	<i>J. Forder</i>	<i>Deliver complaint</i>	<i>J. Forder</i>
<i>24/11/2005</i>	<i>J. Forder</i>	<i>Deliver complaint</i>	<i>J. Forder</i>
<i>23/11/2005</i>	<i>J. Forder</i>	<i>Deliver complaint</i>	<i>J. Forder</i>
<i>10/April/09</i>	<i>J. Forder</i>	<i>Order Complaint</i>	<i>C. Fitzgerald</i>
<i>4/June 2009</i>	<i>J. Forder</i>	<i>Order Complaint</i> <i>checked system</i> <i>no order in 7. Forder's name</i>	<i>J. Forder</i>
<i>23/11</i>	<i>BMD Engineering</i>	<i>Deliver Complaint</i>	<i>J. Forder</i>
<i>27/July 2009</i>	<i>Eleanor Keadon</i>	<i>Deliver Complaint</i>	<i>Tos Hay</i>
<i>12 October 09</i>	<i>BMD Engineering</i>	<i>Deliver letter Cap</i>	<i>J. Forder</i>
<i>02 Nov 2009</i>	<i>BMD Engineering</i>	<i>Deliver Complaint</i>	<i>J. Forder</i>
<i>06 Jan 2010</i>	<i>J. Forder</i>	<i>Deliver Complaint</i>	<i>J. Forder</i>
<i>09 Jan 2010</i>	<i>J. Forder</i>	<i>Deliver Complaint</i>	<i>J. Forder</i>

Form Reference No.	GS 024b	Issued by	Fiona Farrell
Issue	1	Date	1/4/05

COMPLAINT'S LOG - GS 024a

Details of Complaint			
Report No		Date	02 Nov 2009
Location	Saxfeld Court	Time	9:00am
Name of Complainant:	BMD Engineering		
Address of Complainant:	Saxfeld Court Industrial Estate Glennare, Cork.		
Brief Details:	BMD rang me to complain of odour at their site.		
Cause	Visited site at 9:25am. Odour verified for about 30 sec at 9:35am		
Recorded by:	J. Doran	Date:	02 Nov 2009
<b>Immediate Corrective Action Taken</b>			
Odour patrol 93 - no odours Abatement system checked - operating with specified parameters Checked vehicle movements in and out of MTF.			
Signed	J. Doran	Date	02 Nov 2009
<b>Non-Conformance Raised?</b>			
Non-conformance Raised (Y/N)	N.		
Non-conformance Reference No.			
<b>Preventative Action Proposed</b>			
Odour was verified on BMD's site consistent with waste odours was light and intermittent lasting for approx 30 secs. Correlated with truck movement out of tunnel in MTF. As vehicle was outside catchment for abatement no action. Waste was odourous in MTF after moving.			
<b>Preventative Action Completed</b>			
Odour verified but from vehicle movement outside of MTF so unable to take action.			
Signed		Date	
<b>Response Made to Complainants</b>			
Spoke to Des on site. Explained issues with vehicle movement. Also CO in abatement system in the coming week.			
Signed	J. Doran	Date	02 Nov 2009

Form Reference No.	GS 024a	Issued by	Fiona Farrell
Issue	1	Date	1/4/05

COMPLAINT'S LOG - GS 024a

Details of Complaint			
Report No		Date	12 Oct 2009
Location	Sausfield Court	Time	9:30am approx
Name of Complainant:	BMD Engineering		
Address of Complainant:	Sausfield Court Industrial Est Glennare, Cork.		
Brief Details:	BMD contacted Customer Services to explain of odour in site.		
Cause	Visited site with Gas Scanlon at 10:00am and no odour was detected.		
Recorded by:	Moran	Date:	12 Oct 2009
<b>Immediate Corrective Action Taken</b>			
No odour was detected in site. Asked Sean from BMD to contact me if he had another issue. Abatement system was checked and an odour patrol was completed both were normal with no odour. Odours to transfer building cleared at time of check.			
Signed	Moran	Date	12 Oct 2009
<b>Non-Conformance Raised?</b>			
Non-conformance Raised (Y/N)		No	
Non-conformance Reference No.			
<b>Preventative Action Proposed</b>			
N/A			
<b>Preventative Action Completed</b>			
N/A			
Signed		Date	
<b>Response Made to Complainants</b>			
Complainant also explained of letter from track in his premises. Have responded letter pick trace a check in BMD yard premises			
Signed	Moran	Date	12 Oct 2009

Form Reference No.	GS 024a	Issued by	Fiona Farrell
Issue	1	Date	1/4/05

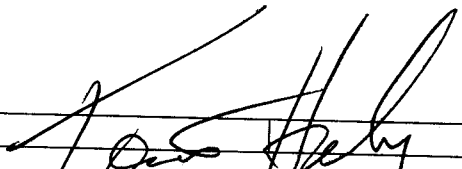
COMPLAINT'S LOG - GS 024a

Details of Complaint			
Report No		Date	05 Oct 2009
Location	Sausheled Court	Time	9.15am approx
Name of Complainant:	BMD Cigarettes		
Address of Complainant:	Sausheled Court Ind Est Glanville Curb		
Brief Details:	BMD contacted workbride to complain of odour on their site		
Cause	Visited site at just after 9.00am and no odour was detected by myself and Michael Houn. Complainant present		
Recorded by:	Morley	Date:	05 Oct 2009
Immediate Corrective Action Taken			
N/A No odour was detected. Asked Ops (complainant) to ring me if he gets more odour. He declined. All odour monitoring and abatement checks were normal.			
Signed	Morley	Date	05 Oct 2009
Non-Conformance Raised?			
Non-conformance Raised (Y/N)	No		
Non-conformance Reference No.	N/A		
Preventative Action Proposed			
N/A			
Preventative Action Completed			
N/A			
Signed		Date	
Response Made to Complainants			
Signed		Date	

All doors  
to transfer  
building  
were checked  
and were  
closed.

Form Reference No.	GS 024a	Issued by	Fiona Farrell
Issue	1	Date	1/4/05

COMPLAINT'S LOG - GS 024a

Details of Complaint			
Report No		Date	4/6/09
Location		Time	17.05.
Name of Complainant:	J. FORDE.		
Address of Complainant:	100 East.		
Brief Details:	John rang to say he has odour on site.		
Cause	Went on site @ 17.06 - no odour detected, verified by J. Forde		
Recorded by:		Date:	
Immediate Corrective Action Taken			
<p><u>NONE</u></p> <p>John said he would ring me again if he received odour again</p>			
Signed		Date	
Non-Conformance Raised?			
Non-conformance Raised (Y/N)			
Non-conformance Reference No.			
Preventative Action Proposed			
<p>Will visit site again on <u>5th</u>.</p> <p>Checked system @ 11 m/s * <del>no odour at that time</del></p>			
Preventative Action Completed			
Signed		Date	
Response Made to Complainants			
Signed		Date	

Form Reference No.	GS 024a	Issued by	Fiona Farrell
Issue	1	Date	1/4/05

COMPLAINT'S LOG - GS 024a

Details of Complaint			
Report No		Date	16/4/09
Location		Time	11.27
Name of Complainant:	J Ford.		
Address of Complainant:	IND Est.		
Brief Details:	John called to say he had odour issues in yard.		
Cause	went on site @ 11.27 no odour		
Recorded by:		Date:	
Immediate Corrective Action Taken			
visited yard again at 12.55 no odour. called again at 2.30 no odour. initially 10 mins on site got odour - investigated, no visible cause and no issue with odour abatement. cleared drive way into John Ford site, no more issues			
Signed		Date	
Non-Conformance Raised?			
Non-conformance Raised (Y/N)			
Non-conformance Reference No.			
Preventative Action Proposed			
<del>visited</del> visited again on the 15/4/09.			
Preventative Action Completed			
Signed		Date	15/4/09
Response Made to Complainants			
called to John Ford site no odour. Drive way into site cleared.			
Signed	Christine Fitzgerald	Date	

Form Reference No.	GS 024a	Issued by	Fiona Farrell
Issue	1	Date	1/4/05

# **APPENDIX 4**

## European Pollutant Release and Transfer Register





Environmental Protection Agency

| PRTR# : W0136 | Facility Name : Greenstar Recycling (Munster) Ltd | Filename : W0136\_2009.xls | Return Year : 2009 |

# AER Returns Worksheet

Version 1.1.10

<b>REFERENCE YEAR</b>	2009
-----------------------	------

## 1. FACILITY IDENTIFICATION

Parent Company Name	Greenstar Recycling (Munster) Limited
Facility Name	Greenstar Recycling (Munster) Ltd
PRTR Identification Number	W0136
Licence Number	W0136-02

### 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	Sarsfieldcourt Industrial Estate
Address 2	Glanmire
Address 3	Cork
Address 4	
Country	Ireland
Coordinates of Location	-8.40596 51.9631
River Basin District	IESW
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
<b>AER Returns Contact Name</b>	Suzanne Byrne
<b>AER Returns Contact Email Address</b>	suzanne.byrne@greenstar.ie
<b>AER Returns Contact Position</b>	Environmental Executive
<b>AER Returns Contact Telephone Number</b>	01-2947949
<b>AER Returns Contact Mobile Phone Number</b>	
<b>AER Returns Contact Fax Number</b>	01-2947900
<b>Production Volume</b>	0.0
<b>Production Volume Units</b>	
<b>Number of Installations</b>	0
<b>Number of Operating Hours in Year</b>	0
<b>Number of Employees</b>	0
<b>User Feedback/Comments</b>	
<b>Web Address</b>	

## 2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General

5(c) 50.1	Installations for the disposal of non-hazardous waste General
<b>3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)</b>	
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

| PRTR# : W0136 | Facility Name : Greenstar Recycling (Munster) Ltd | Filename : W0136\_2009.xls | Return Year : 2009 |

31/03/2010 15:13

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR									
POLLUTANT		METHOD			QUANTITY				
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
			Method Code	Designation or Description					
						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 AIR									
POLLUTANT		METHOD			QUANTITY				
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
			Method Code	Designation or Description					
						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 AIR									
POLLUTANT		METHOD			QUANTITY				
Pollutant No.	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
			Method Code	Designation or Description					
						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

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 Recycling (Munster) Ltd

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

| PRTR# : W0136 | Facility Name : Greenstar Recycling (Munster) Ltd | Filename : W0136\_2009.xls | Return Year : 2009 |

31/03/2010 15:13

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 this

RELEASES TO WATERS								
POLLUTANT		Method Used			QUANTITY			
No. Annex II	Name	M/C/E	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								
POLLUTANT		Method Used			QUANTITY			
No. Annex II	Name	M/C/E	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								
POLLUTANT		Method Used			QUANTITY			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	SW-3 Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
303	BOD	E	Estimate	Estimated based on average rainfall over surface area of site and average of annual results	137.3295	137.3295	0.0	0.0
306	COD	E	Estimate	Estimated based on average rainfall over surface area of site and average of annual results	322.72433	322.72433	0.0	0.0
238	Ammonia (as N)	E	Estimate	Estimated based on average rainfall over surface area of site and average of annual results	7.45013	7.45013	0.0	0.0
351	Total Organic Carbon (as C)	E	Estimate	Estimated based on average rainfall over surface area of site and average of annual results	102.99713	102.99713	0.0	0.0
240	Suspended Solids	E	Estimate	Estimated based on average rainfall over surface area of site and average of annual results	384.5226	384.5226	0.0	0.0
327	Nitrate (as N)	E	Estimate	Estimated based on average rainfall over surface area of site and average of annual results	42.09591	42.09591	0.0	0.0
372	Nitrite (as N)	E	Estimate	Estimated based on average rainfall over surface area of site and average of annual results	1.797225	1.797225	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

| PRTR# : W0136 | Facility Name : Greenstar Recycling (Munster) Ltd | Filename : W0136\_2009.xls | R

31/03/2010 15:13

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER								
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
						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								
POLLUTANT		METHOD			QUANTITY			
Pollutant No.	Name	M/C/E	Method Used		SE-1 Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
303	BOD	C	PER	Calculated based on average results and amount of waste water removed off site	5.21436	5.21436	0.0	0.0
306	COD	C	PER	Calculated based on average results and amount of waste water removed off site	69.70776	69.70776	0.0	0.0
238	Ammonia (as N)	C	PER	Calculated based on average results and amount of waste water removed off site	0.59279	0.59279	0.0	0.0
240	Suspended Solids	C	PER	Calculated based on average results and amount of waste water removed off site	90.29076	90.29076	0.0	0.0
324	Mineral oils	C	PER	Calculated based on average results and amount of waste water removed off site	39.51936	39.51936	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

| PRTR# : W0136 | Facility Name : Greenstar Recycling (Munster) Ltd | Filename : W0136\_2009.xls | Return Year : 2009 |

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SECTION A : PRTR POLLUTANTS

RELEASES TO LAND							
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)

RELEASES TO LAND							
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

| PRTR# : W0136 | Facility Name : Greenstar Recycling (Munster) Ltd | Filename : W0136\_2009.xls | Return Year : 2009 |

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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	Haz Waste : Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used		Non	Non Haz Waste: Address of Recover/Disposer			
Within the Country	19 09 04	No	27.28	LDF Activated Carbon	R3	M	Weighed	Offsite in Ireland	Ormonde Organics,WP 072/01		Rockwell,New Inn,Co. Tipperary,..Ireland 7 Glyntown Heights,Glanmire,Co. Cork,..Ireland		
Within the Country	15 01 02	No	11.28	Plastic Bottles	R13	M	Weighed	Offsite in Ireland	Marwin Environmental,926 Glyntown Enterprises Ltd.,CK (S) 329/06		Estate,Sarsfieldcourt Industrial e,Co. Cork,Ireland		
Within the Country	15 01 02	No	1.1	Plastic Packaging	R13	M	Weighed	Offsite in Ireland	Greenstar Ltd.,W0053-03		Wicklow,..Ireland		
Within the Country	15 01 02	No	47.82	Plastic Packaging	R13	M	Weighed	Offsite in Ireland	Cork Recycling Company Ltd.,CK (S) 17/02		Lehenaghmore,Togher,Cork ..,Ireland		
Within the Country	15 01 03	No	44.3	Pallets	R3	M	Weighed	Offsite in Ireland	Cork Togher Pallets,CK (S) 17/02		Lehenaghmore,Togher,Cork ..,Ireland		
Within the Country	15 01 03	No	114.06	Pallets	R3	M	Weighed	Offsite in Ireland	Glyntown Enterprises Ltd.,CK (S) 329/06		Estate,Sarsfieldcourt Industrial e,Co. Cork,Ireland		
Within the Country	15 01 03	No	4.26	Pallets	R13	M	Weighed	Offsite in Ireland	Glyntown Enterprises Ltd.,CK (S) 329/06		Estate,Sarsfieldcourt Industrial e,Co. Cork,Ireland		
Within the Country	15 01 03	No	3.96	Wooden Packaging	R13	M	Weighed	Offsite in Ireland	Greenstar Ltd.,W0053-03		Wicklow,..Ireland		
Within the Country	15 01 06	No	69.9	Mixed Packaging	R13	M	Weighed	Offsite in Ireland	Glyntown Enterprises Ltd.,CK (S) 329/06		Estate,Sarsfieldcourt Industrial e,Co. Cork,Ireland		
Within the Country	15 01 07	No	1794.5	Glass Packaging	R13	M	Weighed	Offsite in Ireland	John Butler & Sons,CK (S)113/04		Cork,..,Ireland		
Within the Country	17 01 07	No	37.72	C&D Inert Mixed	R5	M	Weighed	Offsite in Ireland	Countrywide Drain Services,CK/WMC/466/07		Cork,..Ireland		
Within the Country	16 10 02	No	548.88	Liquid Waste	R13	M	Weighed	Offsite in Ireland	Miltown Composting Systems Ltd.,WP 019 02		Miltownmore,Fethard,Co. Tipperary,..Ireland		
Within the Country	19 09 02	No	21.04	Sludge	R3	M	Weighed	Offsite in Ireland	Cork Recycling Company Ltd.,CK (S) 17/02		Lehenaghmore,Togher,Cork ..,Ireland		
Within the Country	19 12 07	No	92.2	Pallets	R3	M	Weighed	Offsite in Ireland	Cork Recycling Company Ltd.,CK (S) 17/02		Lehenaghmore,Togher,Cork ..,Ireland		
Within the Country	19 12 07	No	29.34	Wood	R3	M	Weighed	Offsite in Ireland	CTO / Cork City Council,W0012-02		Kinsale Road Landfill,Inchisarsfield,South City Link Road,Cork,Ireland		
Within the Country	19 12 07	No	36.0	Wood	R3	M	Weighed	Offsite in Ireland	Eras Eco Ltd.,W0211-01		Cork,..Ireland		
Within the Country	19 12 07	No	22.04	Wood	R3	M	Weighed	Offsite in Ireland	BRP Baler,W0015-01		Ballyogan Road,Jamestown,Carrickmines,Dublin 18,Ireland		
Within the Country	19 12 12	No	20.84	C&I Dry Mixed	R13	M	Weighed	Offsite in Ireland	Cork City Council,W0012-02		Kinsale Road Landfill,Inchisarsfield,South City Link Road,Cork,Ireland		
Within the Country	19 12 12	No	9347.05	C&I Dry Mixed	D5	M	Weighed	Offsite in Ireland	Connaught Regional Residual Landfill,W0178-01		More,Kilconnell,Ballinasloe,Co. Galway,Ireland		
Within the Country	19 12 12	No	2967.83	C&I Dry Mixed	D5	M	Weighed	Offsite in Ireland	Knockharley Landfill,W0146-01		Kenstown,Navan,Co. Meath,..Ireland		
Within the Country	19 12 12	No	18042.57	C&I Dry Mixed	D5	M	Weighed	Offsite in Ireland	Greenstar Ltd.,W0053-03		Fassaroe,Bray,Co. Wicklow,..Ireland		
Within the Country	19 12 12	No	2607.92	C&I Dry Mixed	R13	M	Weighed	Offsite in Ireland	Greenstar Ltd. ,W0183-01		Millennium Business Park,Ballycoolin,Dublin 11,..Ireland		

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	Haz Waste : Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used		Non	Non Haz Waste: Address of Recover/Disposer	Non	Non	
Within the Country	19 12 12	No	578.26	MSW Municipal Mixed	D5	M	Weighed	Offsite in Ireland	Cork City Council,W0012-02		Kinsale Road Landfill,Inchisarsfield,South City Link Road,Cork,Ireland		
Within the Country	19 12 12	No	9865.55	MSW Municipal Mixed	D5	M	Weighed	Offsite in Ireland	Cork County Council,W0038-02		Youghal Mudlands,Youghal ,Co. Cork,,Ireland		
Within the Country	19 12 12	No	71.14	MSW Municipal Mixed	D5	M	Weighed	Offsite in Ireland	Connaught Regional Residual Landfill,W0178-01		More,Kilconnell,Ballinasloe,Co. Galway,Ireland		
Within the Country	19 12 12	No	2110.25	MSW Municipal Mixed	R13	M	Weighed	Offsite in Ireland	Greenstar Ltd.,W0053-03		Fassaroe,Bray,Co. Wicklow,,Ireland		
Within the Country	19 12 12	No	7446.0	Fines MSW	R3	M	Weighed	Offsite in Ireland	Miltown Composting Systems Ltd.,WP 019 02		Miltownmore,Fethard,Co. Tipperary,,Ireland		
Within the Country	19 12 12	No	25.46	LDF Activated Carbon	R13	M	Weighed	Offsite in Ireland	Greenstar Ltd.,W0053-03		Wicklow,,Ireland		
Within the Country	20 01 02	No	55.86	Glass	R13	M	Weighed	Offsite in Ireland	Glytown Enterprises Ltd.,CK (S) 329/06		Sarsfieldcourt Industrial Estate,Sarsfieldcourt,Glanmir e,Co. Cork,Ireland		
Within the Country	20 01 35	Yes	4.62	Electronics & Electrics	R5	M	Weighed	Offsite in Ireland	Immark ,W0185-01		Greenogue Industrial Estate,Rathcoole,Co. Dublin,,Ireland	Immark,W0185-01,Greenogue Industrial Estate,Rathcoole,Co. Dublin,,Ireland	Greenogue Industrial Estate,Rathcoole,Co. Dublin,,Ireland
Within the Country	20 01 35	Yes	6.62	Electronics & Electrics	R5	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd,W0113-03		Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	KMK Metals Recycling Ltd.,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	5.88	Electronics & Electrics	R13	M	Weighed	Offsite in Ireland	Marwin Environmental,926		7 Glyntown Heights,Glanmire,Co. Cork,,Ireland	Marwin Environmental,926,7 Glyntown Heights,Glanmire,Co. Cork,,Ireland	7 Glyntown Heights,Glanmire,Co. Cork,,Ireland
Within the Country	20 01 38	No	12.44	Wood	R3	M	Weighed	Offsite in Ireland	Cork Recycling Company Ltd.,CK (S) 17/02		Lehenaghmore,Togher,Cork ,,Ireland		
Within the Country	20 01 38	No	86.04	Wood	R3	M	Weighed	Offsite in Ireland	CTO / Cork City Council,W0012-02		Kinsale Road Landfill,Inchisarsfield,South City Link Road,Cork,Ireland		
Within the Country	20 01 40	No	87.81	Metal	R4	M	Weighed	Offsite in Ireland	Cork Metal Company,CK (S) 204/05		Dublin Hill,Co. Cork,,Ireland		
Within the Country	20 01 40	No	129.36	Metal	R4	M	Weighed	Offsite in Ireland	Davis Recycling Ltd.,WP 98067		Pigeon House Road,Ringsend,Dublin 4,,Ireland		

\* Select a row by double-clicking the Description of Waste then click the delete button