# **Kerry County Council**



## Waste Licence Ref No. W0086-01

## **REPORT TITLE**

**Kenmare Transfer Station Annual Environmental Report** 

**Reporting Period:** 

**January 2011 – December 2011** 

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

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## 1.0 Introduction

Kerry County Council operates a waste transfer and recycling facility located in the townland of Claddanure West, approximately 1 km off the main Killarney/Kenmare Road, approximately 4.7 km north west of the town of Kenmare, Co. Kerry. The site is located at the western end of the county road L782.

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 Muingnaminane, Tralee.

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 for transfer to North Kerry Landfill for composting.

This Annual Environment Report is prepared in accordance with Condition 2.8 and Schedule B of Waste Licence W0086-01 issued by the Environmental Protection Agency (EPA).

### 2.0 Reporting Period

The reporting period for this Annual Environmental Report is  $1^{st}$  January  $2011 - 31^{st}$  December 2011.

### 3.0 Waste Activities Carried out at the Facility

Waste disposal activities carried out at Kenmare Transfer Station are in accordance with Part 1 of Waste Licence W0086-01 which outlines the waste disposal activities licensed in accordance with the Third Schedule of the Waste Management Act 1996.

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#### 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 Kenmare Transfer Station are in accordance with Part 1 of Waste Licence W0086-01 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 2011

Waste tonnage disposed of at Kenmare Transfer Station during the reporting year (2011) decreased on the previous year (2010). This is primarily due to the downturn in the economy resulting in a significant change in the disposal habits of members of the public. The quantity of construction and demolition waste delivered directly to the facility has significantly reduced.

The weight of the waste accepted into Kenmare Transfer Station Facility for disposal for the reporting period was 1,099.58 Tonnes. This comprises of the following breakdown:

| Waste for Disposal  | Tonnes |          |          |  |  |  |  |
|---|--------|----------|----------|--|--|--|--|
|   | 2009   | 2010     | 2011     |  |  |  |  |
| Municipal waste collected by Local<br>Authority & Private Contractors | 241.94 | 114.54   | 102.6    |  |  |  |  |
| Commercial & Industrial   | 218.32 | 360.07   | 320.19   |  |  |  |  |
| Road Sweepings & Graveyard Waste                                      | 2.42   | 0.24     | 5.3      |  |  |  |  |
| Flytipping  | 12.08  | 19.56    | 18.98    |  |  |  |  |
| Public Domestic   | 953.24 | 777.45   | 652.51   |  |  |  |  |
| Total for Disposal  | 1,428  | 1,271.86 | 1,099.58 |  |  |  |  |

Table 1 Waste Stream Break down for reporting Period.

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Overall the quantities of waste sent for recycling decreased in comparison to last year, particularly for metals, glass and textiles. Increases were noted for batteries, cardboard and domestic hazardous waste. Waste sent for recycling during the reporting period compared with previous years is outlined in Table 2 below.

| Waste for Recycling & Recovery | Tonnages<br>2008 | Tonnages<br>2009 | Tonnages<br>2010  | Tonnages<br>2011  |
|--------------------------------|------------------|------------------|-------------------|-------------------|
| Metals                         | 0                | 23.42            | 40.24             | 34.96             |
| Glass                          | 35.0             | 43.1             | 46.19             | 32.2              |
| Aluminium                      | 3.2              | 1.1              | 1.01              | 0.95              |
| Batteries                      | 13.2             | 7.7              | 0.9               | 1.12              |
| Newspapers                     | 115.0            | 100.48           | 81.62             | 80.44             |
| Cardboard                      | 0                | 2.5              | 1.94              | 3.06              |
| Fluorescent Tubes              | 0.34             | 0.28             | 0.3               | 0.3               |
| Domestic Hazardous             | 0.13             | 0.92est          | 0                 | 1.12              |
| Waste                          |                  |                  |                   |                   |
| Plastic Bottles                | 11.5             | 13.24            | 15.28             | 15.2              |
| Waste Engine Oil               | 1.8              | 1.8 est          | 0                 | 1.1               |
| WEEE                           | 95.70            | 79.07            | 61.13             | 61.15             |
| Cooking Oil                    | 0                | 0.79             | 0                 | 0.28              |
| Dry Recyclables                | 0                | 0                | 3.77 <sup>1</sup> | 3.18 <sup>1</sup> |
| Organics                       | 0                | 0                | 0                 | 0                 |
| Textiles                       | 0                | 0                | 0.74              | 0.44              |
| Total for                      | 275.87           | 274.44           | 253.12            | 235.5             |
| Recycling/Recovery             |                  |                  |                   |                   |

<sup>&</sup>lt;sup>1</sup>Dry recyclables collected in eco sense bags

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 on site and recovered/recycled off site during the reporting period.

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

It is expected that waste disposal rates and recycling/recovery rates at Kenmare 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

A Puraflow Wastewater Treatment Unit is installed at the facility to treat all foul waters from the site including discharges from the transfer station shed, compactor and bin loading area. Foul water is treated in the Puraflow unit and discharged to the surface water drains.

The foul water discharge is monitored quarterly. The results are sent to the EPA and are also available at the Kenmare facility.

#### 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 4.46 Tonnes of silt/sludge and wastewater was removed from the silt traps/oil interceptors and foul waste water treatment unit during the reporting period and disposed of at Kenmare Wastewater Treatment Plant.

# 7.0 <u>Summary of Results and Interpretations of Environmental</u> <u>Monitoring</u>

### a) Dust monitoring

Dust Monitoring was carried out at the facility at Stations 1-5 in July/August 2011. The dust monitoring results for the reporting period were within the dust deposition

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limits specified in the waste licence. There were no issues with dust during 2011 and no complaints were received in relation to dust at the facility.

### b) Noise monitoring.

Noise monitoring was carried out at the facility by Southern Scientific Services on the 15<sup>th</sup> December, 2011. The noise monitoring report is available at the facility and was forwarded separately to the EPA inspector. The noise limit prescribed in the Waste Licence is being met at all noise monitoring locations except for B1 where the elevated noise level is attributed to traffic on the public road. The noise report concludes that the noise limit prescribed in the Waste Licence is being complied with and that activities at the waste transfer station are not adversely impacting on the noise environment at the nearest noise sensitive location. The waste transfer station does not generate noise at night-time when the facility is closed.

There were no issues with noise during 2011 and no complaints were received in relation to noise at the facility. The results over the years have shown that the facility caused no noise nuisance to neighbours.

### c) Monitoring of surface water.

The surface water monitoring results are attached in Appendix II. Slightly elevated Ammonia levels were intermittently recorded at SW1 and SW3. It is probable that the impact at these points is from old landfill activities rather than transfer station activities. Further investigation this year will include investigation of boreholes on and off site (last monitored in 2003) and biological investigation of downstream river sites. It should be noted that no effects have been noted downstream of the site. The closest EPA monitoring point downstream of here i.e. Salaheen Bridge on Finnihy consistently shows a Q value of 4 unchanged from the upstream point.

### 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.

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### e) Landfill gas

The levels of methane gas and carbon dioxide recorded have reduced significantly (2011 average  $CH_4 - 0.25 \% \text{ v/v} \& CO_2 - 2.95\% \text{ v/v}$ ) 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 Kenmare Transfer Station for the reporting period.

### 8.1 Diesel

The diesel usage for Kenmare Transfer Station for the reporting period 2011 was 1,250 litres. The primary usage of diesel is for the rubber tyred excavator on site, waste compactor and the oil burner in the steam washer.

### 8.2 Electricity

The electricity usage for the facility during the reporting period was 6,739 kilowatt hours.

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. While water consumption is not metered the estimated usage for the facility during the reporting period was 110,000 litres. Water is mainly used on site for power washing yards, office toilets and sinks, transfer station apron/hopper and washing of trucks and bins when required.

# 9 Report on Development Works Undertaken during the Reporting Period

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

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# 10 <u>Timescale for Proposed Development Works For Forthcoming Year</u>

No development works are proposed at the facility for 2011.

# Schedule of Environmental Objectives and Targets for the Forthcoming Year

| Target Area                 | Objective              | Works Required                  |
|-----------------------------|------------------------|---------------------------------|
| Surface Water Emissions     | Keep Surface Water     | Regular inspection of surface   |
|                             | Emissions within       | water drains.                   |
|                             | agreed limits          | Regular monitoring of results   |
|                             |                        | from Surface Water              |
|                             |                        | Monitoring Points.              |
| Litter - On public roads to | Reduction in the       | Regular inspections and clean   |
| facility                    | number of bags of      | up of approach roads.           |
|                             | waste/litter lost from | Quick response to clean up      |
|                             | trailers on the way to | any reported waste on the       |
|                             | the facility           | approach roads to the facility  |
| Energy Resources            | Reduce the quantity of | Avail of night rate tariffs for |
|                             | diesel and electricity | electricity                     |
|                             | used on site           |                                 |
| Waste Records               |                        | Introduction of new computer    |
|                             |                        | system on site to record waste  |
|                             |                        | transactions with connection    |
|                             |                        | to KCC network                  |

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# 12 Report on Progress towards achievement of the 2010 Environmental Objectives and Targets

| Objective                  | Target                 | Progress             |
|----------------------------|------------------------|----------------------|
| Keep Surface Water         | Regular monitoring &   | Ongoing              |
| Emissions within limits    | Inspections            |                      |
| Reduction in Litter on     | Regular inspection &   | Decreasing & Ongoing |
| Public Roads to facility   | clean up of roads      |                      |
| Reduction in use of Energy | Reduce quantity of     | Decreasing & Ongoing |
| Resources                  | diesel and electricity |                      |
|                            | used on site           |                      |
| Increase collection of     | Increase promotion &   | Ongoing – Cardboard  |
| Cardboard and Textiles     | marketing              | increasing           |

## 13 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 Reported Incidents and Complaints

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

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# 15 Report on Financial Provision

# a) Statement of Costs for Waste Operations at Facility

| Accelem | Accelem(T)   | Total Charge<br>€ |
|---------|--|-------------------|
| 60030   | Wages  | 27,696.06         |
| 60040   | Salaries   | 8,561.86          |
| 60100   | ER PRSI  | 5,438.53          |
| 60200   | Overtime   | 11,985.47         |
| 60300   | Arrears  | 47.28             |
| 60400   | Sick Pay   | 268.30            |
| 60500   | Annual Leave                                       | 4,091.57          |
| 60510   | Bank Holiday Leave                                 | 1,073.20          |
| 60600   | Travel/Subsistence                                 | 3,003.72          |
| 61990   | Other Allowances                                   | 1,576.68          |
| 65500   | Minor Contracts- Trade Services & other works      | 38,801.07         |
| 69000   | Hire (Ext) - Plant/Transport/Machinery & Equipment | 49.59             |
| 69200   | Repairs & Maint - Plant                            | 100.43            |
| 69400   | Transfers from Machinery Yard                      | 1,596.50          |
| 69600   | Other Vehicle Expenses                             | 114.40            |
| 70000   | Materials  | 367.61            |
| 70985   | Issue from Fuel Stores                             | 28.22             |
| 70990   | Issues from Stores                                 | 3,452.30          |
| 71000   | Insurance  | 98.83             |
| 73400   | Staff Travelling & Subsistence Expenses            | 1,722.08          |
| 75000   | Computer Software and Maintenance Fees             | 4,314.00          |
| 76000   | Communication Expenses                             | 341.92            |
| 79900   | Consultancy/Professional Fees and Expenses         | 610.75            |
| 80000   | Advertising  | 1,998.44          |
| 81000   | Printing & Office Consumables                      | 372.79            |
| 82100   | Statutory Contributions to Other Bodies            | 5,294.58          |
| 85200   | Cleaning   | 304.20            |
| 86000   | Energy   | 1,258.55          |
|         | TOTAL  | 124,568.93        |

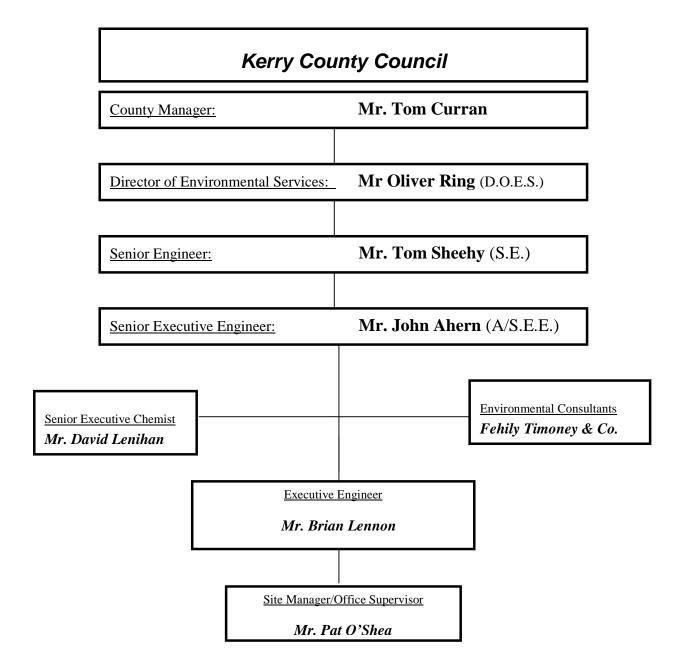
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# b) Statement of Costs for Recycling Operations at Facility

| Recycling 2011 |   |                |  |  |  |  |
|----------------|---|----------------|--|--|--|--|
| Accelem        | Accelem(T)                                    | Total Charge € |  |  |  |  |
| 60030          | Wages   | 5,072.65       |  |  |  |  |
| 60040          | Salaries                                      | 2,853.87       |  |  |  |  |
| 60100          | ER PRSI                                       | 1,101.52       |  |  |  |  |
| 60200          | Overtime                                      | 1,974.04       |  |  |  |  |
| 60300          | Arrears                                       | 15.76          |  |  |  |  |
| 60500          | Annual Leave                                  | 1,190.58       |  |  |  |  |
| 60510          | Bank Holiday Leave                            | 134.15         |  |  |  |  |
| 60600          | Travel/Subsistence                            | 534.69         |  |  |  |  |
| 61990          | Other Allowances                              | 313.74         |  |  |  |  |
| 65500          | Minor Contracts- Trade Services & other works | 775.50         |  |  |  |  |
| 67500          | Non-Capital Equip Purchase - Computers        | 992.00         |  |  |  |  |
| 70000          | Materials                                     | 399.84         |  |  |  |  |
| 73400          | Staff Travelling & Subsistence Expenses       | 734.48         |  |  |  |  |
| 76000          | Communication Expenses                        | 66.49          |  |  |  |  |
| 79900          | Consultancy/Professional Fees and Expenses    | 111.75         |  |  |  |  |
| 82100          | Statutory Contributions to Other Bodies       | 2,269.10       |  |  |  |  |
|                | TOTAL   | 18,540.16      |  |  |  |  |

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## 16 Management and Staffing Structure at Facility 2011



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## 17 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.

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# Appendix I - Waste Collected at Kenmare Transfer Station and Recovered/Recycled offsite during reporting period

|   |                                   | Kenmar<br>Ame |   |  |  |  |
|---|-----------------------------------|---------------|---|--|--|--|
| Material type   | Material type Suggested EWC Codes |               |   |  |  |  |
| (If you must depart from this list, please provide details on a separate sheet)     | (overwrite as appropriate)        |               |   |  |  |  |
| mixed residual waste  | 20 03 01                          |               |   |  |  |  |
| organic waste (food and garden) Total   | 20 01 08;<br>20 02 01             | -             | - |  |  |  |
| if segregated, provide specific<br>information on food and<br>garden waste          |                                   |               |   |  |  |  |
| food  | 20 01 08                          | -             |   |  |  |  |
| garden  | 20 02 01                          | -             |   |  |  |  |
| mixed dry recyclables (eco-<br>bags)  | 15 01 06;<br>20 03 01             | 3.18          |   |  |  |  |
| cardboard, newspaper and other paper (Total)  | 15 01 01;<br>20 01 01             | 83.50         | - |  |  |  |
| if segregated, provide the<br>breakdown of cardboard and<br>paper in the rows below |                                   |               |   |  |  |  |
| *cardboard packaging  | 15 01 01                          | 3.06          |   |  |  |  |
| cardboard non-packaging   | 20 01 01                          | -             |   |  |  |  |
| paper packaging   | 15 01 01                          | -             |   |  |  |  |
| paper non-packaging   | 20 01 01                          | -             |   |  |  |  |

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|  |                       | •     | 1    |
|--|-----------------------|-------|------|
| *newspaper and magazines   | 20 01 01              | 80.44 | -    |
| glass (Total)  | 15 01 07;<br>20 01 02 | 30.88 | 1.32 |
| if segregated, provide the<br>breakdown of glass in the next<br>two rows         |                       |       |      |
| glass packaging(bottles)   | 15 01 07              | 30.88 | 1.32 |
| glass non-packaging(sheet)   | 20 01 02              | -     |      |
| metals (Total)   | 15 01 04;<br>20 01 40 | 35.91 | -    |
| if segregated, provide the<br>breakdown of metals in the next<br>four rows       |                       |       |      |
| aluminium cans (packaging)   | 15 01 04              | 0.95  |      |
| steel cans (packaging)   | 15 01 04              | 3.22  |      |
| other metal packaging  | 15 01 04              | _     |      |
| other metals (non-<br>packaging)(scrap)  | 20 01 40              | 31.74 |      |
| plastic (Total)  | 15 01 02;<br>20 01 39 | 15.20 | -    |
| if segregated, provide the<br>breakdown of plastic waste in<br>the next two rows |                       |       |      |
| plastic packaging(bottles)   | 15 01 02              | 15.20 |      |
| plastic non-packaging  | 20 01 39              | -     |      |
| textiles (Total)   | 15 01 09;<br>20 01 11 | 0.44  | -    |
| if segregated, provide the<br>breakdown of textiles in the<br>next two rows      |                       |       |      |
| textiles, packaging  | 15 01 09              | -     |      |
| textiles, non-packaging  | 20 01 11              | 0.44  |      |

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|  |   |        | 1 |
|--|---|--------|---|
| wood (Total)   | 15 01 03;<br>20 01 38;<br>20 01 37*               | -      | - |
| if segregated, provide the<br>breakdown of wood waste in<br>the next four rows |   |        |   |
| wood packaging   | 15 01 03  | -      |   |
| wood non-packaging   | 20 01 38  | -      |   |
| mixed, uncontaminated wood packaging and non-packaging                         | 15 01 03;<br>20 01 38                             | -      |   |
| wood, treated, hazardous   | 20 01 37*   | -      |   |
| miscellaneous hazardous waste (Total)  |   | 2.50   | - |
| small batteries  | 20 01 34;<br>20 01 33*                            | 1.12   |   |
| lead acid batteries<br>(Car Batteries)   | 16 06 01*   | -      |   |
| Ni-Cd batteries and Accumulators   | 16 06 02*   | -      |   |
| waste mineral oils (lubrication, vehicle, machine etc.)                        | 13 xx xx  | 1.10   |   |
| oil<br>filters (vehicles)  |   | -      |   |
| oil containers (mineral oil)<br>- plastic + metal                              |   | -      |   |
| waste cooking<br>or vegetable oils   | 20 01 25  | 0.28   |   |
| aerosols   | 20 03 99  | -      |   |
| waste paint and varnish (including containers)                                 |   | -      |   |
| WEEE (Total)   | various   | 61.147 |   |
| if segregated, provide the<br>breakdown of WEEE in the<br>next five rows       |   |        |   |
| fridges and freezers   | 20 01 35*;<br>20 01 36;<br>16 02 11*;<br>16 02 14 | 10.013 |   |

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|                                     |                    | Ī      | i |
|-------------------------------------|--------------------|--------|---|
| white goods (electrical and         | 20 01 36;          |        |   |
| electronic)                         | 16 02 14           | 28.837 |   |
| talanisiana and DC manitana         | 20 01 35*;         |        |   |
| televisions and PC monitors         | <i>16 02 13*</i> ; | 9.523  |   |
| ICT- Information and                |                    |        |   |
| Communications Technology           | 16.02.14           |        |   |
| Equipment,<br>e.g Includes Computer | 16 02 14           | 0.175  |   |
| e.g includes Computer<br>Equipment  |                    |        |   |
| other electrical and electronic     |                    |        |   |
| equipment,                          |                    |        |   |
| eg. White Goods incl. Washing       | 20 01 36;          | 10.500 |   |
| Machines, Dryersetc, TVs,           | 20 01 35*          | 12.599 |   |
| PCs, Small Items incl. toasters     |                    |        |   |
| Radios                              |                    |        |   |
|                                     |                    |        |   |
| Gas Cylinders                       |                    |        |   |
| C& D Rubble                         |                    |        |   |
| fluorescent tubes and lighting      | 20 01 21*          | 0.30   |   |
| Tyres                               | 16 01 03           |        |   |
| Ink Cartridges                      | 08 01 11           |        |   |
| bulky waste (provide summary        |                    |        |   |
| below of waste types),              | 20 03 07           |        |   |
| e.g. Furniture, Mattresses,         | 20 05 07           | -      |   |
| Mixed Bulky Waste                   |                    |        |   |

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## Appendix II - Results of Foul and Surface Water Monitoring

Attn: Brian Lennon EE Waste Management Tuesday, 01 May 2012

Re: LABORATORY Results for Kenmare Transfer stations: Jan2011 to Jan 2012

Enclosed are results (2003 – date) of monitoring of designated Surface water points and Foul emission point sampled as set out in EPA licence conditions for *KENMARE Transfer station*. The latest results are for Jan – Aug 2011.

Refer also to app 1: details of sample locations

As in previous reports impact was noted judging from Ammonia levels at SW1 and SW3. However it is more probable that impact at this point is from old landfill activities rather than Transfer station. Further investigation this year will include investigation of boreholes on and off site (last monitored in 2003) and biological investigation of downstream river sites.

The closest EPA monitoring point downstream of here i.e. Salaheen Bridge on Finnihy consistently shows a Q value of 4 unchanged from upstream point.

As can be seen from results of discharge point from Transfer station an effluent of acceptable quality is indicated.

David Lenihan MSc

## **Senior Executive Chemist**

**Table 1 Foul Water Monitoring Results** 

| Landfill           | Location   | Sample<br>Reference | Sample<br>Date                 | Sample<br>Time | Ammonium (NH4) | Hd          | BOD (02)   | Conductivity @ 20 oC | Chemical Oxygen Demand (O2) | Suspended Solids | Temperature  | Oils/Fats & Grease | Oils/Fats & Grease    | Odour                  |
|--------------------|------------|---------------------|--------------------------------|----------------|----------------|-------------|------------|----------------------|-----------------------------|------------------|--------------|--------------------|-----------------------|------------------------|
|                    |            |                     |                                |                | mg/l           | pH<br>units | mg/l       | μS/cm                | mg/l                        | mg/l             | Degrees<br>C | mg/l               | Descriptive           | Descriptive            |
| Kenmare<br>Kenmare | Se1<br>Se1 | 2003/0347           | 21-Jan-<br>03<br>16-Apr-<br>03 | 13:57<br>14:58 | 12<br>1.6      | 6.5<br>6.3  | < 1<br>6.2 | 261<br>325           | 22<br>68                    | 2.5<br>15        | 9.9<br>11.6  | 8<br><1            | no visual<br>evidence | Not detected musty     |
| Kenmare            | Se1        | 2003/3918           | 22-Jul-<br>03<br>01-Oct-       | 12:10          | 5.77           | 6.7         | 48         | 599                  | 165                         | 18               | 16.5         | 4                  |                       | SI.urine/like<br>odour |
| Kenmare            | Se1        | 2003/5472           | 03<br>18-Feb-                  | 14:35          | 3.68           | 6.4         | 11.6       | 697                  | 113                         | 35               | 15.2         | 1.5                |                       | none                   |
| Kenmare            | Se1        | 2004/0903           | 04<br>06-Apr-                  | 14:30          | 1.22           | 6.6         | 2.1        | 361                  | 45                          | 11               | 8.5          | 2.5                |                       | none                   |
| Kenmare            | Se1        | 2004/1660           | 04<br>21-Jul-                  | 14:20          | 1.25           | 6.8         | 15.4       | 425                  | 51                          | 17               | 9.5          | 9.5                | no visual             | none<br>Slight Sewage  |
| Kenmare            | Se1        | 2004/3721           | 04<br>06-Oct-                  | 13:42          | 2.32           | 6.5         | 17.3       | 550                  | 96                          | 26               | 16.7         | < 1                | evidence              | Odour                  |
| Kenmare            | Se1        | 2004/5228           | 04<br>19-Jan-                  | 14:14          | 0.69           | 7.1         | 8          | 281                  | 37                          | 5                | 11.8         | 2                  |                       | sl. sewage             |
| Kenmare            | Se1        | 2005/0359           | 05<br>12-Apr-                  | 13:55          | 1.1            | 6.5         | 21         | 371                  | 69                          | 23               | 9            | 1                  |                       | Sewage                 |
| Kenmare            | Se1        | 2005/1745           | 05<br>18-Aug-                  | 14:25          | 0.77           | 6.8         | 2.6        | 144                  | 63                          | 4                | 10.5         | 8.5                | no visual             | None                   |
| Kenmare            | Se1        | 2005/4284           | 05                             | 12:04          | 1.29           | 6.8         | 3.5        | 431                  | 80                          | 12               | 16.8         | < 1                | evidence              | None                   |
| Kenmare            | Se1        | 2005/5305           | 13-Oct-                        | 13:55          | 1.51           | 6.4         | 3.2        | 382                  | 53                          | 3                | 12           | 2.4                |                       | undetectable           |

|         |     |           | 05                       |       |      |     |      |     |     |     |      |     |                       |                      |
|---------|-----|-----------|--------------------------|-------|------|-----|------|-----|-----|-----|------|-----|-----------------------|----------------------|
| Kenmare | Se1 | 2006/0382 | 24-Jan-<br>06<br>20-Apr- | 13:58 | 0.3  | 6.9 | 5.3  | 240 | 25  | 10  |      | < 1 | no visual<br>evidence | NoneDetected         |
| Kenmare | Se1 | 2006/1683 | 06<br>17-Aug-            | 13:15 | 0.79 | 6.4 | 4.7  | 310 | 28  | 5   | 10.1 | 1   |                       | Musty<br>Very slight |
| Kenmare | Se1 | 2006/3926 | 06                       | 12:30 | 0.12 | 7.4 | 1.3  | 356 | 72  | 9   | 14   | 2   |                       | musty odour          |
| Kenmare | Se1 | 2006/5016 | 12-Oct-<br>06<br>01-Feb- | 14:10 | 1    | 6.5 | 3    | 195 | 66  | 11  | 14   | 7   |                       | ND                   |
| Kenmare | Se1 | 2007/0642 | 07<br>17-Apr-            | 14:52 | 5.2  | 6.6 | 5.7  | 318 | 65  | 9   | 8.5  | 6   |                       | sl. sewage           |
| Kenmare | Se1 | 2007/1958 | 07<br>19-Jul-            | 15:00 | 3.23 | 6.5 | 2    | 364 | 24  | 5   | 11.5 | 4   |                       | ND                   |
| Kenmare | Se1 | 2007/3889 | 07<br>12-Nov-            | 13:00 | 0.16 | 6.4 | 1.2  | 205 | 35  | < 1 | 15.3 | 9.2 |                       | ND                   |
| Kenmare | Se1 | 2007/6118 | 07<br>03-Jan-            | 15:30 | 1.13 | 7.7 | 2.3  | 234 | 49  | 13  | 12.2 | 20  |                       | N/D                  |
| Kenmare | Se1 | 2008/0016 | 03-Jan-<br>08<br>16-Apr- | 12:38 | 0.22 | 6.7 | 1    | 197 | 45  | 21  | 7.3  | 20  |                       | earthy               |
| Kenmare | Se1 | 2008/1921 | 08                       | 12:05 | 0.27 | 7.2 | 1.3  | 228 | 37  | 12  | 8    | 8   | no visual             |                      |
| Kenmare | Se1 | 2008/4114 | 11-Aug-<br>08<br>25-Nov- | 13:45 | 0.02 | 6.4 | 4.8  | 188 | 54  | 27  |      | < 2 | evidence              | N/D                  |
| Kenmare | Se1 | 2008/6326 | 08<br>09-Feb-            | 11:15 | 0.18 | 6.8 | 3.7  | 223 | 36  | 14  | 10.5 | 10  |                       | ND                   |
| Kenmare | Se1 | 2009/0796 | 09-Feb-<br>09<br>20-Apr- | 13:22 | 0.19 | 7.1 | 10.2 | 153 | 101 | 96  | 5    | 4   |                       | N/D                  |
| Kenmare | Se1 | 2009/2090 | 20-Apr-<br>09<br>28-Jul- | 11:05 | 0.02 | 7.4 | 2.2  | 211 | 43  | 13  | 11.5 | 4.4 |                       | Musty                |
| Kenmare | Se1 | 2009/3938 | 09<br>19-Oct-            | 13:59 | 0.06 | 7   | 5.5  | 150 | 86  | 78  | 13   | 2.1 | no visual             | earthy               |
| Kenmare | Se1 | 2009/5416 | 09<br>26-Jan-            | 15:50 | 0.02 | 6.9 | 4.1  | 179 | 87  | 63  | 14   | < 2 | evidence              | Nd                   |
| Kenmare | Se1 | 2010/0309 | 10<br>27-Apr-            | 14:30 | 0.02 | 7.1 | 2.1  | 163 | 28  | 9   | 7    | 5.2 | no visual             | earthy               |
| Kenmare | Se1 | 2010/1823 | 10<br>14-Jul-            | 12:57 | 0.49 | 7.1 | 2    | 206 | 20  | 4   | 10   | < 2 | evidence              | none                 |
| Kenmare | Se1 | 2010/3112 | 10<br>13-Oct-            | 13:40 | 2.37 | 6.8 | 10.2 | 153 | 60  | 11  | 15.3 | 3.2 |                       | slight/sewage        |
| Kenmare | Se1 | 2010/4772 | 10<br>19-Jan-            | 13:00 | 0.04 | 7.5 |      | 182 | 22  | 2   |      | 8   | no visual             | ND                   |
| Kenmare | Se1 | 2011/0329 | 11<br>16-                | 15:50 | 0.15 | 7.1 | 1.3  | 831 | 20  | 5   | 7    | < 2 | evidence<br>no visual | N.D                  |
| Kenmare | Se1 | 2011/2270 | May-11<br>15-Aug-        | 13:28 | 0.25 | 7.4 | < 1  | 360 | 41  | 22  | 11.5 | < 2 | evidence<br>no visual | ND                   |
| Kenmare | Se1 | 2011/3637 | 15-Aug-<br>11            | 15:30 | 0.26 | 7.2 | 1.3  | 188 | 50  | 9   | 13.6 |     | evidence              | ND                   |
|         |     |           |                          |       |      |     |      |     |     |     |      |     |                       |                      |

| Annual Environmental Report | Kenmare Transfer Station W0086-01 | Kenmare Transfer Station W0086-01 |
|-----------------------------|-----------------------------------|-----------------------------------|
| •                           | •                                 | •                                 |

|         |     |           | 24-Oct- |       |      |     |     |     |    |    |      |     |    |
|---------|-----|-----------|---------|-------|------|-----|-----|-----|----|----|------|-----|----|
| Kenmare | Se1 | 2011/4762 | 11      | 12:45 | 0.23 | 6.8 | 1.4 | 182 | 53 | 4  | 11.7 |     | ND |
|         |     |           | 02-Feb- |       | <    |     |     |     |    |    |      | <   |    |
| Kenmare | Se1 | 2012/0635 | 12      | 13:00 | 0.02 | 7.3 | 42  | 139 | 70 | 43 | 6.7  | 0.5 | ND |

**Table 2 Surface Water Monitoring Results** 

| Landfill | Location | Eastings | Northings | Sample Reference | Sample Date               | Sample Time | Ammonium (NH4) | Hd          | BOD (02) | Conductivity @ 20 oC | Chemical Oxygen Demand (O2) | Chloride (CI) | Dissolved Oxygen (O2) | Suspended Solids | Temperature  |
|----------|----------|----------|-----------|------------------|---------------------------|-------------|----------------|-------------|----------|----------------------|-----------------------------|---------------|-----------------------|------------------|--------------|
|          |          |          |           |                  |                           |             | mg/l           | pH<br>units | mg/l     | μS/cm                | mg/l                        | mg/l          | mg/l                  | mg/l             | Degrees<br>C |
| Kenmare  | Sw1      | 88321    | 73367     | 2003/0340        | 21-<br>Jan-<br>03         | 13:37       | 2.15           | 6.7         | < 1      | 122                  | <<br>10                     | 21            | 9.6                   | < 1              | 7.1          |
| Kenmare  | Sw1      | 88321    | 73367     | 2003/1933        | 16-<br>Apr-<br>03<br>22-  | 14:28       | 3.85           | 6.6         | 1.8      | 159                  | 15                          |               | 5.5                   | 2                | 12.3         |
| Kenmare  | Sw1      | 88321    | 73367     | 2003/3909        | Jul-<br>03<br>01-         | 13:45       | 2.12           | 6.8         | < 1      | 123                  | 27                          | 15            | 4.6                   | 7                | 14.8         |
| Kenmare  | Sw1      | 88321    | 73367     | 2003/5469        | Oct-<br>03<br>15-<br>Jan- | 14:12       | 2.03           | 6.4         | < 1      | 148                  | <<br>10                     | 15            | 2.5                   | 2                | 12.1         |
| Kenmare  | Sw1      | 88321    | 73367     | 2004/0271        | 04                        | 11:52       | 0.42           | 6.6         | 1.1      | 87                   | 18                          | 19.5          | 11.4                  | 2                | 7.8          |

|         |     |         |         |           | 06-               |       |      |     |     |     |         |      |      |     |      |
|---------|-----|---------|---------|-----------|-------------------|-------|------|-----|-----|-----|---------|------|------|-----|------|
| Kenmare | Sw1 | 88321   | 73367   | 2004/1657 | Apr-<br>04<br>21- | 14:11 | 4.08 | 6.7 | 1.3 | 166 | <<br>10 | 20.5 | 7.3  | 1   | 8.6  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2004/3718 | Jul-<br>04<br>06- | 13:32 | 4.11 | 6.5 | < 1 | 207 | 17      | 21.5 | 7.4  | 1   | 13.2 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2004/5225 | Oct-<br>04<br>19- | 14:06 | 0.71 | 6.7 | 1.1 | 86  | 17      | 17   | 9.3  | 3   | 10.4 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2005/0356 | Jan-<br>05<br>12- | 14:20 | 0.92 | 6.5 | < 1 | 156 | <<br>10 | 36   | 9.2  | 2   | 10.3 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2005/1737 | Apr-<br>05<br>14- | 13:07 | 1.68 | 6.5 | 2   | 116 | 53      | 21   | 6.3  | 1   | 10.5 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2005/3604 | Jul-<br>05<br>13- | 14:37 | 3.95 | 6.4 | < 1 | 171 | <<br>10 | 16   | 3.7  | 5   | 13.8 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2005/5302 | Oct-<br>05<br>24- | 13:20 | 1.73 | 6.4 | 1.7 | 141 | 44      | 17.5 | 5.6  | 2   | 9.3  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2006/0373 | Jan-<br>06<br>20- | 12:43 | 3.62 | 6.5 | 2.7 | 156 | <<br>10 | 20   | 6.9  | 2   | 8.2  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2006/1680 | Apr-<br>06<br>12- | 13:02 | 0.46 | 6.4 | 1   | 68  | 33      | 15   | 10.7 | 2   | 9.6  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2006/5013 | Oct-<br>06<br>01- | 13:40 | 1.14 | 6.2 | 1.3 | 105 | 53      | 14   | 10.4 | < 1 | 13.7 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2007/0639 | Feb-<br>07<br>17- | 14:44 | 4.79 | 6.4 | < 1 | 207 | 29      | 32   | 7.1  | 10  | 9.5  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2007/1955 | Apr-<br>07<br>19- | 13:50 | 5.05 | 6.2 | 2.1 | 196 | 28      | 22   | 3.5  | 1   | 11.3 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2007/3886 | Jul-<br>07<br>25- | 13:12 | 0.9  | 6.2 | 1   | 123 | 10      | 16   | 6.1  | < 1 | 12.9 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2007/5838 | Oct-<br>07<br>03- | 13:15 | 0.97 | 6.4 | < 1 | 113 | 24      | 24   | 10.6 | < 1 | 8.5  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2008/0010 | Jan-<br>08<br>16- | 12:25 | 0.97 | 6.4 | 2   | 123 | 130     | 25.5 | 10.7 | 24  | 6.5  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2008/1920 | Apr-<br>08        | 12:25 | 9.54 | 6.9 | 1.5 | 290 | 16      | 34   | 11.4 | 3   | 8.7  |

|         |     |         |         |           | 17-<br>Jul-               |       |      |     |     |     |         |      |      |     |      |
|---------|-----|---------|---------|-----------|---------------------------|-------|------|-----|-----|-----|---------|------|------|-----|------|
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2008/3676 | 08<br>04-<br>Nov-         | 14:00 | 2.58 | 6.3 | 2.6 | 136 | 19      | 20.5 | 4    | 5   | 13.2 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2008/5824 | 08<br>07-                 | 13:17 | 5.04 | 6.5 | 2.3 | 181 | 23      | 17.5 | 7.9  | < 1 | 8.7  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2009/1932 | Apr-<br>09<br>08-         | 13:30 | 0.29 | 6.5 | 1.1 | 80  | 24      | 15.5 | 11.2 | 5   | 8.3  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2009/3588 | Jul-<br>09<br>01-<br>Oct- | 13:40 | 0.96 | 6.4 | < 1 | 91  | 23      | 9    | 6.8  | 4   | 13.7 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2009/5102 | 09<br>20-<br>Jan-         | 14:30 | 4.68 | 6.3 | 2.5 | 176 | 22      | 17   | 4.1  | 5   | 11.9 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2010/0215 | 10<br>08-<br>Apr-         | 15:00 | 1.02 | 6.5 | 1.4 | 84  | 23      | 14   | 11.3 | 2   | 6    |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2010/1472 | 10<br>14-<br>Jul-         | 14:50 | 1.69 | 6.6 | 1.5 | 100 | 20      | 12   | 9.2  | < 1 | 10.1 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2010/3108 | 10<br>12-<br>Oct-         | 13:10 | 0.06 | 6.5 | < 1 | 37  | 47      | 9    | 9.6  | 2   | 14.5 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2010/4737 | 10<br>19-<br>Jan-         | 11:55 | 0.8  | 6.1 | 1.4 | 88  | 30      | 11   | 7    | 2   | 10.5 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2011/0326 | 11<br>20-<br>Apr-         | 15:00 | 1.85 | 6.5 | 1.8 | 205 | 20      | 42   | 9.6  | < 1 | 5.2  |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2011/1983 | 11<br>03-<br>Aug-         | 13:49 | 2.27 | 6.9 | 1.3 | 223 | 17      | 37   | 9.3  | 5   | 12   |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2011/3481 | 11<br>18-<br>Oct-         | 14:10 | 0.02 | 6.3 | 4.1 | 169 | 19      | 20.3 | 3.8  | 6   | 12.1 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2011/4680 | 11<br>25-<br>Jan-         | 14:07 | 0.45 | 6.4 | < 1 | 102 | 30      | 24   | 10.8 | < 1 | 10.3 |
| Kenmare | Sw1 | 88320.9 | 73367.3 | 2012/0472 | 12                        | 14:05 | 0.22 | 6.7 | 1.1 | 62  | 27      | 14   | 9.8  | 2.5 | 8.5  |
| Kenmare | Sw2 | 88309   | 73232   | 2003/0341 | 21-<br>Jan-<br>03         | 13:22 | 0.04 | 6.5 | < 1 | 73  | <<br>10 | 19   | 11.2 | 2   | 6.9  |
|         |     |         |         |           |                           |       |      |     |     |     |         |      |      |     |      |

|         |     |       |         |           | 16-               |       |           |     |     |     |         |      |      |      |      |
|---------|-----|-------|---------|-----------|-------------------|-------|-----------|-----|-----|-----|---------|------|------|------|------|
| Kenmare | Sw2 | 88309 | 73232   | 2003/1934 | Apr-<br>03<br>22- | 14:45 | <<br>0.02 | 6.9 | < 1 | 87  | <<br>10 |      | 11.6 | 2    | 12.2 |
| Kenmare | Sw2 | 88309 | 73232   | 2003/3910 | Jul-<br>03<br>01- | 12:25 | <<br>0.02 | 7.2 | < 1 | 81  | 19      | 15   | 9.1  | 6    | 16.1 |
| Kenmare | Sw2 | 88309 | 73232   | 2003/5470 | Oct-<br>03<br>15- | 14:28 | <<br>0.02 | 7   | 1.1 | 107 | 10      | 15   | 8.4  | 14.5 | 13   |
| Kenmare | Sw2 | 88309 | 73232   | 2004/0272 | Jan-<br>04<br>06- | 11:43 | <<br>0.02 | 5.9 | 1.1 | 70  | <<br>10 | 17   | 11.9 | 3    | 7.3  |
| Kenmare | Sw2 | 88309 | 73232   | 2004/1658 | Apr-<br>04<br>21- | 14:30 | <<br>0.02 | 7   | < 1 | 84  | <<br>10 | 18   | 10.7 | < 1  | 7.8  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2004/3719 | Jul-<br>04<br>06- | 13:18 | 0.02      | 6.7 | < 1 | 102 | <<br>10 | 18.5 | 12.3 | < 1  | 14.7 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2004/5226 | Oct-<br>04<br>19- | 13:44 | 0.06      | 6.5 | < 1 | 59  | 13      | 17   | 10.6 | 52   | 10.2 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2005/0357 | Jan-<br>05<br>12- | 14:05 | <<br>0.02 | 6.1 | 1.1 | 138 | <<br>10 | 40   | 11.1 | 1    | 9.7  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2005/1738 | Apr-<br>05<br>14- | 12:02 | <<br>0.02 | 6.8 | < 1 | 80  | 39      | 21   | 10.2 | < 1  | 9.2  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2005/3605 | Jul-<br>05<br>13- | 15:02 | <<br>0.02 | 7.1 | < 1 | 86  | <<br>10 | 13   | 9.1  | 1    | 18.6 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2005/5303 | Oct-<br>05<br>24- | 12:50 | <<br>0.02 | 6.8 | < 1 | 83  | 24      | 16   | 10.8 | < 1  | 9.6  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2006/0374 | Jan-<br>06<br>20- | 12:23 | <<br>0.02 | 6.8 | < 1 | 67  | 46      | 15   | 11.2 | < 1  | 7.7  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2006/1681 | Apr-<br>06<br>02- | 12:46 | <<br>0.02 | 6.2 | < 1 | 51  | 99      | 14   | 11.5 | < 1  | 9.1  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2006/3680 | Aug-<br>06<br>12- | 14:07 | <<br>0.02 | 6.7 | < 1 | 89  | <<br>10 | 13.5 | 9.7  | 1    | 14.9 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2006/5014 | Oct-<br>06<br>01- | 13:14 | <<br>0.02 | 6.3 | < 1 | 54  | <<br>10 | 13.5 | 10   | < 1  | 13.2 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2007/0640 | Feb-<br>07        | 14:28 | <<br>0.02 | 6.4 | < 1 | 108 | 10      | 27   | 10.7 | < 1  | 8.8  |

|         |     |       |         |           | 17-               |       |           |     |     |     |         |      |      |     |      |
|---------|-----|-------|---------|-----------|-------------------|-------|-----------|-----|-----|-----|---------|------|------|-----|------|
| Kenmare | Sw2 | 88309 | 73232.4 | 2007/1956 | Apr-<br>07<br>19- | 14:10 | 0.03      | 6.4 | 1.1 | 101 | 15      | 21   | 7.9  | 1   | 10.4 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2007/3887 | Jul-<br>07<br>25- | 12:50 | <<br>0.02 | 6.6 | < 1 | 87  | <<br>10 | 16   | 9    | 1   | 13.3 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2007/5839 | Oct-<br>07<br>03- | 13:00 | 0.02      | 6.5 | < 1 | 83  | 15      | 24   | 10   | 14  | 10.2 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2008/0011 | Jan-<br>08<br>03- | 11:14 | <<br>0.02 | 6.3 | 1   | 90  | 62      | 24   | 11.9 | 34  | 6    |
| Kenmare | Sw2 | 88309 | 73232.4 | 2008/1626 | Apr-<br>08<br>17- | 13:15 | <<br>0.02 | 6.7 | 1.2 | 117 | 27      | 29   | 10.4 | 2   | 11.2 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2008/3675 | Jul-<br>08<br>04- | 13:40 | <<br>0.02 | 6.8 | < 1 | 88  | 12      | 19   | 9    | < 1 | 14.1 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2008/5825 | Nov-<br>08<br>07- | 13:02 | <<br>0.02 | 6.6 | < 1 | 70  | 12      | 13   | 11.1 | < 1 | 8    |
| Kenmare | Sw2 | 88309 | 73232.4 | 2009/0098 | Jan-<br>09<br>07- | 13:05 | <<br>0.02 | 6.5 | 2.3 | 72  | 52      | 24   | 12.1 | 86  | 3.8  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2009/1933 | Apr-<br>09<br>08- | 13:45 | <<br>0.02 | 6.3 | < 1 | 65  | 23      | 17.5 | 11.5 | 4   | 7.8  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2009/3589 | Jul-<br>09<br>01- | 13:11 | <<br>0.02 | 6.6 | < 1 | 69  | <<br>10 | 9    | 9    | 2   | 14.1 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2009/5103 | Oct-<br>09<br>20- | 14:00 | 0.11      | 6.7 | < 1 | 75  | 16      | 12   | 9.4  | 3   | 12.4 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2010/0216 | Jan-<br>10<br>08- | 14:00 | <<br>0.02 | 6.3 | < 1 | 47  | 21      | 12   | 12.2 | < 1 | 5.4  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2010/1473 | Apr-<br>10<br>14- | 14:00 | <<br>0.02 | 6.6 | < 1 | 52  | 15      | 10   | 11.7 | < 1 | 8.5  |
| Kenmare | Sw2 | 88309 | 73232.4 | 2010/3109 | Jul-<br>10<br>12- | 13:20 | <<br>0.02 | 6   | < 1 | 27  | 42      | 10   | 9.9  | < 1 | 14.4 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2010/4738 | Oct-<br>10<br>19- | 12:20 | <<br>0.02 | 6.6 | < 1 | 63  | 24      | 14.5 | 10.2 | < 1 | 11   |
| Kenmare | Sw2 | 88309 | 73232.4 | 2011/0325 | Jan-<br>11        | 14:40 | <<br>0.02 | 6.8 | < 1 | 56  | 13      | 12   | 12.6 | < 1 | 4.7  |

| Kenmare | Sw2 | 88309 | 73232.4 | 2011/1984 | 20-<br>Apr-<br>11<br>03-  | 13:32 | <<br>0.02 | 6.7 | < 1 | 70  | 17 | 13   | 10.2 | < 1 | 10.4 |
|---------|-----|-------|---------|-----------|---------------------------|-------|-----------|-----|-----|-----|----|------|------|-----|------|
| Kenmare | Sw2 | 88309 | 73232.4 | 2011/3482 | Aug-<br>11<br>18-         | 13:35 | 0.06      | 6.7 | < 1 | 80  | 10 | 13.8 | 8.6  | 2   | 14.3 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2011/4681 | Oct-<br>11<br>25-         | 14:20 | 0.02      | 6   | < 1 | 74  | 27 | 21.1 | 9.6  | < 1 | 10.3 |
| Kenmare | Sw2 | 88309 | 73232.4 | 2012/0473 | Jan-<br>12                | 14:30 | <<br>0.02 | 6   | < 1 | 46  | 20 | 13   | 10.7 | 2.5 | 8.4  |
|         |     |       |         |           | 21-<br>Jan-               |       |           |     |     |     | <  |      |      |     |      |
| Kenmare | Sw3 | 88301 | 73463   | 2003/0342 | 03<br>16-                 | 13:45 | 1.85      | 6.8 | < 1 | 116 | 10 | 19   | 10.5 | < 1 | 6.9  |
| Kenmare | Sw3 | 88301 | 73463   | 2003/1932 | Apr-<br>03<br>22-         | 14:20 | 2.54      | 6.7 | 1.2 | 129 | 18 |      | 11.2 | 2   | 12   |
| Kenmare | Sw3 | 88301 | 73463   | 2003/3911 | Jul-<br>03<br>01-         | 13:30 | 1.7       | 6.9 | 1.2 | 105 | 33 | 14   | 7.5  | 7   | 16.1 |
| Kenmare | Sw3 | 88301 | 73463   | 2003/5471 | Oct-<br>03<br>15-         | 13:55 | 3.63      | 6.8 | < 1 | 164 | 17 | 16   | 7.7  | 2.5 | 12   |
| Kenmare | Sw3 | 88301 | 73463   | 2004/0273 | Jan-<br>04<br>06-<br>Apr- | 13:03 | 0.27      | 6.4 | < 1 | 83  | 13 | 17.5 | 11.2 | 2   | 6.9  |
| Kenmare | Sw3 | 88301 | 73463   | 2004/1659 | 04<br>21-<br>Jul-         | 14:00 | 3.84      | 7.1 | 1.8 | 166 | 10 | 19   | 8.8  | 9   | 8.4  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2004/3720 | 04<br>06-<br>Oct-         | 13:10 | 4.64      | 6.9 | 1   | 222 | 24 | 21.5 | 10.4 | 5   | 14.1 |
| Kenmare | Sw3 | 88301 | 73462.5 | 2004/5227 | 04<br>19-<br>Jan-         | 13:53 | 0.45      | 6.6 | 1.1 | 75  | 24 | 16   | 9.6  | 2   | 10.6 |
| Kenmare | Sw3 | 88301 | 73462.5 | 2005/0358 | 05<br>12-                 | 14:10 | 0.6       | 6.5 | < 1 | 141 | 11 | 35.5 | 10.3 | < 1 | 9.8  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2005/1739 | Apr-<br>05<br>14-<br>Jul- | 13:22 | 1.54      | 6.8 | 1.1 | 109 | 46 | 20   | 8.4  | < 1 | 9.8  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2005/3606 | 05                        | 14:20 | 5.12      | 6.8 | 1.1 | 177 | 20 | 15   | 7.4  | 8   | 14.8 |

|         |     |       |         |           | 13-               |       |      |     |     |     |         |      |      |     |      |
|---------|-----|-------|---------|-----------|-------------------|-------|------|-----|-----|-----|---------|------|------|-----|------|
| Kenmare | Sw3 | 88301 | 73462.5 | 2005/5304 | Oct-<br>05<br>24- | 13:40 | 2.18 | 6.7 | < 1 | 130 | 29      | 16   | 9    | 2   | 9    |
| Kenmare | Sw3 | 88301 | 73462.5 | 2006/0375 | Jan-<br>06<br>20- | 12:51 | 3.86 | 6.8 | 1.4 | 158 | 42      | 22   | 9.3  | 1   | 7.7  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2006/1682 | Apr-<br>06<br>02- | 13:24 | 0.26 | 6.4 | < 1 | 64  | 14      | 15   | 10.6 | < 1 | 9.5  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2006/3681 | Aug-<br>06<br>12- | 14:20 | 2.51 | 6.7 | 1.3 | 135 | <<br>10 | 14.5 | 7.9  | 5   | 13.3 |
| Kenmare | Sw3 | 88301 | 73462.5 | 2006/5015 | Oct-<br>06<br>01- | 13:32 | 1.17 | 6.4 | < 1 | 101 | 21      | 12.5 | 11.2 | 1   | 14.2 |
| Kenmare | Sw3 | 88301 | 73462.5 | 2007/0641 | Feb-<br>07<br>17- | 14:07 | 3.97 | 6.6 | < 1 | 196 | 26      | 25   | 8.3  | 2   | 8.3  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2007/1957 | Apr-<br>07<br>19- | 13:30 | 6.41 | 6.8 | 1.8 | 227 | 32      | 25   | 8    | 5   | 11   |
| Kenmare | Sw3 | 88301 | 73462.5 | 2007/3888 | Jul-<br>07<br>25- | 13:25 | 2    | 6.6 | 1.1 | 133 | 14      | 16   | 7.9  | 1   | 12.6 |
| Kenmare | Sw3 | 88301 | 73462.5 | 2007/5840 | Oct-<br>07<br>03- | 13:25 | 1.3  | 6.6 | 1.8 | 122 | 28      | 22   | 8.9  | < 1 | 9.8  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2008/0012 | Jan-<br>08<br>03- | 12:04 | 0.92 | 6.6 | 1   | 121 | 13      | 24   | 10.4 | 30  | 6.8  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2008/1627 | Apr-<br>08<br>17- | 13:45 | 1.7  | 6.7 | 1.3 | 159 | 20      | 27   | 9.3  | 14  | 11.1 |
| Kenmare | Sw3 | 88301 | 73462.5 | 2008/3677 | Jul-<br>08<br>04- | 14:20 | 3.33 | 7   | 2.2 | 157 | 34      | 21.5 | 8    | 8   | 13.9 |
| Kenmare | Sw3 | 88301 | 73462.5 | 2008/5826 | Nov-<br>08<br>07- | 13:28 | 3.87 | 6.7 | 1.2 | 167 | 27      | 16.5 | 8.7  | < 1 | 8.1  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2009/0099 | Jan-<br>09<br>07- | 12:38 | 4.08 | 6.9 | 4.9 | 186 | 34      | 23   | 9.1  | 33  | 4.2  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2009/1934 | Apr-<br>09<br>08- | 13:15 | 0.47 | 6.4 | 1   | 77  | 23      | 14.5 | 10.7 | < 1 | 8.2  |
| Kenmare | Sw3 | 88301 | 73462.5 | 2009/3590 | Jul-<br>09        | 13:24 | 0.91 | 6.4 | < 1 | 84  | 39      | 9    | 6.4  | 2   | 13.8 |

| Kenmare | Sw3 | 88301   | 73462.5 | 2009/5104 | 01-<br>Oct-<br>09        | 14:10 | 5.21 | 6.7 | 2.8 | 193 | 37 | 17   | 6.4  | 16   | 12.8 |
|---------|-----|---------|---------|-----------|--------------------------|-------|------|-----|-----|-----|----|------|------|------|------|
| Kenmare | Sw3 | 88301   | 73462.5 | 2010/0217 | 20-<br>Jan-<br>10        | 14:25 | 0.66 | 6.4 | 1   | 70  | 32 | 13   | 11.3 | < 1  | 4.4  |
| Kenmare | Sw3 | 88301   | 73462.5 | 2010/1474 | 08-<br>Apr-<br>10        | 14:25 | 1.39 | 6.5 | 1.2 | 93  | 26 | 10   | 9.6  | < 1  | 9    |
| Kenmare | Sw3 | 88301   | 73462.5 | 2010/3110 | 14-<br>Jul-<br>10        | 12:55 | 0.09 | 6.2 | 1   | 41  | 43 | 10   | 8.9  | 2    | 14.2 |
| Kenmare | Sw3 | 88301   | 73462.5 | 2010/4739 | 12-<br>Oct-<br>10        | 11:35 | 1.1  | 6.5 | 1.2 | 108 | 26 | 14.5 | 7.6  | 2    | 9.7  |
| Kenmare | Sw3 | 88301   | 73462.5 | 2011/0327 | 19-<br>Jan-<br>11        | 15:30 | 1.42 | 6.6 | 1.1 | 127 | 32 | 21   | 9.3  | < 1  | 3.9  |
| Kenmare | Sw3 | 88301   | 73462.5 | 2011/1985 | 20-<br>Apr-<br>11<br>03- | 14:02 | 1.74 | 6.5 | < 1 | 118 | 31 | 18   | 6.9  | 21   | 10.5 |
| Kenmare | Sw3 | 88301   | 73462.5 | 2011/3483 | Aug-<br>11<br>18-        | 13:55 | 3.59 | 6.7 | 2   | 171 | 36 | 17.8 | 6.2  | 10   | 12.9 |
| Kenmare | Sw3 | 88301   | 73462.5 | 2011/4682 | Oct-<br>11<br>25-        | 14:30 | 0.04 | 6.4 | < 1 | 93  | 38 | 21   | 9    | < 1  | 10.5 |
| Kenmare | Sw3 | 88301   | 73462.5 | 2012/0474 | Jan-<br>12               | 13:50 | 0.21 | 6.3 | 1.3 | 61  | 35 | 14   | 9.2  | 15.5 | 8.5  |
|         |     |         |         |           | 21-<br>Jan-              |       |      |     |     |     | <  |      |      |      |      |
| Kenmare | Sw4 | 88281   | 73962   | 2003/0343 | 03<br>22-<br>Jul-        | 11:25 | 0.03 | 6.4 | < 1 | 68  | 10 | 15   | 11.1 | < 1  | 5.9  |
| Kenmare | Sw4 | 88281   | 73962   | 2003/3912 | 03<br>18-<br>Feb-        | 12:40 | 0.02 | 6.9 | < 1 | 63  | 21 | 11   | 9.1  | 5    | 16.1 |
| Kenmare | Sw4 | 88281   | 73962   | 2004/0901 | 04<br>24-<br>Jan-        | 12:04 | 0.02 | 7.2 | < 1 | 67  | 10 | 76   | 11.1 | 1    | 7.4  |
| Kenmare | Sw4 | 88281.2 | 73962.1 | 2006/0377 | 06<br>03-<br>Jan-        | 13:02 | 0.08 | 6.6 | < 1 | 64  | 10 | 15   | 11.3 | < 1  | 7.2  |
| Kenmare | Sw4 | 88281.2 | 73962.1 | 2008/0014 | 08                       | 11:40 | 0.02 | 6.5 | < 1 | 78  | 10 | 18.5 | 11.8 | 19   | 5.8  |

|         |       |         |         |           | 21-<br>Jan- |       |      |     |     |     |    |      |      |     |      |
|---------|-------|---------|---------|-----------|-------------|-------|------|-----|-----|-----|----|------|------|-----|------|
| Kenmare | SW5   | 88599   | 73986   | 2003/0344 | 03          | 11:38 | 0.04 | 6.3 | < 1 | 68  | 10 | 15   | 11.1 | < 1 | 5.8  |
|         |       |         |         |           | 22-<br>Jul- |       | <    |     |     |     |    |      |      |     |      |
| Kenmare | SW5   | 88599   | 73986   | 2003/3913 | 03<br>18-   | 13:00 | 0.02 | 6.9 | < 1 | 63  | 18 | 11   | 9.2  | 7   | 16   |
|         |       |         |         |           | Feb-        |       | <    |     |     |     | <  |      |      |     |      |
| Kenmare | SW5   | 88599   | 73986   | 2004/0902 | 04          | 12:17 | 0.02 | 7   | < 1 | 69  | 10 | 14   | 11.3 | < 1 | 7.3  |
|         |       |         |         |           | 12-<br>Apr- |       |      |     |     |     |    |      |      |     |      |
| Kenmare | SW5   | 88598.5 | 73985.9 | 2005/1741 | 05          | 13:55 | 0.03 | 6.7 | < 1 | 67  | 30 | 15   | 10.6 |     | 10.1 |
|         |       |         |         |           | 24-         |       |      |     |     |     |    |      |      |     |      |
|         | 014/5 | 005005  | 70005.0 | 0000/0070 | Jan-        | 40.00 | 0.00 | 0.0 |     | 0.5 | <  |      | 44.0 | •   | 7.0  |
| Kenmare | SW5   | 88598.5 | 73985.9 | 2006/0378 | 06<br>03-   | 13:36 | 0.09 | 6.6 | < 1 | 65  | 10 | 14   | 11.2 | 2   | 7.3  |
|         |       |         |         |           | Jan-        |       |      |     |     |     | <  |      |      |     |      |
| Kenmare | SW5   | 88598.5 | 73985.9 | 2008/0015 | 08          | 11:55 | 0.02 | 6.4 | < 1 | 80  | 10 | 19.5 | 11.6 | 17  | 6    |

# Appendix III - Landfill Gas Summary

Kenmare Waste Transfer Station

Monitoring of Landfill Gas Levels

| Date     | Ref. | CH <sub>4</sub> | CO <sub>2</sub> | $O_2$ | Atm. Pressure | Temperature            |
|----------|------|-----------------|-----------------|-------|---------------|------------------------|
|          |      | % v/v           | % v/v           | % v/v | Mbar          | <b>Degrees Celsius</b> |
| 14/10/08 | L1   | 52.3            | 28.5            | 1.1   | 1002          | 14                     |
|          |      |                 |                 |       |               |                        |
| 20/5/09  | L1   | 48.7            | 29.3            | 2.4   | 998           | 16                     |
|          |      |                 |                 |       |               |                        |
| 10/12/09 | L1   | 50.9            | 27.4            | 1.6   | 1004          | 8                      |
|          |      |                 |                 |       |               |                        |
| 14/4/10  | L1   | 0.3             | 0.2             | 20.5  | 1012          | 13                     |
|          |      |                 |                 |       |               |                        |
| 7/10/11  | L1   | 0.3             | 0.3             | 19.9  | 1021          | 15                     |
|          |      |                 |                 |       |               |                        |
| 11/11/11 | L1   | 0.2             | 5.6             | 18.1  | 990           | 13                     |
|          |      |                 |                 |       |               |                        |

# Appendix IV - <u>AER/PRTR Return 2011</u>

Sheet: Facility ID Activities AER Returns Workbook 29/6/2012 14:42



| PRTR# : W0086 | Facility Name : Kenmare Transfer Station | Filename : W0086 AER PRTR 2011.xls | Return Year : 2011 |

Guidance to completing the PRTR workbook

# **AER Returns Workbook**

REFERENCE YEAR 2011

| REFERENCE TEAR                                  | 2011   |
|---|--|
| 1. FACILITY IDENTIFICATION                      |  |
| Parent Company Name                             | Kerry County Council   |
| Facility Name                                   | Kenmare Transfer Station   |
| PRTR Identification Number                      | W0086  |
| Licence Number                                  | W0086-01   |
|   |  |
| Waste or IPPC Classes of Activity               |  |
| No.   | class_name   |
|   | Repackaging prior to submission to any activity referred to in a       |
| 3.12  | preceding paragraph of this Schedule.                                  |
|   | 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.                                   |
|   | 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       |
| 4.13  | produced.  |
|   | Recycling or reclamation of organic substances which are not used      |
|   | as solvents (including composting and other biological                 |
|   | transformation processes).   |
|   | Recycling or reclamation of metals and metal compounds.                |
|   | Recycling or reclamation of other inorganic materials.                 |
|   | Claddanure West  |
| Address 2                                       |  |
| Address 3                                       | Co Kerry   |
| Address 4                                       |  |
|   | L.   |
| 0   | Kerry  |
| Country<br>Coordinates of Location              | 0.8337.51.0043   |
| Coordinates of Location<br>River Basin District |  |
| NACE Code                                       |  |
|   | Treatment and disposal of non-hazardous waste                          |
| AER Returns Contact Name                        | Brian Lennon   |
| AER Returns Contact Email Address               |  |
| AER Returns Contact Position                    |  |
| AER Returns Contact Telephone Number            |  |
| AER Returns Contact Mobile Phone Number         |  |
| AER Returns Contact Fax Number                  |  |
| Production Volume                               |  |
| Production Volume Units                         |  |
| Number of Installations                         |  |
|   | -  |

| PRTR# : W0086 | Facility Name : Kenmare Transfer Station | Filename : W0086 AER PRTR 2011.xls | Return Year : 2011 | Page 1 of 2

Sheet: Facility ID Activities AER Returns Workbook 29/6/2012 14:42

| Number of Operating Hours in Year | 0 |
|-----------------------------------|---|
| Number of Employees               | 0 |
| User Feedback/Comments            |   |
| Web Address                       |   |

#### 2. PRTR CLASS ACTIVITIES

| Activity Number | Activity Name |
|-----------------|---------------|
| 50.1            | General       |
| 50.1            | General       |

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

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(FETTAL FETTAL) Facility Name: Garage Canada Golden (Figures), NEWS ASP, PRINT (EX.LO), NAME (ART)

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\* Balant country desires delitaging the Product State (Colored St. December 1999) and deliberate

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