Kerry County Council

Waste Licence Ref No. W0087-01

REPORT TITLE

Caherciveen Transfer Station
Annual Environmental Report

Reporting Period:

January 2013 – December 2013

Prepared By:
Environmental Service Section,
Kerry County Council,
Maine Street,
Tralee
Co. Kerry.

March 2014

1.0 Introduction

Kerry County Council operates a waste transfer and recycling facility in the townland of Inchamacteige, approximately 3 km from the town of Caherciveen, Co. Kerry. The site is accessed via a small access road branching off the county road L7006.

The principal activity of the Transfer Station is the compaction of solid waste into 30 cubic metre closed containers for subsequent transfer and disposal at North Kerry Landfill in Muingnaminnane, Tralee.

Other activities include the recycling or reclamation of inorganic materials including metals, glass, steel and aluminium cans, fluorescent tubes, household hazardous waste, cardboard, plastic bottles and newspapers.

This Annual Environment Report is prepared in accordance with Condition 2.8 and Schedule B of Waste Licence W0087-01 issued by the Environmental Protection Agency (EPA).

2.0 Reporting Period

The reporting period for this Annual Environmental Report is 1st January 2013– 31st December 2013.

3.0 Waste Activities Carried out at the Facility

Waste disposal activities are carried out at Caherciveen Transfer Station in accordance with Part 1 of Waste Licence W0087-01 which outlines the waste disposal activities licensed in accordance with the Third Schedule of the Waste Management Act 1996. Licensed activities include:

Class 12 Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Class 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.

Waste recovery activities carried out at Caherciveen Transfer Station are in accordance with Part 1 of Waste Licence W0087-01 which outlines the waste recovery activities licensed in accordance with the Fourth Schedule of the Waste Management Act 1996. Licensed activities include:

Class 1 Solvent reclamation or regeneration.

Class 2 Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).

Class 3 Recycling or reclamation of metals and metal compounds.

Class 4 Recycling or reclamation of other inorganic materials.

Class 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.

4.0 Quantity and Composition of Waste Received, Disposed and Recovered: 1st Jan – 31st Dec 2013

Waste tonnage disposed of at Caherciveen Transfer Station during the reporting year (2013) decreased by 9.5% on the previous year (2012). This is primarily due to a reduction of 49 tonnes in the quantity of waste being disposed of by members of the public, this is due to the economic downturn.

The weight of the waste accepted into Caherciveen Transfer Station Facility for disposal for the reporting period was 504.18 tonnes. This comprises of the following breakdown:

Waste for Disposal	***Tonnes 2012***	***Tonnes 213***
Household Waste	472.86	423.86
Commercial Waste	37.64	32.42
Road Sweeping/Street Cleaning	28.88	25.06
Graveyard Waste	1.98	1.98
Flytipping	16.40	20.86
Total	**557.76**	**504.18**

Table 1 Waste Stream Breakdown for reporting Period.

Overall the quantities of waste sent for recycling is comparable to last year. Waste sent for recycling during the reporting period compared with previous years is outlined in Table 2 below.

Waste for Recycling & Recovery	***Tonnes 2012***	***Tonnes 2013***
Metals	20	26.44
Glass	23.48	28.634
Aluminium and Steel Cans	3.64	4.692
Batteries	0.03	0.44
Newspapers	52.88	51.04
Cardboard	10.26	13.92
Fluorescent Tubes	0.28	0.3
Plastic Bottles	11.58	15.72
Waste Engine Oil	0.98	1.28
WEEE	61.65	68.23
Dry Recyclables	12.68	11.84
Textiles	1	1.1
Total for Recycling/Recovery	**198.46**	**223.864**

Table 2 Waste collected on site and recovered/recycled off site during the reporting period.

Appendix I contains a breakdown of waste by classification collected/ repackaged on site during the reporting period.

5.0 Projections of the quantities to be accepted and percentages disposed and recycled/recovered for the coming year

It is expected that waste disposal rates and recycling/recovery rates at Caherciveen Transfer Station will continue to decrease in the next reporting period mainly due to the weak economic environment and the increasingly competitive waste industry.

6.0 Summary Report on Emissions for the Reporting Period

a) Foul Water Emissions

The foul water discharge is monitored quarterly. The results are sent to the EPA and are also available at the Caherciveen facility. One exceedance was noted on the 26 November 2013 where a sample taken on the 16 October 2013 when tested on the 26th November showed a BOD of 21.5 mg/l (limit of 20 mg/l). Suspended solids readings at the outfall location are consistently high for the reporting period average of 192 mg/l (limit of 30 mg/l). This is primarily due to disturbance of water when tests are being taken. Both of these issues will be addressed during the coming reporting period. A Puraflow Wastewater Treatment Unit is installed at the facility to treat all foul waters from the site.

b) Surface Water Emissions

Surface water runoff from site roads and uncontaminated surfaces discharges via silt traps to the surface water drains.

c) Waste from Silt Traps and Interceptors

A total of 11.06 Tonnes of silt/sludge and wastewater were removed from the silt trap and the foul water treatment unit during the reporting period and disposed of at Tralee Wastewater Treatment Plant.

7.0 Summary of Results and Interpretations of Environmental Monitoring

a) Dust monitoring

Dust Monitoring was carried out at the facility in September/October 2012. The dust monitoring results were within the emission limit value specified in the licence.

There were no issues with dust during 2013 and no complaints were received in relation to dust at the facility. The results over the years have shown no significant nuisance from dust at the facility.

It is Kerry County Council's intension to seek a technical amendment in relation to the dust monitoring requirement of Waste Licence W0087 as past monitoring indicates that the site it not causing excessive dust to the surrounding environs.

b) Noise monitoring.

A noise survey to EPA NG4 was undertaken on the 12/12/2013. Noise Levels recorded at Noise Sensitive Locations are determined to be below the emission limit value. The site is therefore compliant as regard noise levels.

There were no issues with noise during 2013 and no complaints were received in relation to noise at the facility. The results over the years have shown that the facility caused no significant noise nuisance to neighbours.

The waste transfer station does not generate noise at night-time when the facility is closed.

It is Kerry County Council's intension to seek a technical amendment in relation to the noise monitoring requirement of Waste Licence W0087 as past monitoring indicates that the site it not causing excessive noise to the surrounding environs.

Location	Peiod	Run	Date Time	LaeqT	LAF90	LAF10	Lafmax	Rated Noise Level	Description of On-Site Noise Sources	Description of Off-Site Noise Sources	Complaince
B1	Daytime	1	12/12/13 13.42	52	46	58	73	52	Random wind gusts. Compaction Machine	Wind blowing trees	n/a
B2	Daytime	1	12/12/13 13.10	55	50	59	74	55	Cars and Vans entering site. Random wind gusts. Compaction machine	Wind blowing trees	n/a
B3	Daytime	1	12/12/13 13.15	56	48	60	78	40	Cars and Vans entering site. Random wind gusts. Compaction machine	Wind blowing trees	n/a
B4 NSL	Daytime	1	12/12/13 13.45	48	41	42	70	48	none	wind gusts	Yes
		2	12/12/13 14.15	49	43	56	71	49	none	wind gusts	Yes
		3	12/12/13 14.45	48	41	53	73	48	none	wind gusts	yes

Table 3 Daytime Noise Monitoring Results Caherciveen Waste Transfer Station 2013.

c) Monitoring of surface water.

The surface water monitoring results are attached in Appendix II. Significant deterioration in status at SW5 was noted in recent years by high level of Ammonia. This has been borne out by recent measurements

An examination of discharge from transfer station since 2003 i.e. ***Se1*** shows ***an effluent of acceptable quality.***

The contamination at SW5 would therefore seem to indicate that elevated levels (***23.99 mg/L NH4***, on 9th April last) are due to legacy or old landfill activities

As indicated in earlier reports the nearest point on Carhan downstream of landfill/transfer station still denotes a ***Q value =4*** which denotes a water of good quality.

The point on stream which is a tributary of Carhan stream , just downstream of transfer station also scores quiet highly on SSRS investigation. A summary of Biological report from 2010 is included with this report

However the impact from transfer station or old legacy landfill activities while they may not yet be evident on surface water quality does not eliminate possibility of a future impact. An investigation into impact on groundwater from closed landfills, including Cahersiveen, is currently underway. We intend to submit a report on this before December 2014.

d) Foul Water

The foul water emissions results are attached in Appendix II. The results of samples from the foul water emissions show an effluent of acceptable quality during the reporting period. One exceedance was noted on the 26 November 2013 where a sample taken on the 16 October 2013 when tested on the 26th November showed a BOD of 21.5 mg/l (limit of 20 mg/l). Suspended solids readings at the outfall location are consistently high for the reporting period average of 192 mg/l (limit of 30 mg/l). This is primarily due to disturbance of water when tests are being taken. Both of these issues will be addressed during the coming reporting period

e) Landfill gas

The levels of methane gas and carbon dioxide recorded have reduced significantly (2012 average **CH_4** – 0.8 % v/v, & **CO_2 -** 0.4% v/v) compared to 2008 and 2009. The landfill gas monitoring results are attached in Appendix III.

8.0 Resource and Energy Consumption Summary

The following is the energy consumption for Caherciveen Transfer Station for the reporting period.

8.1 Diesel

The diesel usage for Caherciveen Transfer Station for the reporting period 2013 was 1,216 litres. The primary usage of diesel is for the rubber tyred excavator on site and diesel waste compactor.

8.2 Electricity

The electricity usage for the facility during the reporting period was 4,900 kilowatt hours. This is a reduction of 1,287 kWh on the previous year

Year	Average Electricity Usage kWh/day
2013	10.83
2012	11.85
2011	16.91
2009	16.99

Power is required for the office computer and lighting, weighbridge, waste compactor, storage heating, water pumping, cardboard baler and public lighting on the site.

8.3 Water

Water supply is from a groundwater borehole on site. Water usage for the facility during the reporting period was estimated to be 80 m^3. Water is mainly used on site for power washing yards, transfer station apron and hopper.

9.0 Resource and Energy Consumption Summary

No development works were undertaken at the facility during the reporting period.

10.0 Timescale for Proposed Development Works For Forthcoming Year

No development works are proposed at the facility for 2014.

11.0 Environmental Management System

There is an Environmental Management System on site. This system is due for review and changes to work practices on site will be reflected in the review of the document. Once the review is complete a copy will be forwarded to the Agency for its consideration.

12.0 Report on Progress toward achieved of the 2013 Environmental Objectives and Targets and Environmental Objectives and Targets for 2014.

Target Area	2013 - Objective	2013 - Achievement	2014 - Objective
Surface Water Emissions	Keep surface water emissions from the site with the licenced limits	Regular inspection of water drains carried out. Regular inspection of bunds carried out. Quarterly monitoring of surface water monitoring points carried out	Ensure that any raised emissions are dealt with in a timely manner, cause identified and were possible and practicable eliminated. Formalise the inspection of water drains. Formalise the inspection of bunds. Forward quarterly monitoring to Agency within timescale in licence.
Litter on public access roads to facility	Reduce the waste from lost loads on access roads to facilities	Regular litter monitoring carried out by on site staff	Continue regular litter patrols.
Energy Resources	Reduce the quantity of diesel and electricity used on site	Maintained electricity consumption level on site. Reduced diesel consumption on site.	Continue to maintain electricity consumption level on site. Continue to maintain diesel consumption on site.
Waste Records	Introduce new computer system to record waste transactions.	System in place and database connection back to KCC HQ.	Maintain database.

13.0 Summary of Procedures Developed by the Licensee

The following procedures were developed during the reporting period:

- Revised Operational Procedures for Facility Manager
- Revised Health & Safety Procedures

14.0 Reported Incidents and Complaints

No incidences or complaints were reported in relation to the operation of the facility during the reporting period.

15.0 Report on Financial Provision

a) Statement of Costs for Waste Operations at Facility

Accelem	Accelem(T)	EURO
60030	Wages	23,972.05
60040	Salaries	4,920.10
60100	ER PRSI	4,461.75
60200	Overtime	9,254.27
60500	Annual Leave	3,152.52
60510	Bank Holiday Leave	939.05
60600	Travel/Subsistence	2,454.09
60700	Eating on site allowance	5.70
61990	Other Allowances	1,241.04
65500	Minor Contracts- Trade Services & other works	21,887.34
66500	Non-Capital Equip Purchase - Fire Services	24.40
68000	Non-Capital Equip Purchase - Office Equip/Furn	141.84
68500	Non-Capital Equip Purchase - Other	41.45
69000	Hire (Ext) - Plant/Transport/Machinery & Equipment	412.50
69200	Repairs & Maint - Plant	165.49
69250	Repairs & Maint -Computer Equip	0.00
69260	Repairs & Maint - Other Equip	18.09
69400	Transfers from Machinery Yard	5,125.50
69600	Other Vehicle Expenses	102.00
70000	Materials	352.18
70990	Issues from Stores	6,306.05
71000	Insurance	0.00
73400	Staff Travelling & Subsistence Expenses	369.67
75000	Computer Software and Maintenance Fees	8,100.00
76000	Communication Expenses	509.48
76100	Postage	20.00
77100	Courier	0.00
77200	Security - Property	409.90
78000	Training	23.00
79900	Consultancy/Professional Fees and Expenses	28.00
80000	Advertising	261.66
81000	Printing & Office Consumables	10.45
82100	Statutory Contributions to Other Bodies	5,259.10
86000	Energy	1,126.91
	Total Expenditure Waste 2013	**101,095.58**

b) <u>Statement of Costs for Recycling Operations at Facility</u>

Accelem	Accelem(T)	EURO
60030	Wages	€ 9,303.72
60100	ER PRSI	€ 1,670.60
60200	Overtime	€ 4,065.82
60500	Annual Leave	€ 2,615.95
60510	Bank Holiday Leave	€ 134.15
60600	Travel/Subsistence	€ 1,137.93
61990	Other Allowances	€ 201.69
65500	Minor Contracts- Trade Services & other works	€ 4,795.36
66500	Non-Capital Equip Purchase - Fire Services	€ 6.10
68000	Non-Capital Equip Purchase - Office Equip/Furn	€ 35.46
69200	Repairs & Maint - Plant	€ -
69250	Repairs & Maint -Computer Equip	€ -
69260	Repairs & Maint - Other Equip	€ 4.52
69400	Transfers from Machinery Yard	€ -
70000	Materials	€ 699.52
70990	Issues from Stores	€ -
73400	Staff Travelling & Subsistence Expenses	€ 91.08
75000	Computer Software and Maintenance Fees	€ -
76000	Communication Expenses	€ 172.13
77100	Courier	€ 3.00
77200	Security - Property	€ 102.47
78000	Training	€ -
79900	Consultancy/Professional Fees and Expenses	€ 12.00
80000	Advertising	€ -
81000	Printing & Office Consumables	€ 10.45
82100	Statutory Contributions to Other Bodies	€ 2,253.86
86000	Energy	€ 809.90
	Total Recycling 2013	**€28,125.71**

16.0 Management and Staffing Structure at Facility 2013

Kerry County Council

County Manager: Mr Tom Curran

Director of Services: Mr Oliver Ring

Senior Engineer Environmental Services:
Mr Tom Sheehy

Senior Executive Engineer &
Facility Engineer:
Mr John Ahern

Senior Executive Chemist:
Mr David Lenihan

Site Manager/
Weighbridge Operator:
Mr Tommy Murphy

Relief Operatives:
Mr Denis Lenihan
Mr John Mannix

17.0 Programme of Public Information

The following files are available for inspection on site by members of the public:

- AER of previous reporting years
- All correspondence with the Agency
- Surface Water Monitoring Results
- Incident/Complaints Register
- Tonnage of waste accepted on site
- Characterisation of waste accepted on site
- Operational Procedure Manual
- Waste Acceptance Procedure
- Information on Recycling Initiatives e.g. leaflets.
- Environmental Management System.

Appendix I - Waste Categorisation and Statistics

Caherciveen Transfer Station Residual Waste - Tonnage Period 01/01/13 to 31/12/2013

							Non Levied Waste										
	Public Car Household	* Non weighed waste inclusive of tickets	A/C Holders (VAT Inclusive)	A/C Holders (VAT Exempt)	KCC Internal Depts	Total Levied Waste	Road Sweeping/Street Cleaning	Graveyard Waste	Clean Ups / F'tipping	Total Non - levied	Total of Waste Over Weighbridge	Total Waste Out	No. Loads Out of TS	Waste In @ NKL	No. Loads Into NKL	Variance	Average Variance per Load
January 2013	**20.92**	**9.86**	**2.34**	**0**	**0.58**	**33.7**	**1.88**	**1.26**	**0.8**	**3.94**	**27.78**	**37.66**	**3**	**37.64**	**3**	**-0.02**	**-0.01**
January 2012	30.72	18.84	3.54	2.36	0	55.46	1.86	1.10	1.24	4.2	40.82	59.82	5	59.66	5	-0.16	-0.03
February 2013	**18.08**	**13.12**	**1.42**	**0**	**0**	**32.62**	**1.88**	**0**	**0.86**	**2.74**	**22.24**	**35.4**	**3**	**35.36**	**3**	**-0.04**	**-0.01**
February 2012	18.82	14.34	1.46	0	0	34.62	2.32	0	1.16	3.48	23.76	38.02	3	38.1	3	0.08	0.03
March 2013	**20.86**	**0.36**	**1.62**	**0**	**0**	**22.84**	**1.74**	**0**	**0.74**	**2.48**	**24.96**	**25.40**	**2**	**25.32**	**2**	**-0.08**	**-0.04**
March 2012	20.18	8	2.54	0.88	3.48	35.08	1.26	0	0.38	1.64	28.72	35.74	3	36.72	3	0.98	0.33
April 2013	**19.06**	**23.48**	**1.18**	**1.32**	**0**	**45.04**	**1.88**	**0.5**	**0.54**	**2.92**	**24.48**	**47.78**	**4**	**47.96**	**4**	**0.18**	**0.04**
April 2012	26.92	12.64	2.72	0	0.14	42.42	3.08	0	1.14	4.22	34.00	47.24	4	46.64	4	-0.60	-0.15
May 2013	**21.64**	**11.98**	**0.84**	**1.16**	**0.00**	**35.62**	**2.22**	**0.00**	**1.90**	**4.12**	**27.76**	**39.88**	**3**	**39.74**	**3**	**-0.14**	**-0.05**
May 2012	24.5	20.38	1.8	0	0.52	47.20	1.56	0	0.82	2.38	29.20	49.68	4	49.58	4	-0.1	-0.03
June 2013	**24.7**	**13.62**	**1.92**	**0**	**0**	**40.24**	**1.8**	**0.06**	**3.08**	**4.94**	**31.56**	**45.5**	**4**	**45.18**	**4**	**-0.32**	**-0.08**
June 2012	23	21.38	1.32	1.76	0	47.46	2.6	0	1.62	4.22	30.3	52.42	4	51.68	4	-0.74	-0.19
July 2013	**29.46**	**5.02**	**3.34**	**1.36**	**1.72**	**40.90**	**1.28**	**0**	**4.54**	**5.82**	**41.70**	**59.00**	**5**	**46.72**	**4**	**-12.28**	**-3.07**
July 2012	31.38	11.36	3.04	0	0	45.78	1.88	0	3.68	5.56	39.98	50.06	4	51.34	4	1.28	0.32
August 2013	**28.3**	**30.86**	**3.00**	**0**	**0.28**	**62.44**	**4.64**	**0**	**4.48**	**9.12**	**40.70**	**72.38**	**6**	**71.56**	**6**	**-0.82**	**-0.14**
August 2012	32.92	19.5	3.84	0	0	56.26	4.96	0	2.78	7.74	44.50	64.2	5	64	5	-0.20	-0.04
September 2013	**19.32**	**9.66**	**2.04**	**1.24**	**0.98**	**33.24**	**0.92**	**0**	**2.88**	**3.8**	**27.38**	**36.02**	**3**	**37.04**	**3**	**1.02**	**0.34**
September 2012	25.48	8.92	0.94	0	0	35.34	1.84	0	1.6	3.44	29.86	38.84	3	38.78	3	-0.06	-0.02
October 2013	**20.3**	**27.86**	**1.5**	**0**	**0.68**	**50.34**	**2.52**	**0**	**0.56**	**3.08**	**25.56**	**42.24**	**4**	**53.42**	**5**	**11.18**	**2.24**
October 2012	18.1	14	1.34	1.66	0	35.1	1.94	0	0.66	2.6	23.70	37.72	3	37.7	3	-0.02	-0.01
November 2013	**19.4**	**19.36**	**1.38**	**0**	**0.32**	**40.46**	**2.48**	**0**	**0.34**	**2.82**	**23.92**	**43.08**	**4**	**43.28**	**4**	**0.20**	**0.05**
November 2012	18.04	13.64	1.2	0	0	32.88	3.48	0	0.56	4.04	23.28	37.1	3	36.92	3	-0.18	-0.06
December 2013	**17.74**	**-1.1**	**0.24**	**1.1**	**0.86**	**18.84**	**1.82**	**0.16**	**0.14**	**2.12**	**22.06**	**31.12**	**3**	**20.96**	**2**	**-10.16**	**-5.08**
December 2012	20.34	19.46	1.52	1.54	0.04	42.90	2.1	0.88	0.76	3.74	27.18	46.62	4	46.64	4	0.02	0.01
Total Tonnage 2013	**259.78**	**164.08**	**20.82**	**6.18**	**5.42**	**456.28**	**25.06**	**1.98**	**20.86**	**47.90**	**340.10**	**515.46**	**44**	**504.18**	**43**	**-11.28**	
Total Tonnage 2012	**290.40**	**182.46**	**25.26**	**8.20**	**4.18**	**510.50**	**28.88**	**1.98**	**16.40**	**47.26**	**375.30**	**557.46**	**45**	**557.76**	**45**	**0.30**	
Grand Total							**47.9**				**Overall Average Variance Per Load**					**-0.26**	

Waste Out - Caherciveen Waste Transfer Station 2013

Source	Type	EWC code	Total Quantity waste (tonnes)	January	February	March	April	May	June	July	August	September	October	November	December
Hopper	Mixed Municipal waste	20 03 01	504.18	37.64	35.36	25.32	47.96	39.74	45.18	46.72	71.56	37.04	53.42	43.28	20.96
Recycling Area	Mixed Dry Recyclables	20 03 01	11.84	1.14	0.98	0.8	1.24	0.68	1.04	1.36	1.06	0.96	0.84	0.52	1.22
	Cardboard	20 01 01	13.92	2.24	0	1.42	1.16	0	1.84	1.74	1.7	1.44	0	2.38	0
	News and pams	20 01 01	51.04	4.4	4.04	3.38	3.42	5.12	4.18	4.12	6.7	3.62	4.68	4.22	3.16
	Glass Packaging	15 01 07	28.64	3.14	2.42	2.22	5.44			3.12	3.88	3.14	2.611	2.669	0
	Aluminium cans	15 01 04	1.182	0.07	0.16	0.13	0.19			0.1	0.14	0.12	0.152	0.12	0
	Steels Cans	15 01 04	3.51	0.34	0.49	0.56	0.37			0.32	0.5	0.27	0.29	0.37	0
	Scrap metal	20 01 40	26.44	1.96	1.86	0	2.14	4.94	0	5.64	2.1	1.88	1.94	2	1.98
	Plastic Packaging	15 01 02	15.72	1.26	0.98	1	1.06	1.54	1.2	1.44	2.02	1.42	1.46	1.52	0.82
	Textiles	20 01 11	1.1							1.1					
	Portable Batteries	16 06 01	0.44	0.44	0	0	0	0	0	0	0	0	0	0	0
	CRT	20 01 36	19.1	2.08	1.61	1.47	2.15	2.34	1.21	2.18	0.85	1.88	0.99	1.4	0.94
	SDA	20 01 36	16.4	1.08	1.25	1.11	1.19	1.86	0.96	2.42	0.84	2.52	0.88	1.05	1.24
	LDA	20 01 36	22.75	0.9	1	1.12	1.64	3.39	1.54	3.88	1.3	3.7	1.51	1.62	1.15
	Cold	20 01 36	9.98	0.43	0.56	0.56	0.17	1.35	0.67	1.02	1.27	1.36	0.98	1.03	0.58
	Hazardous Waste	Mixed	2.36	0	0	1.28	0.14	0	0	0.14	0.8	0	0	0	0
	Fluorscent Tubes	20 01 21	0.3	0.12	0	0	0.08	0	0	0	0	0	0.1	0	0
Total Tonnes			728.902	57.24	50.71	40.37	68.35	60.96	57.82	75.3	94.72	59.35	69.853	62.179	32.05

Appendix II - Results of Foul and Surface Water Monitoring

SW1

Parameter						Ammonium	pH	BOD (5day	Conductivit	Chemical C	Chloride	Dissolved C	Suspended	Temperatu	Appearanc	Odour	Molybdate
						NH4	Physchem	O2	Physchem	O2	Cl	O2	Physchem	Physchem		Physchem	P
Max.						--	9	--	--	--	--	15	--	--	--	--	--
Target						--	--	--	--	--	--	--	--	--	--	--	--
Min.						--	6	--	--	--	--	5	--	--	--	--	--
Project	Location	Location Easting	Location Northing	Sample Reference	Sample Date	Comments	mg/l	pH units	mg/l	µS/cm	mg/l	mg/l	mg/l	mg/l	Degrees C	Descriptive	Descriptive	mg/l
Caherciveen	Sw1	50364.7	78554.9	2013/0124	09-Jan-13		0.21	6.8	< 1	95	36	25.8	11.4	3	8	Clear	N/D	
Caherciveen	Sw1	50364.7	78554.9	2013/1483	09-Apr-13		0.07	6.9	< 1	117	20	27.7	10.6	3	9			
Caherciveen	Sw1	50364.7	78554.9	2013/2833	03-Jul-13		0.02	6.7	1.3	111	31	24.4	9.6	20	15.9	Clear	Slight Sediment	
Caherciveen	Sw1	50364.7	78554.9	2013/4560	16-Oct-13		0.03	6.7	1.2	94	43	23.4	9.3	2	12.7	Clear	N/D	

SW3

Parameter							Ammonium	pH	BOD (5day	Conductivit	Chemical C	Chloride	Dissolved C	Suspended	Temperatu	Appearance	Odour	Sulphate	Alkalinity
							NH4	Physchem	O2	Physchem	O2	Cl	O2	Physchem	Physchem		Physchem	SO4	CaCO3
Max.							--	9	--	--	--	--	15	--	--	--	--	--	--	--
Target							--	--	--	--	--	--	--	--	--	--	--	--	--	--
Min.							--	6	--	--	--	--	5	--	--	--	--	--	--	--
Project	Location	Location Easting	Location Northing	Sample Reference	Sample Date	Sample Tir	Comments	mg/l	pH units	mg/l	µS/cm	mg/l	mg/l	mg/l	mg/l	Degrees C	Descriptive	Descriptive	mg/l	mg/l
Caherciveen	SW3	50057.4	78929.6	2013/0125	09-Jan-13	14:34		0.08	6.6	1.1	69	43	16.6	10.2	5	7.1	Clear	N/D		
Caherciveen	SW3	50057.4	78929.6	2013/1484	09-Apr-13	13:40		0.04	7	< 1	142	37	30.8	10.7	17	9.7				
Caherciveen	SW3	50057.4	78929.6	2013/2834	03-Jul-13	14:35		0.12	***5.7***	1.4	123	45	30	9.8	9.5	16.1	Slight Sediment	N/D		
Caherciveen	SW3	50057.4	78929.6	2013/4561	16-Oct-13	14:10		< 0.02	7.2	< 1	123	45	21.6	9.1	2	13.1	Clear	N/D		

SW4

Parameter						Ammonium	pH	BOD (5day	Conductivit	Chemical C	Chloride	Dissolved C	Suspended	Temperatu	Appearance	Odour	Sulphate	Alkalinity	Molybdate
						NH4	Physchem	O2	Physchem	O2	Cl	O2	Physchem	Physchem		Physchem	SO4	CaCO3	P
Max.						--	9	--	--	--	--	15	--	--	--	--	--	--	--
Target						--	--	--	--	--	--	--	--	--	--	--	--	--	--
Min.						--	6	--	--	--	--	5	--	--	--	--	--	--	--
Project	Location	Location Easting	Location Northing	Sample Reference	Sample Date	Comments	mg/l	pH units	mg/l	µS/cm	mg/l	mg/l	mg/l	mg/l	Degrees C	Descriptive	Descriptive	mg/l	mg/l	mg/l
Caherciveen	Sw4	50061.3	78733.3	2013/0126	09-Jan-13		< 0.02	***5.6***	< 1	124	44	30.1	10	1	8.1	Clear	N/D			
Caherciveen	Sw4	50061.3	78733.3	2013/1485	09-Apr-13		0.13	6.8	1.7	142	38	31.6	10.7	20	8.8					
Caherciveen	Sw4	50061.3	78733.3	2013/2835	03-Jul-13		0.02	7.4	3.3	153	64	23.9	6.6	60	14.9	Slight Sediment	N/D			
Caherciveen	Sw4	50061.3	78733.3	2013/4562	16-Oct-13		0.02	6.1	1.3	115	64	25.7	5.5	20	12.9	Some Iron Oxide	N/D			

SW5

Parameter	Ammonium	pH	BOD (5day	Conductivit	Chemical C	Chloride	Dissolved C	Suspended	Temperatu	Appearanc	Odour	Molybdate
	NH4	Physchem	O2	Physchem	O2	Cl	O2	Physchem	Physchem		Physchem	P
Max.	--	9	--	--	--	--	15	--	--	--	--	--
Target	--	--	--	--	--	--	--	--	--	--	--	--
Min.	--	6	--	--	--	--	5	--	--	--	--	--

Project	Location	Location Easting	Location Northing	Sample Reference	Sample Date	Comments	mg/l	pH units	mg/l	µS/cm	mg/l	mg/l	mg/l	mg/l	Degrees C	Descriptive	Descriptive	mg/l
Caherciveen	Sw5	50054.6	79046.1	2013/0127	09-Jan-13		< 0.02	6.3	1.3	75	30	16.2	10.2	16	7.1	Clear	N/D	
Caherciveen	Sw5	50054.6	79046.1	2013/1486	09-Apr-13		23.99	6.8	1.5	509	40	41.7	9.3	23	9.3			
Caherciveen	Sw5	50054.6	79046.1	2013/4563	16-Oct-13		< 0.02	***4.7***	1	67	74	16.8	8.7	< 1	13.7	Clear	N/D	

SE1

Parameter	Ammonium	pH	BOD (5day	Conductivit	Chemical C	Chloride	Dissolved C	Suspended	Temperatu	Appearance	Odour	Sulphate	Alkalinity
	NH4	Physchem	O2	Physchem	O2	Cl	O2	Physchem	Physchem		Physchem	SO4	CaCO3
Max.	--	9	--	--	--	--	15	--	--	--	--	--	--
Target	--	--	--	--	--	--	--	--	--	--	--	--	--
Min.	--	6	--	--	--	--	5	--	--	--	--	--	--

Project	Location	Location Easting	Location Northing	Sample Reference	Sample Date	Comments	mg/l	pH units	mg/l	µS/cm	mg/l	mg/l	mg/l	mg/l	Degrees C	Descriptive	Descriptive	mg/l	mg/l
Caherciveen	Se1	50105	78767	2013/0364	22-Jan-13		0.14	6.8	21	276	530			336	8	murky	ND		
Caherciveen	Se1	50105	78767	2013/1617	16-Apr-13	bottles from 09/04/2013	0.32	6.9	1.6	484	26			14	11		ND		
Caherciveen	Se1	50105	78767	2013/3268	29-Jul-13	collected from 03/07/2013	0.96	6.8	5.2	466	178			55.5	16	riverlike with solids	one Detecte		
Caherciveen	Se1	50105	78767	2013/5035	26-Nov-13	sample collected from 16/10/2013	2.5	7.3	21.5	511	526			366	7.5	Lot of solids/peaty particles	ND		

Invertebrate Monitoring Report : Carhan Stream

SSRS and Q index Monitoring of Carhan stream 19 July 2010

A request was made by the Environment Department to check if old landfill activities at Cahersiveen Transfer Station were having an effect on the River Carhan. It was decided that biological sampling was the only method which would give a full picture of the water quality in the area.

The Biological Quality Rating System for Rivers (Q ratings) as outlined by the Environmental Protection Agency (EPA) is carried out on rivers. The rating system goes from Q1 to Q5 where a Q5 denotes a pristine river and Q1 indicates serious pollution. This system is based on the differing tolerances of invertebrates to pollution. Three-minute kick samples are carried out at each station accompanied by stone examinations and weed sweeps which are generally done from May to September. It is important to note there are different classifications for depositing and eroding substrates.

First of all an SSRS study was carried out on the tributaries upstream of the transfer station as they are too small for Biological Quality Rating System described above. One of the tributaries was also sampled downstream of the transfer station. The Small Streams Risk Score (SSRS) is a relatively new biological risk assessment system for detecting potential sources of pollution in rivers and is usually carried out on first and second order streams from October to April. It was developed by the Environmental Protection Agency (EPA) in association with Western River Basin District (WRBD). The SSRS is of particular value in detecting hard to find diffuse sources of pollution within catchments. The basic principle of the SSRS is similar, i.e. that aquatic insects and other invertebrates living in streams have varying sensitivities to pollution and therefore, can be used as continuous monitors of water quality. This method was devised to describe the status of a stream with the score indicating the probability of risk as follows:

SSRS Scores: >8 Probably not at risk
6.5-8 Probably at risk
<6.5 At risk

A further explanation of the SSRS tool will help in understanding the results. It is divided into 5 groups of invertebrates, the mayflies, stoneflies, caseless and cased caddis flies, the GOLD species which consist of snails and worms and Asellus. It is important to note that the SSRS tool has been statistically designed to give more weight greater abundance of the pollution sensitive groups (i.e. mayflies and stoneflies). On the other hand the converse is true for the GOLD species and Asellus, which are more tolerant to pollution.

The SSRS tool was carried out on three tributaries while a Q rating was done on the main river upstream and downstream of the transfer station. One of the tributaries north (downstream) of the footbridge was unsuitable for sampling. All sites sampled are shown in the map at the end of the report. A results table shows results obtained at all these sites and corresponding biological ratings also. An adjoining file shows the species identified and other information for both the SSRS sites and the Q rating sites. Three of the four SSRS sites scored well indicating they are 'probably not at risk'. However, the Gurteen stream upstream of the transfer station only scored 6.4 deeming it 'at risk'. It should be noted that this stream flowed through bog which may be a factor.

It had recovered downstream gaining a score of 9.6. The main difference in the two sites was the absence of mayflies and the abundance of the GOLD group which were plentiful upstream.

The Q rating upstream of the transfer station was Q3 - 4. This site at the Footbridge E of Inchimacteige is also sampled by the EPA. In 2007 they obtained a Q rating of 3-4 also. However, when previously done in 2004 it scored a Q4 so there has been some deterioration over the last few years. It is difficult to see where the source of the problem is as the tributaries upstream all had good SSRS scores.

The Q rating downstream was carried out northeast of Chiclog where access was gained at the end of a track. The river had improved here scoring a Q4.

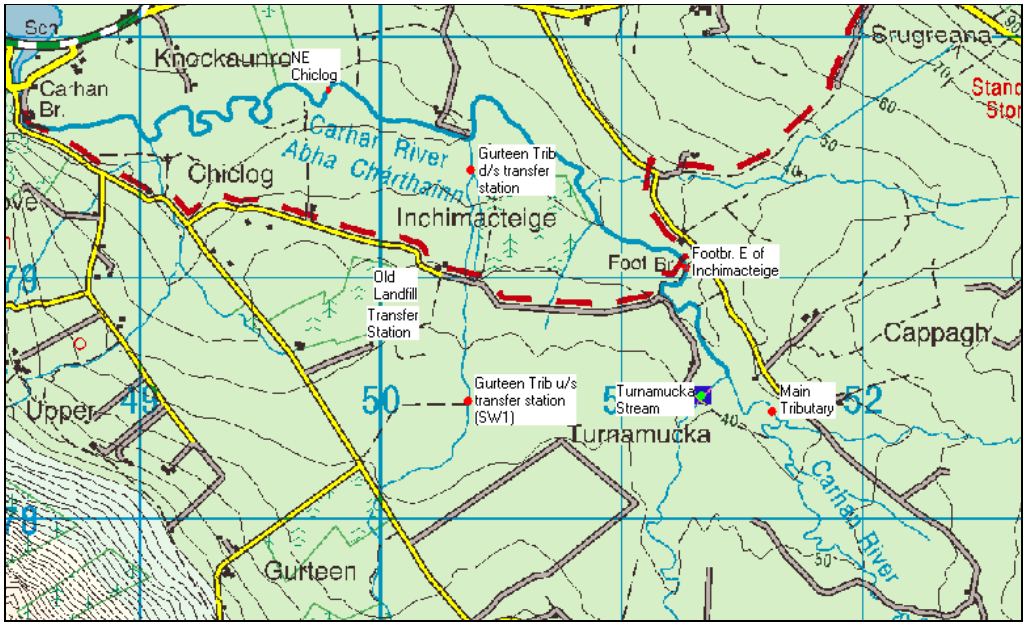
It would appear that any old landfill activities or the transfer station itself are not causing any deterioration in the river.

Parameter	Ammonium	Colour	Conductivity	MRP	TON	D.O.	D.O.	Temp	pH	SSRS	Q Rating
	NH4	Hz	at 20 degC	P	NO3	O2	% sat			Score	
Max.	--	20	--	0.03	--	15	150	--	9	--	
Target	--	--	--	--	--	--	--	--	--	--	
Min.	--	--	--	--	--	5	50	--	6	6.5	

Location	Lab Ref	Date	Time	mg/l	Hazen	µS/cm	mg/l	mg/l	mg/l	% O2	DegC	pH units	Score	Rating
Carhan River (Main tributary)	2010/0354	27.1.10	12:30	< 0.02	57	85	< 0.005	1.09	12.5	95	5.1	7	9.6	
Turnamucka Tributary	2010/0353	27.1.10	11:15	< 0.02	79	89	< 0.005	0.67	13.1	100	5	6.9	8.8	
Gurteen Tributary (SW1) u/s Transfer St.	2010/1490	8.4.10	11:07	< 0.02	91	92	< 0.005	0.97	11.5	96	8.1	6.6	6.4	
Gurteen Tributary d/s Transfer Station	2010/1491	8.4.10	14:25	< 0.02	94	98	0.008	1	11.3	101	10.7	6.6	9.6	
End of path NE Chiclog Foot-bridge	2010/2643	16.6.10	14:00	< 0.02	64	204	< 0.005	0.35	10	107	16.2	7.4		4
East Of Inchimacteige	2010/2642	16.6.10	10:50	< 0.02	72	113	< 0.005	0.6	11	109	15.6	7.3		3.5

Chemical Results & Biological Scores

Map of Sampling Points



Appendix III - Landfill Gas Summary

Caherciveen Waste Transfer Station

Monitoring of Landfill Gas Levels

Date	Ref.	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Atm. Pressure Mbar	Temperature Degrees Celsius
6/10/08	L1a	6.8	2.5	20.1	1008	15
13/5/09	L1a	5.4	3.3	21.4	1010	16
3/12/09	L1a	6.9	3.4	20.9	1005	8
20/4/10	L1a	1.0	0.3	20.1	1017	15
20/7/11	L1a	0.1	0.0	20.8	1011	14
1/11/11	L1a	0.4	0.2	20.5	997	12
17/07/12	L1a	0.8	0.4	19.6	1017	17

Appendix IV – Results of Dust Monitoring

southern scientific services ltd.

OUR REF: RP 2012 | KERRY COUNTY COUNCIL – CAHERCIVEEN | 01 PAGE 01 | 01

ANALYSIS REPORT

CUSTOMER:	KERRY COUNTY COUNCIL	SAMPLE TYPE:	DUST
ADDRESS:	Environment Section, Main Street, Tralee, County Kerry	CONDITION OF SAMPLE ON RECEIPT:	Satisfactory
		DATE SAMPLED:	12 September – 23 October 2012
REPORT TO:	JOHN AHERN	DATE RECEIVED:	25 October 2012
SAMPLED BY:	John Mannix	DATE ANALYSED:	09 – 20 November 2012
SAMPLING PT:	CAHERCIVEEN TRANSFER STATION	DATE REPORTED:	26 November 2012
ORDER NO:		WORK NO.:	27409 C | 12P-101 |

TABLE OF RESULTS

METHOD:	LAB REF:	YOUR REF:	TOTAL PARTICULATES mg/m²/day	INORGANIC PARTICULATES mg/m²/day
SCP 039	C12-Oct 475	Station 1	131	44
SCP 039	C12-Oct 476	Station 2	328	35

Karen Lavery
Chemistry Laboratory

- **The results relate only to the items tested.**
- **The analysis report shall not be reproduced except in full without written approval of the laboratory.**

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Appendix V – <u>Results of Noise Monitoring</u>

Environmental Efficiency
Consulting Engineers
Bray (Co. Wicklow) 01 276 1428
Lisburn (Co. Antrim) 028 9262 6733

Environmental Noise Survey 2013

at

Caherciveen WTS, Inchmateigue, Caherciveen, Co. Kerry

for

Kerry County Council

Waste licence: W087-01

Document Number: 1492-03

Email: energy@iol.ie www.enviro-consult.com Registered Office as above. Registered Number 243 412
Directors: Noel J. McGrath Robert B. Sutcliffe

QF 1. v2 Document Lead Sheet

Document Title	Environmental Noise Survey 2013 at Caherciveen WTS, Inchmateigue, Caherciveen, Co. Kerry
Project No.	1492
Document No.	1492-03
Client	Kerry County Council
Address	Caherciveen WTS, Inchmateigue, Caherciveen, Co. Kerry

Issue	Status	Date	Author	Signed for and on behalf of	
				Environmental Efficiency	Client
1.00	Approved	19/12/2013	GB		

SR04 v2.2

Where it is a requirement that this report be issued to a regulatory or other authority, then the client should sign the appropriate place in the above table and, unless specifically agreed in writing to the contrary, forward copies to the appropriate authority (e.g. EPA).

EEC Project Manager: Bob Sutcliffe, CEng, MIEI

EEC Document Author: George Byrne, MSc Biosystems Engineering

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Table of Contents

1. Introduction

Kerry County Council has a Waste Licence (W087-01) at their Waste Transfer Facility (WTF) at Inchmateigue, Caherciveen, Co. Kerry issued by the EPA. This requires that, amongst other things, a noise survey carried out in accordance to EPA Guidance Note NG4. The noise survey is required to be carried out at various specified locations in the vicinity of the site. This document reports the results of the noise survey undertaken.

2. Executive Summary

A noise survey to EPA NG4 was undertaken on the 12/12/2013.

Noise levels recorded at Noise Sensitive Locations (NSL's) are determined to be below the emission limit value. The site is therefore in compliant as regards noise levels. The compliance status at each location is shown in the table below.

Table 2-1 Summary of compliance

Location	NSL	Daytime
B1	No	N/A
B2	No	N/A
B3	No	N/A
B4	Yes	Compliant

3. Facility Description

The principal activity of the Transfer Station is the compaction of solid waste into 30 cubic meter closed containers. Other activities include the recycling or reclamation of inorganic materials including metals, glass, steel and aluminium cans, car batteries, dry cell batteries, fluorescent tubes, domestic hazardous waste, cardboard, plastic bottles and newspapers. Small quantities of organic waste are also collected. The facility is operational between the hours of 09:00 to 17:00 Monday to Friday; the waste transfer station does not generate noise at night-time when the facility is closed.

4. Monitoring requirements

Noise is required to be monitored at the locations shown in the table immediately below. The noise limits applicable are also shown in the second table below. Note that noise monitoring was only carried out during periods where there was activity or equipment running on the site.

Table 4-1 Locations monitored

Location	Location Description	Noise sensitive location
B1	Main gate	No
B2	Weighbridge	No
B3	Boundary location at back of site	No
B4	NSL dwelling to the West of the facility	Yes

Table 4-2 Parameters monitored

	dBA	T	Frequency
Daytime	55	30	Annual
Night-time	N/A	N/A	Annual
Third Band Octave	N/A	N/A	Not required

5. Sampling Methodology

5.1 Instrumentation Used

The equipment shown in the table below was used during the noise survey. All Sound Level Meters are Type I. Due to the number of noise monitoring locations two sets of similar equipment were used. Calibration certificates for the equipment, where appropriate, are shown in the appendices.

Table 5-1: Equipment Used

	First Set			Second set		
Equipment	Model	Serial Number	Cal cert	Model	Serial Number	Cal cert
SLM	CR:811C	D21736FD	Yes	CR:811C	D21736FD	Yes
Microphone	MK: 224	20044265	Yes	MK: 224	20044265	Yes
Calibrator	CR: 511E	51431	Yes	CR: 511E	51431	Yes
Tripod	N/A	N/A	N/A	N/A	N/A	N/A
Windshield	N/A	N/A	N/A	N/A	N/A	N/A
Anemometer	Kestral	N/A	N/A	Kestral	N/A	N/A

All noise measurements were 'A' weighted and the time-weighting 'Fast' was applied (to equate to human ear hearing). Each SLM is calibrated in the field before the start of each monitoring run and again at the end of the monitoring run. Unless stated otherwise in this report, there was no discrepancy greater than 0.1 dB between the SLM reading and the calibration noise level of 93.7 dB.

The SLM used is capable of third band octave measurement. Where monitoring is during daytime or evening, a penalty is added in cases where the presence of tonal is verified. The simplified methodology for the objective identification of tones specified in Annex D of ISO 1996K2:2007(E) is used for this purpose. However as No tonal noise was subjectively noted during any of the monitoring events at the NSL, no noise recoding was taken.

5.2 Noise Survey Personnel

The noise survey was undertaken by Environmental Efficiency Consultants (Ire) Ltd. Staff as follows

- Lead consultant George Byrne, MSc Biosystems Engineering

5.3 Meteorological Conditions

Weather conditions on the day of monitoring were considered appropriate for surveying purposes and therefore did not affect the readings i.e. conditions were dry and wind speed was not greater than 5 m/s (the normal upper limit for taking measurements). The Sound Level Meter was also fitted with a windshield to minimise interference from potential meteorological conditions, in keeping with good practice. The meteorological conditions during the survey periods are shown below.

Table 5-2: Weather Conditions Day 1

	Date and time	Av. wind speed, m/s	Temp, C	Prevailing weather conditions
Start survey	12/12/2013 13:10	3.6	11.0	Mostly cloudy
Mid survey	12/12/2013 14:00	5.0	11.0	Mostly cloudy
End survey	12/12/2013 14:40	3.1	11.0	Mostly cloudy

5.4 Measurement duration

The EPA specified minimum runs and survey duration are shown in the table below.

Table 5-3: Number of runs and monitoring duration

	Number of runs	NSL survey duration, (mins)	Boundary survey duration (mins)
Daytime (07:00 to 19:00)	3	90	30
Evening (19:00 to 23:00)	N/A	N/A	N/A
Night-time (23:00 to 07:00)	N/A	N/A	N/A

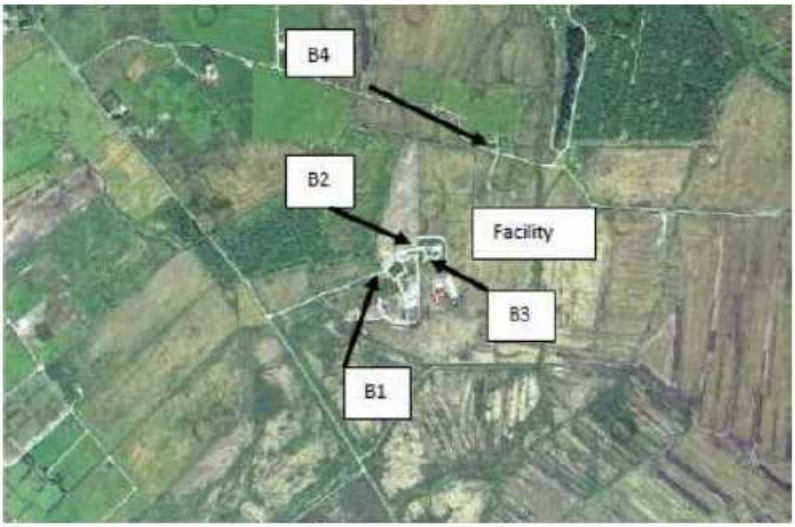

Figure 5-1 Site map

5.5 Ground attenuation

If the intervening ground between a noise source and a measurement location is acoustically absorptive, this can result in a reduction in noise level at the receptor due to absorption of sound energy by the ground itself. On contrary, if the intervening ground is acoustically reflective ground, its products the opposite effect.

The details of the intervening ground between sources and measurement positions are described in the following table:

Table 5-4: Ground attenuation

Location	% Soft Ground	% Hard Ground	Comments
B1	0	100	N/A
B2	0	100	N/A
B3	0	100	N/A
B4	90	10	N/A

6. Noise Survey

The measurement parameters $L_{Aeq,T}$, L_{AF90} and L_{AF10} plus the derived parameter $L_{Ar,T}$ are tabulated below in the tables for each monitoring location. Associated particulars such as a description of the on-site noise and off-site noise noticed at each location are also provided. A graphical representation of the parameters $L_{Aeq,T}$, L_{AF90} and $L_{Ar,T}$ over each monitoring period is provided in the graphs following each table.

The derived noise parameter $L_{Ar,T}$, termed the Rated Noise Level, includes a penalty of 5 dBA for tonal or impulsive noise where such noise is present. This penalty is normally added to $L_{Aeq,T}$. Where traffic or other off site intermittent noise sources are significant, the parameter L_{AF90} may be a better descriptor of site noise and where this is the case the Rated Noise Level is equal to L_{AF90}, plus the penalty. In the tables below, where L_{AF90} is considered a better descriptor of site noise, an asterisk is appended to the measurement.

The penalty for on-site tonal noise and/or on-site impulsive noise is only applied during the daytime and evening periods. No tonal or impulsive noise is permitted during night-time; if such noise is present then this is a breach regardless of the $L_{Aeq,T}$ or L_{AF90} noise level.

Where on site tonal is heard this is noted in the tables below in the column 'On site tonal?' In all cases where on-site tonal is heard the simplified methodology for the objective identification of tones specified in Annex D of ISO 1996K2:2007(E) is used to confirm the presence of tonal. Where on site tonal is confirmed, this is shown in the tables below in the column 'Tonal confirmed'. The third octave graphs used to confirm on site tonal are shown in the discussion section.

The column headed 'On site impulsive' states whether impulsive noise was heard by the monitoring personnel.

6.1 B1

Period	Run	Equipment	Date/Time	LAeq,T	LAF90	LAF10	L_{AFmax}	On site tonal?	On site impulsive ?	Rated Noise Level, LAr,T	Description of On-site Noise Sources	Description of Off-site Noise Interference	Compliant
Daytime	1	First set	12/12/2013 13:42	52	46	58	73	N/A	N/A	52	Random wind gusts. Compaction machine	Wind blowing trees	N/A

6.2 B2

Period	Run	Equipment	Date/Time	LAeq,T	LAF90	LAF10	L_{AFmax}	On site tonal?	On site impulsive ?	Rated Noise Level, LAr,T	Description of On-site Noise Sources	Description of Off-site Noise Interference	Compliant
Daytime	1	Second set	12/12/2013 13:10	55	50	59	74	N/A	N/A	55	Cars and vans entering the facility. Random wind gusts. Compaction machine	Wind blowing trees	N/A

6.3 B3

Period	Run	Equipment	Date/Time	LAeq,T	LAF90	LAF10	L_{AFmax}	On site tonal?	On site impulsive ?	Rated Noise Level, LAr,T	Description of On-site Noise Sources	Description of Off-site Noise Interference	Compliant
Daytime	1	First set	12/12/2013 13:15	56	48	60	78	N/A	N/A	40	Cars and vans entering the facility. Random wind gusts. Compaction machine	Wind blowing trees	N/A

6.4 B4 (NSL)

Period	Run	Equipment	Date/Time	LAeq,T	LAF90	LAF10	L_{AFmax}	On site tonal?	On site impulsive?	Rated Noise Level, LAr,T	Description of On-site Noise Sources	Description of Off-site Noise Interference	Compliant
Daytime	1	Second set	12/12/2013 13:45	48	41	52	70	No	No	48	None	Wind gusts	Yes
Daytime	2	Second set	12/12/2013 14:15	49	43	56	71	No	No	49	None	Wind gusts	Yes
Daytime	3	Second set	12/12/2013 14:45	48	41	53	73	No	No	48	None	Wind gusts	Yes

Notes

1. Rated Noise Level is equal to $L_{Aeq,T}$ (or L_{AF90} where this is a better descriptor) plus any adjustments for tonal or impulsive characteristics. Note that no adjustments for tonal are permitted for night-time monitoring as no tonal is permitted at night
2. Where L_{AF90} is a better descriptor of on site noise, the value is marked with an asterisk

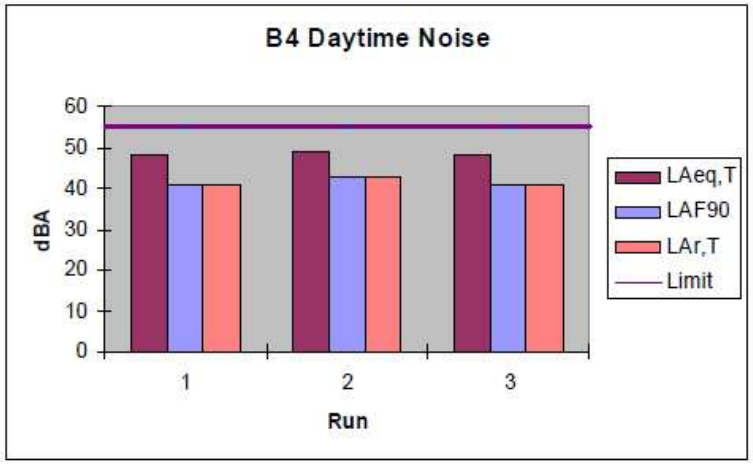

Figure 6-1 B4 Noise Graph

7. Discussion

At the two Noise Sensitive Locations; B4, the results for the day-time noise monitoring did not exceed the ELV according to company's Waste Licence.

There were no tonal or impulsive noise subjectively noted at any noise sensitive location.

Table 7-1 Summary of discussion

Location	Period	NSL	Tonal noise subjectively noted	Impulsive noise is subjectively noted	Noise Level breaches ELV
B4	Daytime	Yes	No	No	No

8. Conclusion

Noise levels recorded at Caherciveen Waste Transfer Station are deemed to be below the Exceedance Limit Value set out in the companies Waste Licence

Appendix 1 Report Terminology

Noise Monitoring Parameters	
Survey	The measurement of noise over one or more days and is made up of a number of monitoring runs with one or more noise meters.
Run or monitoring run	A single measurement at one location to determine noise level. A number of monitoring runs will be typically be made at each location. The duration of a monitoring run is typically 15 or 30 minutes and is stipulated in the licence.
dB(A)	This is the unit used to quantify noise measurements. "dB" stands for decibel and the "A" indicates that the noise reading is A-weighted and therefore is a measurement of noise audible to the human ear. The scale is logarithmic.
$L_{Aeq,T}$	This parameter is measured on-site using a noise meter for a specified time period (T minutes). It represents the average noise level that occurred over that period.
Rated Noise Level or $L_{Ar,T}$	The Rated Noise Level is equal to $L_{Aeq,T}$ plus any penalty for confirmed tonal and/or subjective impulsive. The penalty is only added for daytime and evening monitoring.
L_{AF10} and L_{AF90}	The L_{AF10} and L_{AF900} are both statistical noise levels. L_{AF10} indicates that for 10% of the monitoring period, the sound levels were greater than the quoted value. L_{AF90} indicates that for 90% of the monitoring period, the sound levels were greater than the quoted value. The L_{AF90} indicates the background noise levels if short-term, intermittent noise sources were ignored e.g. a passing car. The L_{AF10} can be used to determine the effect to which these short-term noise sources effect the overall average reading i.e. if the L_{AF10} is very different to the L_{AF90}, then intermittent noise is a significant source of noise
Continuous	Noise produced without interruption.
Impulsive Noise	A noise of short duration (typically less than one second), the sound pressure of which is significantly higher than the background; brief and abrupt
Intermittent Noise	Noise produced on discontinuous basis e.g. equipment operating in cycles or events such as single passing vehicle or aircraft.
Tonal Noise	Noise, which contains a clearly audible, tone i.e. a distinguishable, discrete or continuous note (whine, hum, drone, screech, etc.).

Appendix 2 Certificates of Calibration CR:811B

NSAI
National Metrology Laboratory

Certificate of Calibration

Issued to	Environmental Efficiency Consultants Ireland Ltd. Parnell House, 19 Quinsboro Bray Co. Wicklow
Attention of	Mr. Ronan Sutcliffe

Certificate Number	E13353B
Item Calibrated	Cirrus CR:511E Acoustic Calibrator
Serial Number	035066
Client ID Number	LEN C03
Order Number	LSP0144B
Date Received	30 Jul 2013
NML Procedure Number	AP-NM-13
Method	The above calibrator was allowed to stabilize for a suitable period in laboratory conditions. It was then calibrated by measuring the sound pressure level generated in its measuring cavity (half-inch configuration). The calibrator's operating frequency was also measured.
Calibration Standards	Norsonic 1504A Calibration System incorporating: Agilent 34401A Digital Multimeter, File No. 0736 [Cal due: 10 Jul 2014] B & K 4134 Measuring Microphone, File No. 0743 [Cal due: 17 Apr 2014] B & K 4228 Pistonphone, File No. 0740 [Cal due: 08 Aug 2014]

Calibrated by	Sam Boles	Approved by	Paul Hetherington
Date of Calibration	07 Aug 2013	Date of issue	12 Aug 2013

CIPM MRA

This certificate is consistent with Calibration and Measurement Capabilities (CMC's) that are included in Appendix C of the Mutual Recognition Arrangement (MRA) drawn up by the International Committee for Weights and Measures. Under the MRA, all participating institutes recognize the validity of each other's calibration certificates and measurement reports for quantities, ranges and measurement uncertainties specified in Appendix C (for details see www.bipm.org)

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Glasnevin | Dublin 11 | Ireland T +353 1 808 2600 | F +353 1 808 2603 | NSAI.ie

Page 1 of 3

NSAI
National Metrology Laboratory

Certificate of Calibration

Issued to	Environmental Efficiency Consultants Ireland Ltd. Parnelli House, 19 Quinsboro Bray Co. Wicklow
Attention of	Mr. Ronan Sutcliffe

Certificate Number	E13353A
Item Calibrated	Cirrus CR:831B Sound Level Meter, complete with Cirrus Type CR:MV200C Pre-amplifier and Cirrus Type UK 224 Microphone
Serial Numbers	C16569FD (Sound Level Meter), 2533 (Pre-amplifier) and 20041382 (Microphone)
Client ID Number	LEN 002 (Sound Level Meter)
Order Number	LSP01448
Date Received	30 Jul 2013
NML Procedure Number	AP-NM-09
Method	The above sound level meter was allowed to stabilise for a suitable period in laboratory conditions. It was then calibrated by carrying out the verification tests detailed in IEC 61672-3 (2006), *Periodic tests, specification for the verification of sound level meters*. This standard specifies a procedure for the periodic verification of conformance of a sound level meter or integrating-averaging meter to IEC 61672-1 (2003).
Calibration Standards	Norsonic 1504A Calibration System incorporating: SR DS360 Signal Generator, No. 0735, [Cal. Due Date: 16 Jul 2014] B & K 4134 Measuring Microphone, No. 0743 [Cal Due Date: 17 Apr 2014] B & K 4228 Pistonphone, No. 0740 [Cal. Due Date: 08 Aug 2014] B & K 4226 Acoustical Calibrator, No. 0150, [Cal. Due Date: 30 Oct 2013]

Calibrated by	Sam Boles	Approved by	Paul Hetherington
Date of Calibration	12 Aug 2013	Date of Issue	12 Aug 2013

CIPM MRA

This certificate is consistent with Calibration and Measurement Capabilities (CMC's) that are included in Appendix C of the Mutual Recognition Arrangement (MRA) drawn up by the International Committee for Weights and Measures. Under the MRA, all participating institutes recognize the validity of each other's calibration certificates and measurement reports for quantities, ranges and measurement uncertainties specified in Appendix C (for details see www.bipm.org)

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Page 1 of 8

Appendix 3 Certificates of Calibration CR:811C

Certificate of Calibration

Cirrus Research plc
dedicated to noise measurement

Equipment Details

Instrument Manufacturer	Cirrus Research plc
Instrument Type	CR:515
Description	Acoustic Calibrator
Serial Number	51431

Calibration Procedure

The acoustic calibrator detailed above has been calibrated to the published data as described in the operating manual. The procedures and techniques used to follow the recommendations of the IEC standard Electroacoustics – Sound Calibrators IEC 60942:2003, IEC 60942:1997, BS EN 60942:1998 and BS EN 60942:2003 where applicable.. The calibrator's main output is 94.00 dB (1 Pa) and this was set within the 0.01 dB resolution of the test system, i.e. one hundredth of a decibel. Numbers in (parenthesis) refer to the paragraph in IEC 60942.

Calibration Traceability

The calibrator above was calibrated against the calibration laboratory standards held by Cirrus Research plc. These are traceable to International Standards (A.0.6). The standards are:

Microphone Type	B&K4180	Serial Number	1893453	Calibration Ref.	S 6009
Pistonphone Type	B&K4220	Serial Number	613843	Calibration Ref.	S 5964

Calibration Climate Conditions

The climatic test conditions were all maintained within the permitted limits of IEC 60942:1997.

Temperature	(B.3.2)	Permitted band 15°C to 25°C
Humidity	(B.3.2)	Permitted band 30% to 90% RH
Static Pressure	(B.3.2)	Permitted band 85 kPa to 105 kPa
Ambient Noise Level	(B.3.3.6)	Max permitted level 64 dB(Z)

Measurement Results

The figures below are the Calibration Laboratory test limits for this model calibrator and have a smaller tolerance than those permitted in IEC 60942.

94 dB Output	94.00 dB	Permitted band	93.95 to 94.05dB
104 dB Output	dB	Permitted band	103.80 to 104.30dB
Frequency	1000 Hz	Permitted band	990 to 1010Hz

Uncertainty

With an uncertainty coefficient of k=2, i.e. a 95% confidence level, the uncertainty of each measure is

94 dB Output	± 0.13 dB	104 dB Output	± 0.14 dB
Frequency	± 0.1 Hz	Level Stability	± 0.04 dB

Calibrated by T.A Goodhil

Calibration Date	30 October 2013
Calibration Certificate Number	212008

This Calibration Certificate is valid for 12 months from the date above.

Cirrus Research plc, Acoustic House, Bridlington Road, Hurmanby, North Yorkshire. YO14 0PH
Telephone: +44 (0) 1723 891655 Fax: +44 (0) 1723 891742
Email: sales@cirrusresearch.co.uk

Certificate of Calibration

Cirrus Research plc
dedicated to noise measurement

Equipment Details

Instrument Manufacturer	Cirrus Research plc
Instrument Type	CR:811C
Description	Sound Level Meter
Serial Number	D21736FD

Calibration Procedure

The instrument detailed above has been calibrated to the publish test and calibration data as detailed in the instrument hand book, using the techniques recommended in the latest revisions of the International Standards IEC 61672-1:2002, IEC 60651:1979, IEC 60804:2001,IEC 61260:1995, IEC 60942:1997, IEC 61252:1993, ANSI S1.4-1983, ANSI S1.11-1986 and ANSI S1.43-1997 where applicable.
Sound Level Meters: All Calibration procedures were carried out by substituting the microphone capsule with a suitable electrical signal, apart from the final acoustic calibration.

Calibration Traceability

The equipment detailed above was calibrated against the calibration laboratory standards held by Cirrus Research plc. These are traceable to International Standards (A.9.6). The standards are:

Microphone Type	B&K4180	Serial Number	1893453	Calibration Ref.	S 6009
Pistonphone Type	B&K4220	Serial Number	613843	Calibration Ref.	S 5961

Calibrated by T. A. Goodlet

Calibration Date	30 October 2012
Calibration Certificate Number	212009

This Calibration Certificate is valid for 12 months from the date above.

Cirrus Research plc, Acoustic House, Bridlington Road, Hunmanby, North Yorkshire. YO14 0PH
Telephone: +44 (0) 1723 891655 Fax: +44 (0) 1723 891742
Email: sales@cirrusresearch.co.uk

Appendix 4 Photographs of Monitoring Locations

Figure 8-1 B1

Figure 8-2 B2

Figure 8-3 B3

Figure 8-4 B4

Appendix VI - AER/PRTR Return 2013

| PRTR# : W0087 | Facility Name : Caherciveen Transfer Station | Filename : W0087_2013(1).xlsm | Return Year : 2013 |

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.17

REFERENCE YEAR	2013

1. FACILITY IDENTIFICATION

Parent Company Name	Kerry County Council
Facility Name	Caherciveen Transfer Station
PRTR Identification Number	W0087
Licence Number	W0087-01

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.
3.13	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.
4.1	Solvent reclamation or regeneration.
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	Inchamacteige
Address 2	Caherciveen
Address 3	Co Kerry
Address 4	
	Kerry
Country	Ireland
Coordinates of Location	-10.182 51.9418
River Basin District	IESW
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Tara O'Carroll
AER Returns Contact Email Address	tara.ocarroll@kerrycoco.ie
AER Returns Contact Position	Assistant Engineer
AER Returns Contact Telephone Number	0667162046
AER Returns Contact Mobile Phone Number	0879129535
AER Returns Contact Fax Number	0667162001
Production Volume	0.0

Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	1
User Feedback/Comments	Treatment and Transfer Tab - Changed 130204 to 130207 as per ENVA records and included waste mineral oil and waste cooking oil under this code. Change of recovery code to R1 and destinated as per ENVA reocrds. 150101 +3.66t 150102 +4.14t 150104 +1.045t 150107 +5.154t 160214 +4.98t 200140 +6.44t changed destination to United Metals, Ballysimon rd, Limerick 200301 -53.5t reduced usage of site in 2013 160211 changed destination as per ERP records 200133 change of destination as per ERP records 200136 change of destination as per ERP records Change 20 03 01 to 150106 Mixed Packaging
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General
50.1	General

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

Is it applicable?	No
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. WASTE IMPORTED/ACCEPTED ONTO SITE Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : W0087 | Facility Name : Caherciveen Transfer Station | Filename : W0087_2013(1).xlsm | Return Year : 2013 | 17/02/2014 13:06

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
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 AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
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
03	Carbon dioxide (CO2)	C	OTH	GasSim v1.54	0.0	73300.0	0.0	73300.0
01	**Methane (CH4)**	C	OTH	GasSim v1.55	0.0	48000.0	0.0	48000.0

* 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					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
Pollutant No.	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

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: Caherciveen Transfer Station

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

	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
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	

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

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 Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	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					
To Other Countries	13 07 03	Yes	1.56	other fuels (including mixtures)	R1	M	Weighed	Abroad	Enva,W0184-1	Clonminam Industrial Estate,,,Portlaoise,County Laois,Ireland	KS Recycling,12 150 80 80,Raiffeisenstr,38,Sonsbeck,,,,Germany	Raiffeisenstr,38,Sonsbeck,,,,Germany
Within the Country	15 01 01	No	13.92	Bailed Cardboard	R3	M	Weighed	Offsite in Ireland	Greenstar,WFP-CK-10-0047-02	Sarsfield Court Industrial Estate,,,Glanmire,County Cork,Ireland		
Within the Country	15 01 02	No	15.72	plastic packaging	R3	M	Weighed	Offsite in Ireland	Dillon Waste Ltd,WFP-KY-10-001	The Kerries ,,,Tralee,County Kerry,Ireland		
Within the Country	15 01 04	No	4.692	metallic packaging	R4	M	Weighed	Offsite in Ireland	Dillon Waste Ltd,WFP-KY-10-001	The Kerries ,,,Tralee,County Kerry,Ireland		
Within the Country	15 01 07	No	28.634	glass packaging	R5	M	Weighed	Offsite in Ireland	Dillon Waste Ltd,WFP-KY-10-001	The Kerries ,,,Tralee,County Kerry,Ireland		
To Other Countries	16 02 11	Yes	9.98	discarded equipment containing chlorofluorocarbons, HCFC, HFC	R4	M	Weighed	Abroad	EWM Ltd,WFP-DS-09-0012-01	Block 648 Jordanstown Drive,Greenogue Industrial Estate,Rathcoole,County Dublin,Ireland	EMR,EAML40099,Bently Road South,,,Darlston,WS10 8LW West Midlands,United Kingdom	Bently Road South,,,Darlston,WS10 8LW West Midlands,United Kingdom
To Other Countries	16 02 14	No	22.75	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Abroad	EWM Ltd,WFP-DS-09-0012-01	Block 648 Jordanstown Drive,Greenogue Industrial Estate,Rathcoole,County Dublin,Ireland		
Within the Country	20 01 01	No	51.04	News and Pams	R3	M	Weighed	Offsite in Ireland	Dillon Waste Ltd,WFP-KY-10-001	The Kerries ,,,Tralee,County Kerry,Ireland		
Within the Country	20 01 11	No	1.1	textiles	R3	M	Weighed	Offsite in Ireland	Textile Recycling,WPR 014/2	Belgard Road,Tallaght,Dublin,24,Ireland		
To Other Countries	20 01 21	Yes	0.3	fluorescent tubes and other mercury-containing waste	R5	M	Weighed	Abroad	KMK Metals,W0113-01	Cappincur Industrial estate,,,Tullamore,County Offaly,Ireland	Alba Servicee GmbH & Co KG,E57757020,Kanalstrasse 64,,,Rheine,48432,Germany	Kanalstrasse 64,,,Rheine,48432,Germany
To Other Countries	20 01 33	Yes	0.44	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	R4	M	Weighed	Abroad	EWM Ltd,WFP-DS-09-0012-01	Block 648 Jordanstown Drive,Greenogue Industrial Estate,Rathcoole,County Dublin,Ireland	Recyplias,,,Bilbao,,,,,,Spain	Bilbao,,,,,,Spain
Within the Country	20 01 35	Yes	19.1	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and and 20 01 23 containing hazardous components	R4	M	Weighed	Offsite in Ireland	EWM Ltd,WFP-DS-09-0012-01	Block 648 Jordanstown Drive,Greenogue Industrial Estate,Rathcoole,County Dublin,Ireland	The Recycling Village,WFP/MH/11/0005/01, Unit 21 Duleek Business Park,Commons,Duleek,County Meath,Ireland	Unit 21 Duleek Business Park,Commons,Duleek,County Meath,Ireland
Within the Country	**20 01 36**	**No**	16.4	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	R4	M	Weighed	Offsite in Ireland	EWM Ltd,WFP-DS-09-0012-01	Block 648 Jordanstown Drive,Greenogue Industrial Estate,Rathcoole,County Dublin,Ireland		
Within the Country	20 01 40	No	26.44	metals	R4	M	Weighed	Offsite in Ireland	United Metals,WFP-LK-2013-147A-R1	East Way Business pk,Ballysimon Road,Limerick,,,Ireland		
Within the Country	15 01 06	No	11.84	mixed packaging	R3	M	Weighed	Offsite in Ireland	Killarney waste Disposal,W0217-01	Aughacureen,,,Killarney ,County Kerry,Ireland		
Within the Country	20 03 01	No	504.18	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	North Kerry Landfill,W001-04	Muingnaminnane,,,Tralee,County Kerry,Ireland		

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