PADRAIG THORNTON WASTE DISPOSAL LTD

THORNTONS RECYCLING CENTRE

Waste Licence Reg. No W0044-02

ANNUAL ENVIRONMENTAL REPORT 2014

SUBMITTED February 2015

Prepared By:

David Duff – Environmental Manager

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1 INTRODUCTION

This report is the Annual Environmental Report for Thorntons Recycling Centre. It has been prepared in compliance with Condition 11.5 of the Waste Licence (Licence Reg. No. W0044-02).

This licence was granted by the Environmental Protection Agency (EPA) to Padraig Thornton Waste Disposal Ltd (PTWDL) on the 2nd May 2003. The contents of this report are as required by Schedule F of Waste Licence W0044-02.

1.1 OPERATOR

The facility operator of licence number W0044-02 is Padraig Thornton Waste Disposal Ltd (PTWDL), T/A Thorntons Recycling. This AER relates to Thorntons Recycling Centre, Killeen Road, Dublin 10.

The address and contact details for the company headquarters are;

Thorntons Recycling,
Unit S3B Henry Road,
Park West Business Park,
Dublin 12.

Telephone: 01- 623 5133
Fax: 01- 623 5131

1.2 REPORTING PERIOD

The reporting period for this Annual Environment Report (AER) is 12 months between the 01/01/14 and the 31/12/14.

2 FACILITY ACTIVITIES

2.1 WASTE ACTIVITIES CARRIED OUT AT THE FACILITY

Part 1 of the current Waste Licence W0044-02 lists those activities contained in the Third and the Fourth Schedule of the Waste Management Act 1996, which are licensed to be carried out at Thorntons Recycling Centre, Killeen Road, Dublin 10. These activities are as follows:

Third Schedule

Third Schedule, Class 11: Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule

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

Third 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 was produced.

Fourth Schedule

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

Fourth Schedule, Class 3: Recycling or reclamation of metals and metal compounds

Fourth Schedule, Class 4: Recycling or reclamation of other inorganic materials

Fourth Schedule, Class 8: Oil re-refining or other re-reuses of oil:

Fourth Schedule, Class 9: Use of any waste principally as a fuel or other means to generate energy:

Fourth Schedule, Class 11: Use of waste obtained from any activity referred to in a preceding paragraph of the Schedule:

Fourth Schedule, 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:

2.2 OPERATION PROCESSES - WASTE ACTIVITIES AT THE FACILITY

The following section details the operational procedure for dealing with each particular waste type which enters Thorntons Recycling Centre. (Appendix 1 displays location of each building where processes are carried out).

Process - SRF
Building Number 1

Building 1 contains the metering drum for mixing the SRF suitable residual waste from both the dry recycling MRF (Park West) and the CID skip line (building 2&5, Killeen road) with the SRF suitable residual waste from the MSW line (building 3). Once all materials are shredded inside building 3 the resultant SRF material is conveyed via covered conveyors into Building 1, where it passes under a magnet to remove any remaining metals before it is loaded into a compactor and pushed into a closed artic trailer from where it is consigned to its end destination. The building also has a bay to temporarily store a quantity of dry material which is suitable for SRF and also a storage area for a quantity of produced SRF.

Process - Household and Commercial Municipal Waste
Building Number – 3

All Municipal Solid Waste (MSW) waste is accepted using our waste acceptance procedure, weighed on our weigh bridge and recorded in our automated computer system (WIMS). All putrescible and odorous MSW waste is tipped inside Building 3 and inspected for any non-conforming waste material by the fuchs operator. The presence of such items are handled using procedure EP04, "Handling unacceptable wastes". Oversize materials such as mattresses and large steel are mechanically picked out by the fuchs machine and stockpiled for landfill or recycling.

Once material is accepted as suitable for processing it is loaded using the fuchs machine into the M&J 2000. Here the MSW is passed through a coarse shredder, which opens any bags and tears larger items. The material, once small enough passes out the bottom of the M&J and is brought up an incline conveyor into the waste screener. The holes in the screener allow the fines and small organic material to fall out on to a conveyor belt underneath. These organic fines are passed over a magnet, which removes small pieces of metal and are discharged into a separate bay, where they are bulked for onward transport to a facility to be stabilized.

Larger materials are bounced down onto a separate conveyor belt. A magnet over the belt removes off any large metal items before the MSW material is conveyed to a processing line. The MSW is passed into a Nihot separator. This separates the MSW by density. The light material mostly consists of paper and plastic is blown forward in the Nihot and is discharged onto a conveyor belt. Before the light MSW material falls to the ground floor conveyor it is passed under a magnet which again removes metal. The light MSW falls on to the ground floor conveyor and is brought into the top of the Linder shredder. The material is shredded to a particle size of less than 25mm. Once the material is less than 25mm it passes through the base of the Linder shredder on to a conveyor belt and is brought under a final magnet, to remove the last remaining pieces of metal. The shredded material is passed through a flip flop screen, which enables Thorntons to produce two grades of SRF. The small particles sized material (<10mm) falls into a bay beneath the flip flop and is loaded into trailers using a loading shovel. The larger particle size material 10mm-25mm is fed into a hopper which loads a 40 foot trailer. When the trailer is full with solid recovered fuel (SRF) it is unclamped from the compactor, weighed and consigned to a facility where it is used as a source of energy in the production of cement.

The Nihot separates the heavy MSW from the light MSW (which goes on to become SRF). The heavy MSW is discharged from the back of the Nihot and is fed into a ballistic separator. The ballistic separator removes any remaining fines and discharges them into a bay, which is emptied daily and consigned for stabilisation. Any remaining paper or plastic is bounced along the ballistic separator and is discharged and mixed with the light MSW that goes on to become SRF. The 3 dimensional materials, such as bottles, cans, nappies, shoes etc. rolls back off the ballistic separator and are conveyed under a magnet to remove the metal. The MSW then passes through an eddie current, which removes the

aluminium cans and the remaining material falls into a bay to be bulked and loaded into artic trailers and consigned to landfill or for incineration.

Process – Compostable Waste (Brown Bin, Source segregated and green waste).
Building Number – 3

Thorntons Recycling accepts and collects source segregated compostable waste from third parties, domestic and commercial customers. This material is tipped in Building 3 in a designated bay and is stored separately from normal household and commercial municipal waste. Waste is inspected on tipping and bulky material is removed by a grab and any non-conforming waste is removed for processing as MSW such as large black plastic bags etc. Suitable compostable waste is reloaded daily into artic trailers using a loading shovel, for further processing in Thorntons Recycling composting facility, Kilmainhamwood, Co Meath, waste licence W0195-02.

Process - Mixed Unsegregated Commercial/Industrial Municipal waste (CI) and Mixed Unsegregated Household waste/ Skip Waste
Building 2 and 5

All skip waste is accepted at the facility as per the waste acceptance procedure and is weighed at our weigh bridge and recorded on our automated computer system (WIMS). All skip waste is tipped in Building 2 and inspected for any non- conforming waste material, the presence of such items are handled using procedure EP04 "Handling unacceptable wastes". All skip waste is fed into a shredder (M & J Waste Reducer) where it is broken into smaller particles and fed into a slot conveyor and in turn into the long objector remover. This equipment through its action has the ability to remove long pieces of metal or timber, which are then fed back into the waste reducer to break them up.

The remaining materials then passes through the first stage of the process under an over band magnet. The over band magnet removes ferrous metal which pass onto a metal conveyor into a picking station where contaminates such as small pieces of paper or plastic which have become tied up in the metals are manually removed. The trommel transfer conveyor then transports the remaining materials minus the ferrous metals through a trommel drum. The materials are turned in the trommel and the soil fines and small stones (<50mm in size) pass through the 50mm holes present in the trommel onto a trommel discharge conveyor which in turn passes through the back of building 2 into the construction and demolition processing area for further processing.

The remaining material is fed directly into the nihot system. Within the nihot system circulation fans 1 & 2 discharge jets of air to sort the material by weight. Drum 1 separates the stone from the rest of the materials which in turn joins the trommel discharge conveyor mentioned above and are passed through the back of building 2 to the C&D processing area. Drum 2 of the nihot then removes the timber which in turn moves along to be further sorted. The remaining material after the stone and timber has been removed falls onto a light fraction conveyor under the nihot and is conveyed to a compactor and loaded into an artic trailer. Once the artic trailer is full, it is disconnected

and tipped into building 1 where it is loaded into the metering drum for shredding to make SRF.

Timber which is separated from the nihot processing area is transported via a transfer conveyor through a picking station, where timber, wiring and copper are removed manually. The timber then passes into a ballistic separator were contaminants such as plastic and paper are removed. The plastic and paper is conveyed under a magnet and combined eddie current to remove any small metallic and non-metallic objects before the paper and cardboard is conveyed to the compactor and loaded into an artic trailer. The remaining timber from the ballistic separator passes through a final picking station. The timber is manually picked and dropped into a bay. The contaminants falls into a separate bay and is taken into building 1 for further processing to separate out any suitable combustible material. The clean timber is transported to our wood chipping permitted facility in County Kildare for further processing.

Process – Construction and Demolition Waste (C&D)
Building - 2

Construction and Demolition waste is loaded into the M&J reducer as with the skip waste above. The soil and stones are segregated at the trommel and Nihot stages and the resultant materials pass along a conveyor in building 2 to the C&D processing area. The mixed material first passes through a 50mm trommel. Stone which is greater than 50mm in size will then pass on to a conveyor belt under an air blower and then through a picking line where contaminants are removed, before passing under a magnet to remove any ferrous metal. The clean stone product is stored in a purpose build storage shed in Yard 2/Josies Yard, from where it is loaded and consigned to its end destination.

Stone less than 50mm, fines and soil enter into a flip flop 8mm screen. Particles/soils which are less than 8mm fall through the screen and are stored underneath in a purpose built storage bay. Small stone and remaining material which is greater than 8mm in size is conveyed into a nihot single drum separator where debris/contamination such as polystyrene etc are removed by an air blower and fall into a storage bay beneath. All small stone which is greater than 8mm and less than 50mm are conveyed via a number of conveyors to the storage area of building 4 where it is stored and then loaded into trailers before being consigned to its end destination.

The process produces products such as small stone, clean rubble and ferrous metals, all of which are diverted from landfill void space. The fines which are removed from the C & D process are sent to landfill for use as daily cover.

2.3 WEIGHBRIDGE CALIBRATION

Weights and measures carried out and an independent assessment on the 9th May 2014 on both bridges. Both bridges passed and are due to be re tested on the 9th May 2015.

3 QUANTITY AND COMPOSITION OF WASTE RECEIVED, RECOVERED AND DISPOSED OF IN 2014

3.1 WASTE HANDLED IN THORNTONS RECYCLING CENTRE

The quantities of waste received during the current AER reporting periods are summarised in *Table 1*

Table 1 Summary of total waste received in 2014

Year	Waste Tonnes in
2014	249,455

All waste is checked and documented at the weighbridge in accordance with our waste licence and our waste acceptance procedure. Waste is then inspected, segregated, processed and reloaded for either disposal at a licensed facility or bulked for delivery to an approved recycling or recovery facility for further processing. Should any non-conforming waste come to the attention of our staff it is either rejected before collection or segregated and quarantined to be disposed of by a licensed contractor, paperwork is maintained on site. Our environmental management system (EMS) which contains procedures, including our waste acceptance procedure, is certified to ISO 14001; information in relation to our EMS can be located at any of the Thorntons Recycling offices.

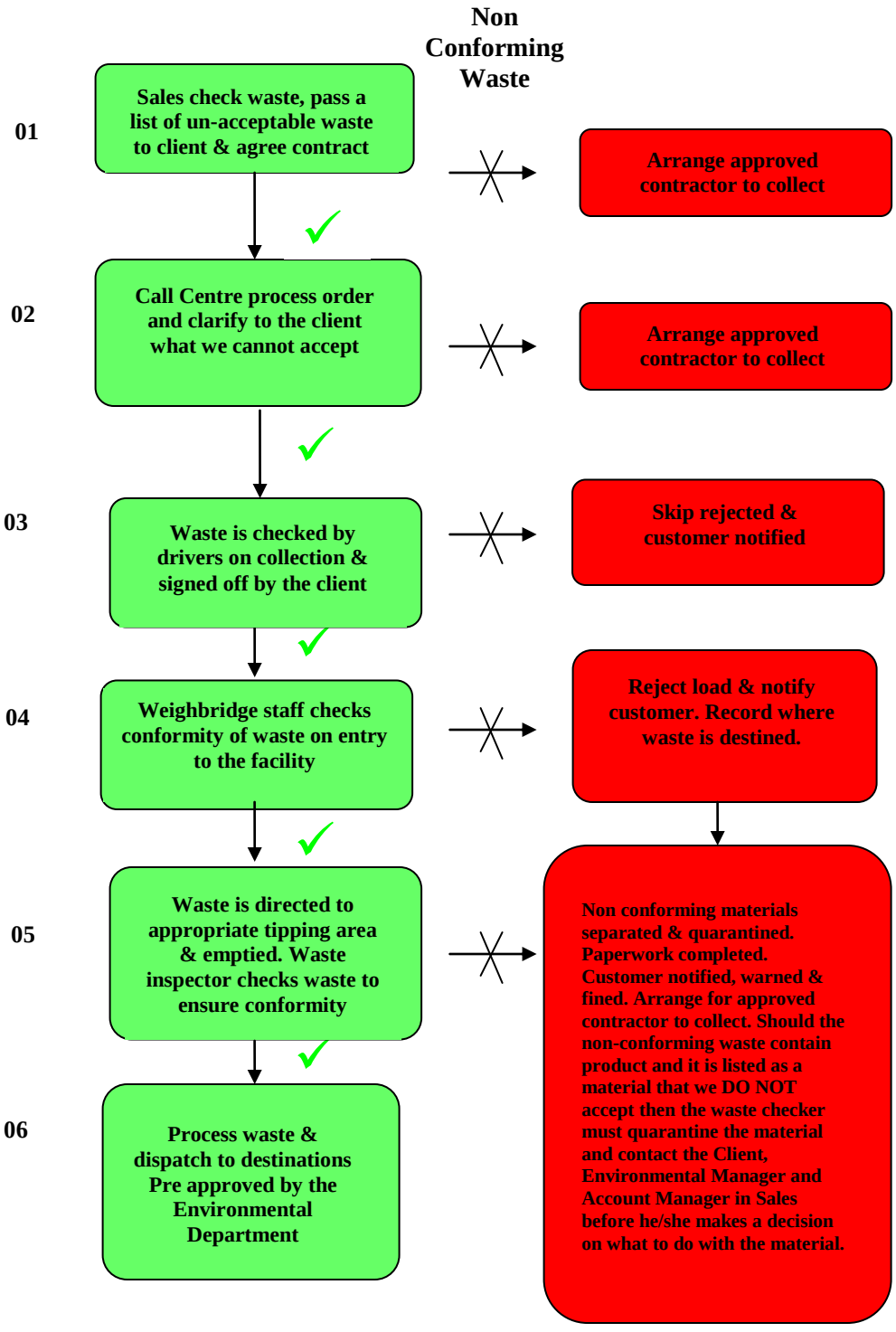
All waste destinations used by Thorntons Recycling Centre in 2014 have been approved by the Environmental Protection Agency. A register of all EPA agreed facilities for recycling, recovery or disposal of waste is maintained on site.

3.2 WASTE ACCEPTANCE

Below is a simplified diagram explaining our waste acceptance procedure at Thorntons Recycling Centre.

All new staff employed by the company in 2014 received an Environmental, Health and Safety Induction which includes licence training, waste acceptance procedures, emergency procedures and environmental awareness. All staff employed at the facility are diligent in assisting in eliminating the occurrence of non-conforming wastes.

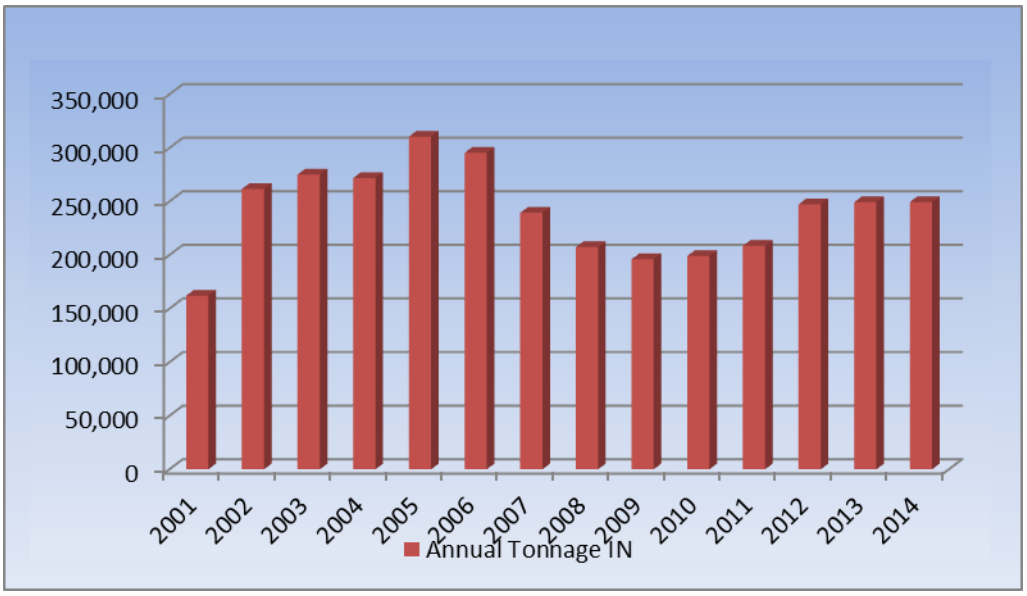
As the EPA is aware Thorntons Recycling has a certified management system for ISO14001 Environmental, ISO 9001 Quality, OHSAS 18001 Health and Safety. The Integrated Management System (IMS) is available for inspection on the IMS Drive at any of the companies' offices.


Non Conforming Waste
01
Sales check waste, pass a list of un-acceptable waste to client & agree contract
Arrange approved contractor to collect
02
Call Centre process order and clarify to the client what we cannot accept
Arrange approved contractor to collect
03
Waste is checked by drivers on collection & signed off by the client
Skip rejected & customer notified
04
Weighbridge staff checks conformity of waste on entry to the facility
Reject load & notify customer. Record where waste is destined.
05
Waste is directed to appropriate tipping area & emptied. Waste inspector checks waste to ensure conformity
Non conforming materials separated & quarantined. Paperwork completed. Customer notified, warned & fined. Arrange for approved contractor to collect. Should the non-conforming waste contain product and it is listed as a material that we DO NOT accept then the waste checker must quarantine the material and contact the Client, Environmental Manager and Account Manager in Sales before he/she makes a decision on what to do with the material.
06
Process waste & dispatch to destinations Pre approved by the Environmental Department

3.3 WASTE RECEIVED

A total of 249,454.90 tonnes of waste was received at the facility in the reporting period of 2014. Details of which are contained in Appendix 2 of this report. Figure 1 illustrates the trend in waste received at the facility between the periods 2001 to 2014.

Figure 1 Quantities of Waste received at the facility 2001-2014



3.4 WASTE CONSIGNED TO LANDFILL AND RECYCLING/RECOVERY FACILITIES

A total of 249,579.59 tonnes of waste was consigned from the facility in the reporting period of 2014. Details of which are contained in Appendix 3 of this report. Figure 2 illustrates the trend in waste consigned from the facility between the periods 2001 to 2014.

The facility displayed another increase in the recycling rate for 2014. The overall recycling/recovery rate for the facility was 86.58%. This is a decrease of 0.63% on the previous year. The recycling rate has been consistent for the previous three years and this is an excellent achievement. The consistently high recycling rate is due to increased awareness, education and segregation of customer's wastes and also due to the expansion of the SRF process to include the processing of MSW at the facility. This material is blended with the residual material from skip waste to produce a fuel that meets the specifications of the two cement kilns in Ireland. Thorntons Recycling supplies SRF to cement kilns that use this material as a substitute for coal which is a high carbon producer when burned. The use of SRF from a residual waste has enabled the cement kilns to lower their carbon footprint by using waste material as a fuel and also reduce their reliance on imported fossil fuels as a raw material in the production of cement. The SRF was tested on a monthly basis to ensure that it met the acceptance criteria for the destinations. The production of the SRF has helped Thorntons reduce the quantity of

material which would otherwise have been destined for landfill. A waste characterisation survey was carried out on the SRF by independent consultants in 2014 and it was found that 42.7% of this waste could be classified as packaging waste, which is now being recovered as part of the national packaging recovery targets and diverted from landfill.

Overall since 2003, the Killeen road facility has shown a positive trend in diverting a high percentage of material away from landfill, through continuously improving the sorting techniques. The recycling rate of waste has increased from 12.14% in 2003 to 86.58% in 2014, which is a massive increase and demonstrates Thorntons commitment to increasing recycling and diversion from landfill all of which contributes to the national recycling figures (Figure 3).

Figure 2 Quantities of Waste consigned from the facility 2001-2014

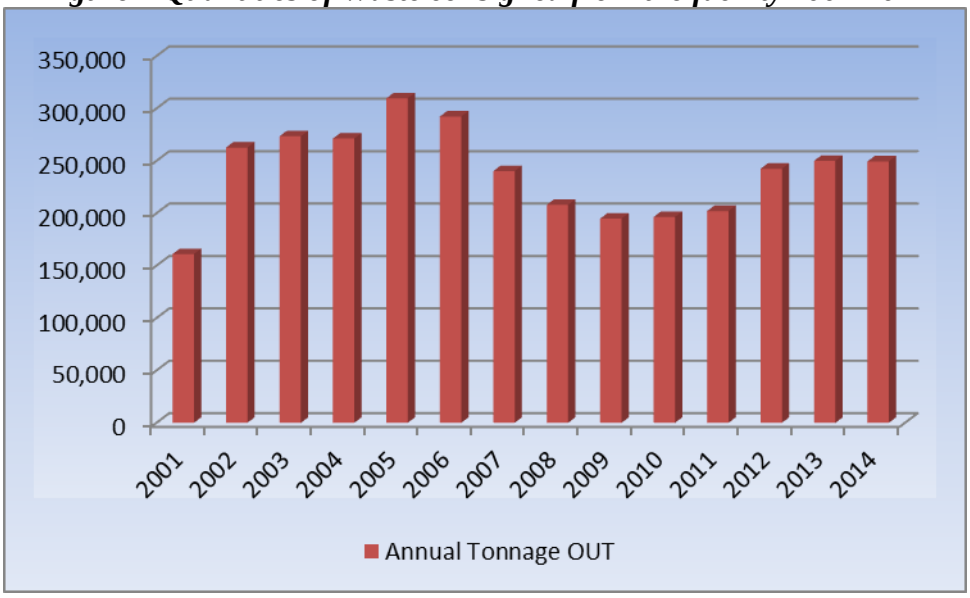
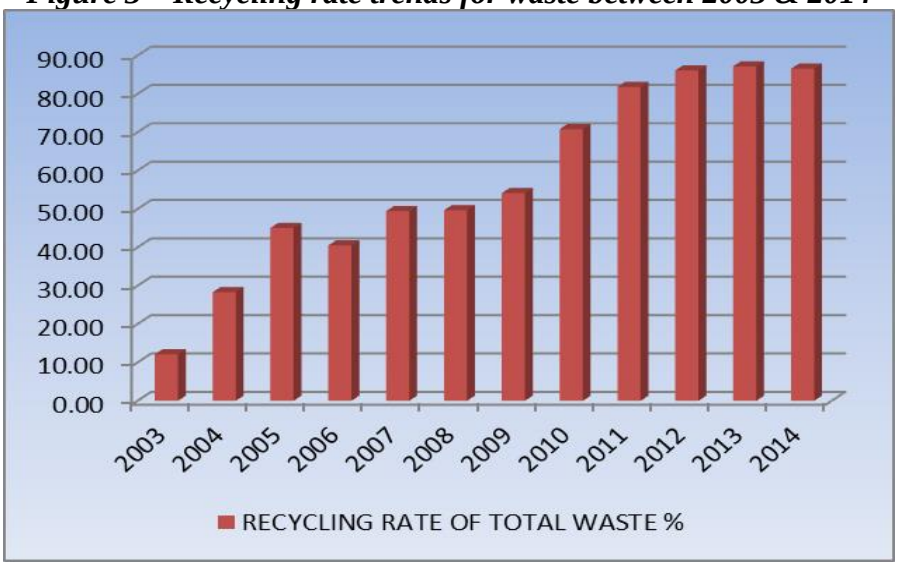


Figure 3 – Recycling rate trends for waste between 2003 & 2014



The total quantity of waste recovered or recycled has increased steadily at the facility. PTWDL process, sort and segregate all skip waste and now MSW material at Thorntons Recycling Centre, Killeen Road, Dublin 10 and strive to improve process efficiencies on a continuous basis. The main materials which are currently being recovered from skip waste include wood, ferrous metals, non-ferrous metals, hard plastic, soils and stone, copper, wire cables and a solid recovered fuel (SRF), which is used as a substitute for coal in the cement manufacturing process in Ireland. The main materials which are currently recovered from the MSW are biodegradable organic fines, steel cans, aluminium cans and SRF, with the remaining residual waste going for disposal to a licensed landfill or for incineration.

It is hoped that Thorntons Recycling Centre will continue to increase its recycling and recovery rates in 2015 by;

- Continuing to work to International Standards ISO 14001 Environmental, ISO 9001 Quality and OHSAS 18001 Health and Safety with continuous development and improvement of new operational procedures.
- The Killeen road facility has a new operations manager as of October 2014.
- Continuous training and education of staff at all levels on recyclable material types and the development of new outlets for new materials.
- Business Development. Thorntons recycling have developed an on line skip service www.skip.ie .
- Thorntons Recycling offers an integrated waste management service that encourages clients to opt for different types of bins for different waste types. The company also has a tankering service division (TTS Thorntons Tankering Services), confidential shredding service and composting / brown bin service which can be offered to all our customers.
- Our licensed composting facility Kilmainhamwood Compost is approved by the Department of Agriculture (Composting Approval Number COMP/6) and also approved in line with SI 612/2006 and EC 1774/2002.. We will continue to reduce biodegradable material being sent to landfill by offering a three bin service to all our customers. Thorntons recycling purchased a third food waste collection truck in 2014.
- Thorntons Recycling has invested in the latest technology for confidential shredding in situ with the purchase of a state of the art shredding vehicle with CCTV camera system and developed a secure shredding facility which is permitted by Dublin City Council (WFP-DC-11-0023-01). The facility received certification in 2014 “Secure Destruction of Confidential Material” to international standard EN15713:2009 on the 13th August 2014.
- Continued education with new and existing clients on new regulations and their obligations in relation to the law. Thorntons Recycling offer educational workshops to existing customers.
- Continue to offer reduced rates to customers who segregate their waste, for example wood, metal, dry recyclables, glass, plasterboard and compost bins.
- Continually improve on service and our after sales service.
- Offer presentations and demonstrations on our client premises and schools.

- Awareness through the publishing of newsletters, continuous development and updating of the website for Thorntons Recycling.
- Thorntons Recycling won Repak Recovery Operator of the Year Award 2008 and 2011, 2012 and 2013 and was a finalist in 2009, 2010 and 2014.
- Thorntons Recycling was a finalist in the Repak Kerbside Collection Scheme of the Year Award in 2012 and 2013.
- Thorntons Recycling won the Green Awards in 2013 and was a finalist in 2012 and 2014.
- Thorntons Recycling has entered the Dublin domestic market in 2010 and continued to increase our customer base in this area in 2014 by offering potential customers an efficient and effective three bin collection service. We plan to further increase our share of this local market during 2014.
- Thorntons Recycling has entered the domestic market in Wicklow in 2012 by completing a number of acquisitions of smaller waste companies and in 2014 plan to further increase our customer base.
- Thorntons Recycling developed a new state of the art dry recycling facility (WFP-DC-10-0021-02) in Parkwest Business Park which produces a high quality of segregated recyclates. During 2012 Thorntons Recycling were successful in its application to DCC to increase its production volume to 50,000 per annum. Thorntons Recycling invested in a third optical sorting machine in 2013 to further improve the quality of the output material and to increase the recycling rate. In 2014 Thorntons added in new picking positions which enable us to segregate additional materials and achieve higher quality outputs.

4 CONTRIBUTION TO THE ACHIEVEMENT OF RECOVERY TARGETS

4.1 Proposal for the contribution of the facility to the achievement of targets for the reduction of Biodegradable waste to landfill as specified in the landfill Directive

Progressive targets have been set out in the Landfill Directive (1999/31/EC) to reduce the proportion of biodegradable municipal waste land filled. Biodegradable waste is waste that can undergo biological decomposition and is typically composed of food and garden waste, wood, paper, cardboard and textiles. By 16th July 2010 Ireland was restricted to land filling a maximum of 75% of the total weight of biodegradable municipal waste generated in 1995, the baseline year. This target is further reduced to 50% of the 1995 baseline by 16th July 2013 and 35% by 16th July 2016. According to the National Waste Report 2012, an estimated 589,260 tonnes of biodegradable municipal waste was sent to landfill in Ireland, this represents a BMW rate of 54%.

Thorntons Recycling own and operates an award winning compost facility in Kilmainhamwood, County Meath which is approved by the Department of Agriculture (Composting Approval Number COMP/6) and also approved in line with SI 612/2006 and EC 1774/2002. Thorntons Recycling Centre, Killeen Road, Dublin 10 has been successfully contributing towards National Targets by using this facility as a destination and now offers all our commercial customers and our household customers

the option of a brown bin for food waste/catering waste etc. The facility has developed its own segregated area for this material which is fully enclosed in an odour controlled building. Thorntons Recycling Killeen Road, accepted approximately 29,207.99 tonnes of Green Waste and Brown Bin Waste for composting in 2014 which after any contamination was removed the remaining material was bulked and sent for composting in Kilmainhamwood Compost, Waste Licence W0195-02. This is an increase of 3.8% on the previous year. Thorntons Recycling Centre diverted approximately 11,642 tonnes in 2014 of biodegradable waste in the form of wood and 21,590.75 tonnes of organic fines from landfill during 2014 as a result of an increase in investment and technology to process MSW material. The facility has also diverted 13,520.70 tonnes of biodegradable paper, cardboard and wood from landfill, by producing SRF for cement kilns. In total 46,753.45 tonnes of biodegradable waste have been diverted from landfill by the facility in 2014. This represents a facility diversion rate of 58.26% of organic waste from landfill and demonstrates Thorntons Recycling ability to assist in meeting the national target for 2016.

We offer all our customers the opportunity to segregate all biodegradable waste at source and the option of a composting alternative. Kilmainhamwood Compost (Waste License W0195-02). The facility accepts non-hazardous biodegradable wastes (household and commercial waste for composting) and accepted 39,791.67 tonnes of biodegradable waste in 2014 for composting. Thorntons Recycling will aim to continue to increase the quantity of biodegradable waste that can be diverted from landfill even further and assist Ireland in achieving targets laid down by the landfill Directive (1999/31/EC).

4.2 The separation of recyclable materials (paper, wood, plastic, inert materials) from the waste & the recovery of commercial waste, including cardboard, newspapers/magazines, aluminium and steel cans.

Thorntons Recycling carries out a number of operational processes on different types of waste which allows for the separation of the above materials. These are detailed in the following section:

Dry commercial, industrial and domestic skip waste which enters the facility are checked upon tipping and any large bulky items that can be recycled such as wooden furniture and metals are removed by a grab and are segregated into piles to be sent for further processing. The remaining material is then sent through a high specification plant, this consists of equipment such as a crusher, long object removers, ferrous metal remover, trommel, nihot, ballistic separator, picking lines and a shredder, the working combination of which has resulted in a significant increase in recycling and recovery rates at the facility.

Dry recycling material is no longer processed on the Killeen Road site. Dry recycling is now processed in our new facility in Parkwest Business Park. This facility operates under a waste facility permit from Dublin City Council.

Detailed quantities of material received and consigned from the facility are displayed in Appendix 2 and 3 of this report. Table 2 compares results submitted for Annual Environmental Reports for 2012 to 2014 for materials recycled at the site;

Table 2 – Comparison on recyclable material consigned 2012-2014

Total Materials Consigned	2012 Tonnes	2013 Tonnes	2014 Tonnes
Cardboard Out	11	0	0
Metals Out Packaging (Aluminium and Steel)	513.18	1040.62	747.86
Plastics Out (Bottles, Film and Hard)	155	123	102
Mixed Papers	10	0	0
Wood Out	14,254	12,002	11,624
Mixed Metals Out (Bulky)	4,858	5,501	6,999

Packaging waste in general consigned from Thorntons Recycling Centre has decreased in 2014, due to the closure of the dry recycling processing line and its relocation to a specialised permitted facility in Parkwest Business Park.

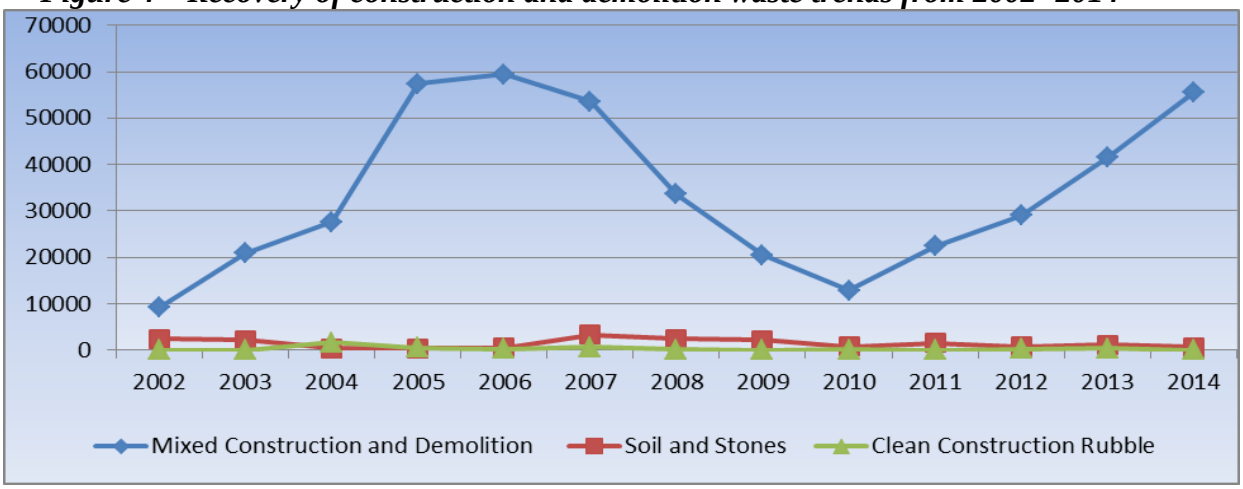
Since March 2003, producers of packaging are obliged to segregate for recovery specified packaging waste materials at source. Thorntons Recycling has a team of account managers who educate customers on the advantages and their legal obligations for segregating packaging waste.

As stated in the National Waste Report 2012 published by the Environmental Protection Agency, Ireland had a packaging recycling rate of 87% and well exceeded the directive target of 60%. Thorntons recycling has played a significant part in the packaging recovery rate. During 2014 Thorntons Recycling carried out a Repak survey on the packaging content of the SRF which is used for energy generation in cement kilns. The survey carried out in 2014 found that 42.7% of the SRF is packaging waste or 30,873.47 tonnes. The production of such material on site attributes to further diversion of recyclable material from landfill

4.3 THE RECOVERY OF CONSTRUCTION AND DEMOLITION WASTE

Under National and European waste policies, Ireland was expected to recycle 85% of Construction and Demolition Waste by 2013. Mixed Construction and Demolition materials received at the facility had increased steadily between 2003 and 2006. However 2007 to 2010 showed a decrease in the quantity of this material accepted from 60,214 tonnes in 2006 13,824 tonnes in 2010. The quantity of construction and demolition material received on site in 2014 increased for the fourth consecutive year to 56,200.19 tonnes.

Figure 4 – Recovery of construction and demolition waste trends from 2002- 2014



Quite often construction and demolition material arrives at the facility as a mixture of soil, rubble and somewhat contaminated with small pieces of plastic, polystyrene, metals, wood and other materials. These are removed during processing at Thorntons Recycling Centre and segregated into individual waste streams. If incoming skips are mixed with numerous different waste types they are weighed in as mixed municipal waste. Waste which originated from construction or demolition sites is weighed in as Mixed C&D waste when the skip contains construction like material.

4.4 THE RECOVERY OF METAL WASTE AND WHITE GOODS

White goods arrive at the facility mixed in with skip waste. All white goods are picked from the waste and stored in skips before being transferred to a designated facility for Waste Electrical and Electronic Equipment (WEEE). All mixed metals are stored at the facility in designated skips and sent to approved destinations in Ireland where they are further segregated into different types i.e. Copper, Aluminium etc. Quantities of metals recycled can be noted in Table 2 above. Thornton's Recycling offers a reduced price to customers who segregate metal completely.

4.5 CONVERSION OF WASTE VEGETABLE OIL INTO A BIO FUEL

Thorntons Recycling Centre does not process waste vegetable oil into bio fuel on site and have no plans to do so in the near future.

4.6 RECOVERY FACILITIES PROPOSED TO ACCEPT SHREDDED OR WHOLE TYRES

Tyres normally arrive at the facility mixed in with other materials, for example in household skips. In 2014 these were segregated and stockpiled until a sufficient pile was achieved. These were then consigned to crumb rubber for recycling.

5 SUMMARY REPORT AND INTERPERTATIONS OF ENVIRONMENTAL MONITORING AND EMISSIONS DATA

In accordance with *Schedule D: Monitoring* of PTWDL waste licence W0044-02, monitoring of dust, noise, surface water and foul water must be carried out. Odour monitoring is also completed by an independent consultant bi annually. All monitoring has been completed as required for the reporting period of 2014. The following section details results obtained and interpretations of results for the year of 2014.

5.1 DUST

Annual Dust Monitoring was carried out at five locations D2, D3, D4, D5 and D7. Thorntons Recycling are required by Schedule D to monitor dust three times a year, results are displayed in Table 3 and Figure 6. The locations of each dust monitoring point are displayed in Figure 5.

Thorntons Recycling Centre is located in a predominately industrial area. Two busy roads i.e. the Killeen Road and Kylemore Park North form the western and northern site boundaries of the facility. Monitoring points D2 and D5 are located on these boundaries and as a result receive significant input from passing traffic and vehicles accessing Park West Industrial Estate and Ballyfermot.

Figure 5 - Dust Monitoring Locations

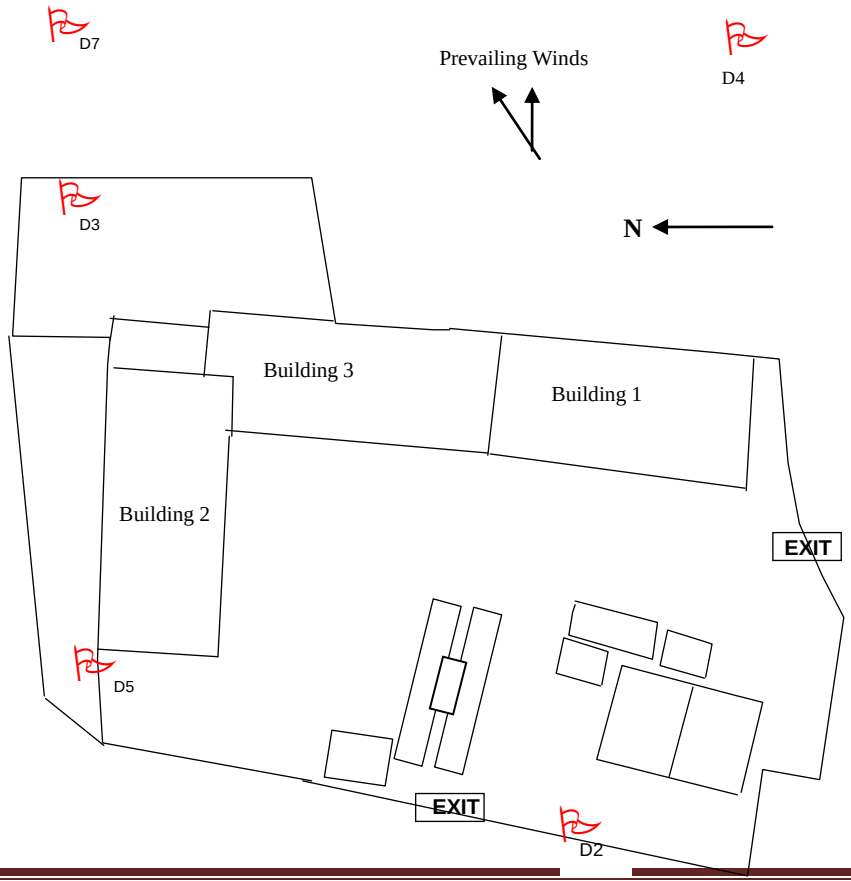


Table 3 Dust Results for 2014

Monitoring Locations	Sample 1 March / April	Sample 2 April / May	Sample 3 Oct / Nov	ELV mg/l
D2	136	140	145	350
D3	102	105	102	350
D4	95	93	97	350
D5	139	136	148	350
D7	168	160	163	350

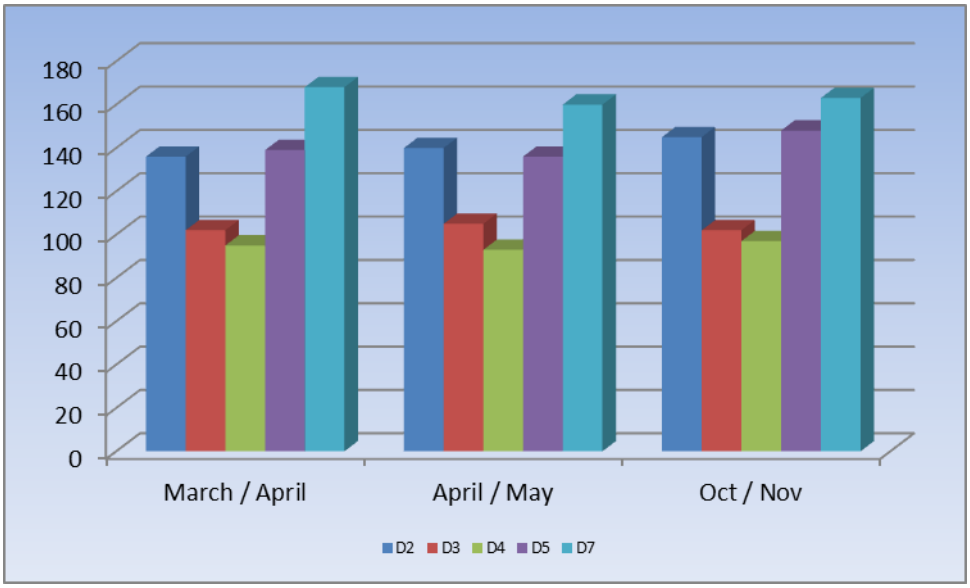
The emission limit value for dust deposition is 350mg/m^2/day. During 2014 none of the dust emission levels exceeded the emission limits (Table 3). Figure 6 shows the trends in dust deposition during the year.

Thorntons Recycling will continue to monitor dust on a regular basis. Thorntons Recycling staff use power hoses to wet down yard surfaces at the facility during dry periods, dust curtains have been fixed to entrances and exits of the buildings where dust is generated. During 2010 the roof cladding was extended over the corner of building 2 on the CID building. During 2011 dust curtains were fixed to the exit of building 5 to reduce the likelihood of dust escaping from the building during the drier months. During 2012 dust curtains were fixed around the exit at the SRF compactor to reduce dust emissions from building 1 and also on the exit on building 3 to further reduce the likelihood of dust escaping from the buildings

A new mist air dust suppression system was erected in 2013 in Building 2. An automatic fast roller door was erected on the exit from building 1. In 2013 an extended roofed area between building 3 and building 5 was erected. Upon completion a dust curtain was erected in addition to a mist air system, to further militate against dust emissions. In an effort to further reduce dust emissions Thorntons Recycling also uses a road sweeper which is used at least twice daily in the facility. This is also used on the Killeen Road and Kylemore Park North to assist in reducing dust levels due to passing traffic and upwind contributors.

PTWDL recognise the importance of maintaining dust levels below the emission limit level of 350mg/m^2/day and are fully committed to maintaining compliant emissions from the facility in 2015.

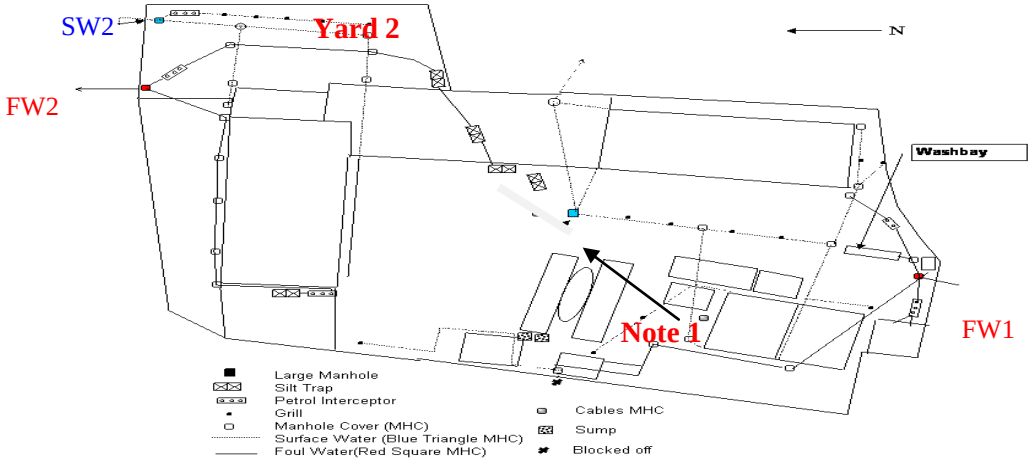
Figure 6 - Dust Monitoring Results per Monthly Sample 2014



5.2 EMISSION TO FOUL WATER AND SURFACE WATER

The monitoring points FW1 FW2 and SW1 are displayed in figure 7. Monitoring is carried out by Thorntons Recycling quarterly, as per the licence. Unannounced monitoring is also carried out by the EPA and Dublin City Council.

Figure 7 Monitoring points for the sampling of Foul Water and Surface Water Thorntons Recycling Centre



*Note 1 - SW1 was made redundant in May 2007. The line now passes through the screener in Yard 2 and passes out through FW2.

5.2.1 FOUL WATER

In accordance with Waste Licence W0044-02 Schedule D all emissions to sewer must be monitored. Emissions to sewer must be monitored on a quarterly basis. Quarterly reports have been forwarded to the EPA via Alder during 2014. All of these reports detail results and interpretations of monitoring of both the surface water and foul drainage system at the facility.

EMISSIONS TO SEWER (Foul 1) F1

Table 4 Illustrates results received at FW1 monitoring location's for 2014. The results in 2014, shows that there was no exceedance in the emission limit levels as set down in licence conditions. Quarterly reports have been forwarded to the EPA as detailed in section 5.2.1.

Table 4 Results of sampling from FW1 in 2014

Monitoring	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 4	Units
	Thorntons	Thorntons	Thorntons	Thorntons	Thorntons	
Parameters	07.02.14	01.05.14	05.08.14	10.10.14	02.12.14	mg/l
BOD	184	113	6	3	27	4000
COD	455	231	14	29	64	8000
Suspended Solids	168	43	20	20	20	1000
pH	7.90	7.10	7.30	7.60	7.60	6-10
Phosphate (as P)	2.72	0.86	0.18	0.10	2.03	50
Phosphate (as PO4-P)	8.35	2.64	0.58	0.32	0.66	50
Surfactants/Detergents	0.20	9.50	0.20	0.20	0.20	50
Fats, oil, grease	30.40	9.00	4.00	1.00	1.00	100
Mineral Oil by GC (mg/l)	16.80	1.30	0.13	0.38	0.58	20
Temperature ^{o}C	9.8	9.8	9.20	12.00	8.00	

EMISSION TO SEWER (Foul 2) FW2

Samples were also taken from Foul Sewer 2 (FW2) and the results are detailed in Table 5. The results show that there was an exceedance recorded during quarter 4 of the reporting period in 2014. After receiving the results from the lab, another sample was taken and tested and the drains were scheduled to be cleaned. The results showed elevated levels of mineral oil and fats oils which were inconsistent with previous samples. No oils spills were reported during the quarterly period, so the results noted could not be explained. The resample in quarter 4 was compliant with the emission limits.

Table 5 Results of sampling from FW2 2014

Monitoring	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 4	Units
	Thorntons	Thorntons	Thorntons	Thorntons	Thorntons	
Parameters	07.02.14	16.06.14	05.08.14	10.10.14	02.12.14	mg/l
BOD	456.0	7	116	449	173	4000
COD	725.0	47	790	1225	378	8000
Suspended Solids	140.0	20	230	373	111	1000
pH	6.5	7.00	6.40	6.50	6.70	6-10
Conductivity						
Phosphate (as P)	0.7	0.15	0.89	0.90	1.57	50
Phosphate (as PO4-P)	2.2	0.48	2.73	2.79	0.51	50
Surfactants/Detergents	0.2	0.20	0.20	0.20	0.20	50
Fats, oil, grease	24.4	2.80	36	132	1	100
Mineral Oil by GC (mg/l)	5.7	1.23	16.10	125	3.15	20
Temperature ^{o}C	9.8	9.80	8.60	12.00	9.00	

5.2.2 SURFACE WATER (SW2)

The monitoring point for surface water is displayed in figure 7 and the results for each sample are in Table 6. PTWDL re-designed the drainage system on site in 2007 to ensure compliance with waste license W0044-02 emission limit levels. SW2 is now the only surface water monitoring point which exists at the facility. This is located in Yard 2 (Josie's Yard) where there is little activity.

During 2014 one sample showed elevated levels above the emission limits. The elevated levels were for BOD and suspended solids. The elevated levels may be attributed to extra rain fall washing debris from yard 2 into the surface water drains. Future monitoring carried out in 2014 was compliant with the emission limit levels.

PTWDL recognise the importance of maintaining emissions limits within levels set down by the licence and will continue to do their utmost to ensure compliance with these levels. We will continue to carry out weekly inspections of the drains and ensure regular maintenance is carried out.

Table 6 Results of sampling from SW2 in 2014

Monitoring	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Units
Parameters	20.03.14	26.06.14	24.09.14	02.12.14	
BOD	32	11	5	5	25mg/l
COD	183	57	10	23	mg/l
Suspended Solids	104	50	20	20	35mg/l
pH	7.5	7.4	7.8	7.9	6-10
Conductivity	316.00	401	182	336	mS/cm
Fats, oil, grease	16	1	21.6	1	mg/l
Mineral Oil by GC	6.19	0.16	0.28	0.2	5mg/l
Temperature	9.8	9.2	15	13	

5.3 NOISE

In accordance with Condition 8 and Schedule D3 of waste licence W0044-02 annual environmental noise monitoring was carried out. The day time survey was carried out on the 9th, 10th and 15th July 2014 and the night time survey was carried out on the 10th and 15th July 2014. The results of the survey were submitted to the EPA via alder on the 22nd July 2014.

Thorntons Recycling is not solely accountable for the elevated noise levels at the noise sensitive locations. The prevalent noise source at these three locations, N7, N8 and N9, was from non-site related vehicular movements on the nearby roads. This is verified in the similarity between the L_{Aeq} readings and the LA_{10} readings at these monitoring locations during the surveys and the numerous sudden high peaks in the corresponding logging graphs. L_{A10} values are used to describe intermittent, high-energy noise events and usually are a good indicator of the level of traffic. There was audible noise from Thorntons Recycling, such as from Thorntons related traffic, the odour system and the RJP (Regenerative Pulse Plant) at these locations but one could only hear these noises when there was no traffic on the roads. Thorntons Recycling is located in an industrial area and traffic is predominant on these roads with heavy-duty vehicles contributing largely to the high $L_{Aeq.}$ Also being in an industrial area, there were noises from other surrounding businesses that contributed to the noise result.

The LA_{90} gives an accurate level of the noise for 90% of the monitoring period at the locations and largely excludes the effect of passing traffic. It should be noted that at N7 and N8 noise levels are below the 55dB limit. These results are representative of background noise levels present for the majority of the sampling period.

Table 7: Noise measurement results for Killeen road annual monitoring in 2014

Monitoring Locations	9th, 10th & 15th June 2014			ELV
	LA, eq (dB)	LA 10 (dB)	LA90(dB)	(dB)
NP1	66.4	68.8	61.7	NA
NP2	68.3	70.2	65.7	NA
NP3	70.4	72.9	63.5	NA
NP4	66	66.3	61.8	NA
NP5	60.7	62.4	58.3	NA
NP6	72.2	74.6	64.8	NA
NP7	58.5	62.3	48.9	55
NP8	66.3	69.6	50	55
NP9	71.3	74.7	58.9	55
NP7 Night	53.4	56.1	44.5	45
NP8 Night	62.8	65.6	49.7	45
NP9 Night	70.2	74.2	52.6	45

The survey concludes that the daytime noise levels at the noise sensitive locations are not being negatively impacted upon by the activities of Thorntons Recycling. From the results of the daytime noise monitoring we have concluded that Thorntons Recycling is in compliance with its waste licence (W0044-02).

The night time noise levels were exceeded at all three noise sensitive receptors during the monitoring period. The main sources of noise at these locations were from passing traffic and external sources that are not related to Thorntons Recycling. While Thorntons' activities and the odour system do add to the noise at the noise sensitive locations N7, N8 and N9 it should be noted that traffic is still the major contributor to the noise levels recorded.

There are similarities between the LA_{eq} and the LA_{10} in all three of the noise sensitive locations and reiterates that traffic is a large influencing factor at these locations.

Thorntons Recycling considers that, although the noise levels at the noise sensitive locations are exceeded, Thorntons Recycling is not the primary cause of the noise at the locations. Elevated noise readings can be attributed predominately to the high levels of un-associated traffic in the area and the presence of numerous other industrial businesses in the immediate vicinity all of which are not under the control of Thorntons Recycling. As a result it is concluded that Thorntons Recycling is not having a negative effect on night-time noise at the three noise sensitive receptors. There were no complaints received at the site in relation to noise levels in 2014.

5.4 ODOUR

In order to assess efficiency of the odour treatment system Thorntons Recycling contracted Odour Monitoring Ireland to carry out independent monitoring of the Odour treatment system every six months in 2014 as agreed with the EPA (Reference W0044-02/ak01NH.doc).

Two reports were forwarded to the EPA for the reporting period of 2014. Testing was carried out on the 19th June 2014 (44-2/14/EPA/DD/14) and on the 16th December 2014 (44-2/15/EPA/DD/01).

Reports issued to the EPA show that the system is working effectively, using olfactometry testing and dispersion modeling.

The activated carbon used in the air treatment system was also changed 3 times throughout the year, on the 3rd May 2014, 26th July 2014 and the 25th October 2014.

6 RESOURCES AND ENERGY USAGE

The following section discusses resources such as electricity, fuel and water used at Thorntons Recycling Centre in 2014.

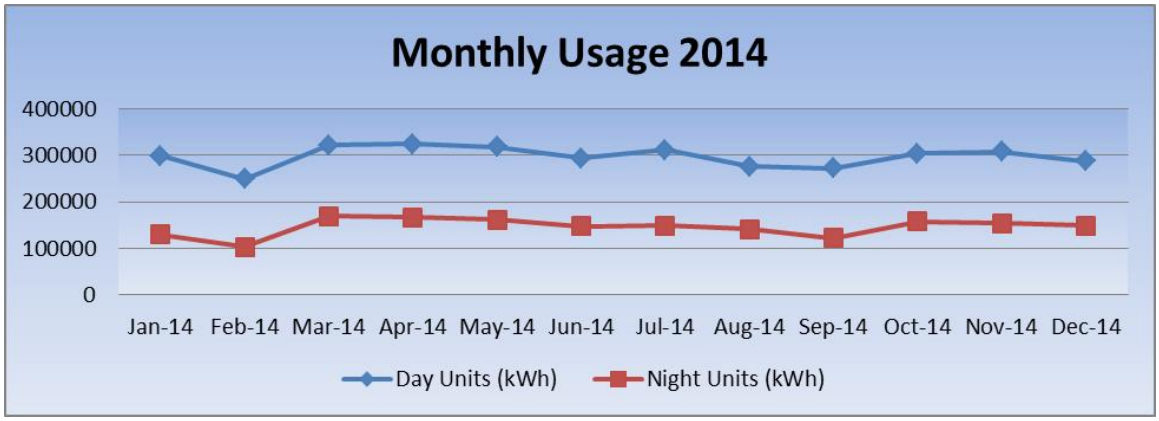
6.1 ELECTRICITY

Electricity consumption in 2014 increased by 1.1% from the levels in 2013 to 5,325,280 KW. The increase is not significant and shows that the energy consumption is consistent over the previous 2 years. The average energy unit cost per tonne processed also increased in 2014 when compared to 2013 levels. During 2014, a quarterly report on energy usage was forwarded to managers which show the daily usage trends and also the usage per tonne processed for monthly comparisons which enable efficiency decisions to be made.

An energy register of opportunities was created when the energy management system was created which details potential energy saving opportunities on site. The register allows for all the opportunities to be ranked by cost saving, carbon dioxide saving potential, ease of implementation etc. The register will be reviewed annually and updated accordingly to ensure continual improvement in energy efficiency on site.

Figure 8 illustrates the monthly daily and nightly usage of electricity on site during 2014.

Figure 8 Day and Night Electricity usage by the month 2014



6.2 WATER

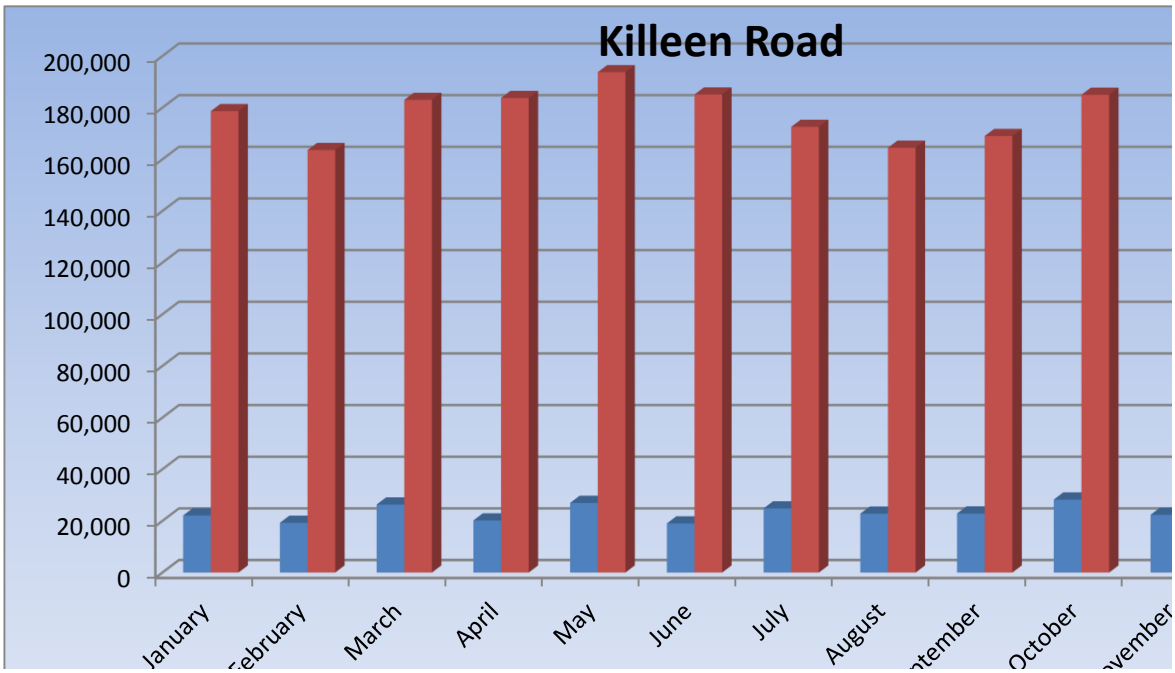
In 2014 the facility used approximately 2,100m^3 of water compared to the 2,564 m^3 in 2013. Water is used on site to dampen down dust during dry periods and to wash the floor and hard standing area and also to wash plant and vehicles. The use of water on site decreased in 2014 on the levels used during 2013.

6.3 DIESEL

The main types of fuel used at Thorntons Recycling Centre include road diesel and machinery diesel. The breakdown of fuel consumed is detailed in Figure 9 below. In 2014 a total of 276,954 litres of plant diesel and 2,143,131 litres of road diesel were consumed. The consumption of road diesel increased by 178,948 litres from 2013's level. Plant diesel increased by 107,411 litres from 2013's levels. In an effort to reduce the volume of plant diesel, Thorntons has purchased two Liebherr grabs which has a smaller engine than the original fuch machines and thus use less fuel per hour. These machines were purchased in later 2014 and we hope to see the energy savings during 2015. A number of new bin lorries was purchased in 2014 and these lorries have higher fuel efficiency than older versions.

Invoices in relation to all Thorntons facilities are sent to the head office of the company at Thorntons Recycling, Unit S3B, Park West Business Park, Dublin 12. Every effort has been made to distinguish between individual facilities to ensure an accurate fuel consumption report for Thorntons Recycling Centre, waste licence W0044-02.

Figure 9: Fuel consumed by month in 2014



7 DEVELOPMENT / INFRASTRUCTURAL WORKS

7.1 SITE DEVELOPMENTS 2014

The following summarises the main developments made at the facility in 2014;

Buildings and Waste Processing Equipment

- A fast shutter roller door was erected at the entrance to building 1, to further reduce potential odours escaping.
- The concrete area in front of bay 1 on building 2 was redone.
- The concrete hard standing joints in Josies yard were re sealed.
- An area in the concrete hard standing in front of building 3 was cut out and re-laid.
- The MSW trammel was removed and replaced with a waste screen

Training

- Staff training - ISO Training and auditing carried out
- Emergency Response Training – Fire drills
- Firefighting training carried out by Apex.
- Numerous tool box talks carried out

ISO

- Thorntons Recycling passed two successful surveillance audits which were carried out by Certification Europe to maintain the company standards for ISO

14001 Environmental, ISO 9001 Quality and OHSAS 18001 Health and Safety. The Killeen Road facility was audited as part of these surveillance audits in December 2014.

7.2 PROPOSED DEVELOPMENTS IN 2015

The EPA was notified in late 2014 that the linder shredder is planned for replacing in late January 2015. The works will include the replacement of the linder shredder with a larger model and the installation of a new control cabin.

Also planned for February 2015, is the installation of a small caged area beside the roller shutter down alongside building 1. The caged area will be used to contain skips of valuable metals. No planning is required.

Any developments are proposed with the intention of reducing environmental impacts of the facility, improving the appearance and increasing waste processing efficiency at Thorntons Recycling Centre. Thorntons Recycling main aim is to reduce as much waste as possible for landfill disposal in line with national policy and further increase recycling and recovery rates at the facility by:

- Continuous Development on company procedures in line with ISO certification
- Review environmental checks and procedures

Prior to new installation works being carried out the environmental department completes the environmental aspects register and identifies for operations and maintenance any environmental aspects to be considered during installation.

Any planned infrastructural developments will be notified in advance to the EPA in compliance with the facility licence.

7.3 PLANT CAPACITY 2015

A detailed report on plant operating capacity, provision of adequate standby capacity and provision of contingency, backup and spares in case of breakdown is contained in Appendix 5 of this report.

Without taking into consideration the spare plant and machinery available at other Thorntons sites the report concludes that it is apparent from the information supplied that Thorntons Recycling Centre has well above the sufficient capacity required to handle waste tonnages licensed to enter the facility.

Thorntons Recycling has employed a full time maintenance manager who is responsible for ensuring there are adequate spare parts at the facility at all times. A maintenance workshop was developed off site in Park West Industrial Estate with a team of staff who are capable of carrying out repairs as needed.

An additional service bay and maintenance workshop has been maintained on site with one electrician and two maintenance men at Thorntons Recycling Centre. Plant is serviced and maintained during a night cleaning shift, which enables plant which is required during the day to operate at full capacity. Addition plant can be serviced on site during the day shift provided that there is stand by capacity available.

8 SCHEDULE OF ENVIRONMENTAL OBJECTIVES AND TARGETS FOR 2015 AND PROGRESS REPORT FOR 2014

Thorntons Recycling operates an Integrated Management System (IMS) which has been certified to a number of standards namely; ISO 14001 Environmental, OHSAS 18001 Health and Safety, ISO 9001 Quality.

The complete content of the IMS itself is too large to contain within the main body of this report, however the EPA can access this for inspection on a specially designated drive (X Drive or IMS Drive) at any of the companies' site offices.

A detailed report table on progress towards the achievement of the Environmental Objectives and Targets for 2014 is contained within Appendix 6 of this report. The schedule of environmental objectives and targets for 2015 has been included but may be amended and finalised after the management review in March 2015. This schedule will be available for the EPA to inspect during any of their site audits in 2015 at any of our facilities.

9 SUMMARY OF PROCEDURES DEVELOPED BY THE LICENSEE IN 2014

As discussed previously with the EPA Thorntons Recycling have an IMS system to incorporate Environmental, Quality and Health and Safety and have achieved certification in ISO standards ISO 14001, ISO 9001 and OHSAS 18001. In 2014 the system was continuously developed and improved. The company was audited twice during the year by Certification Europe and all three certificates were maintained across the whole company including the Killeen road facility.

Due to the large content of the IMS system it is not possible to include it in the main body of this report but it is available for inspection at Thorntons Recycling, Killeen Road, Dublin 10.

Following on from audits and comments from the EPA three documents were created to record and demonstrate prevention plans for the following- fire, odour and accidents. We also created a document recording the annual site improvements works. These further improvement documents demonstrate Thorntons commitment to providing a high quality work environment and continuous improvement in how we carry out our daily duties on site.

10 TANK, DRUM AND PIPELINE TEST

10.1 TANK BUNDING

Thorntons Recycling commissioned FTC consultants to complete testing on the main diesel bund. The main diesel bund passed its test on the 3rd – 5th June 2014 and a certificate is maintained on site. The bund is not due for testing until 2017. The C & I bund was decommissioned in early 2011 and the diesel tanks were removed. The bund is still in situ but is not used. The bund will remain in place as it is a concrete structure and will be tested if it is re-commissioned in the future.

10.3 PIPELINE TESTS

Thorntons Tankering Services (TTS) completed a full CCTV drain survey at the facility during January 2013 on both the surface water drains and the foul water drains in both the main yard and in Yard 2 (Josies yard). These reports were submitted to the EPA separately as well as a DVD of the survey in February 2014.

The integrity and water tightness of all underground pipes and tanks and their resistance to penetration will be carried out once every 3 years as per Condition 3.13.7 of the waste licence. The pipelines are due for testing in 2015.

11 SUMMARY OF INCIDENTS AND COMPLAINTS

11.1 INCIDENTS

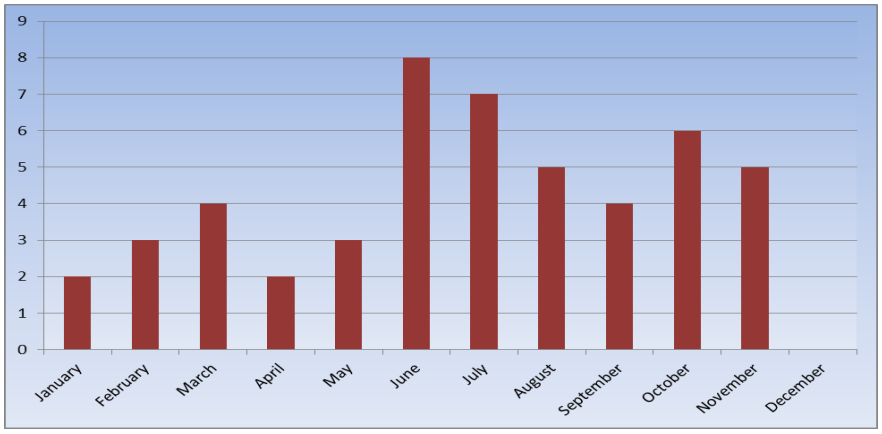
There were two incidents recorded during 2014. The first was in relation to elevated BOD and suspended solids on the surface water line during quarter 1 and the second was in relation to elevated oil levels on FW1 during quarter 4. Resampling showed that the elevated levels were not continuous.

Thorntons will ensure that regular monitoring is carried out and will endeavour to maintain the emission levels with the licence limits.

11.2 COMPLAINTS

Complaints were reported either directly to the EPA or to Thorntons Recycling Centre during 2014. Figure 10 shows the breakdown of complaints by the month in 2014. There were a total of 49 complaints received during 2014 which was a decrease of 44% on the previous year.

Figure 10 Break down of all complaints 2014 by month



Analysis of the complaints during 2014 shows that 49 complaints were received in relation to odour. 37 complaints were received by the EPA and 12 were received on site. There were 11 individual complainants in total. Four individual complaints made up 78% of all the complaints and 7 individual complaints made up 91% of all the complaints.

The trend with complaints in 2014 was similar to that of 2013 and has been towards complaints being reported directly to the EPA and not to the site, which results in the site getting the information on some occasions the next day when the perceived odour has already ceased to be present. Thorntons staff has stressed the importance with complainants on informing the environmental staff when the odour is occurring so that we can investigate it in a timely manner. Every complaint is investigated when received on site. During 2014, no odour was detected by staff when 38 complaints where investigated. On one incident a carbon odour was detected, two complaints were received and coincided with a power cut to the site, which may have resulted in odorous air from the site causing a nuisance due to the failure of a backup generator for the abatement system, corrective actions have now been put in place and this will not happen again. On a further five occasions the investigation could neither confirm nor rule out the presence of an odour. On one occasion the odour noted was not related to Thorntons recycling. All complaints are included in the reported figures as the complaint was received on site and is tracked on the IMS.

The carbon was changed 3 times during 2014 and is monitored daily so that maintenance staff can be notified in advance when the carbon is due to expire.

Thorntons Recycling is committed to not allowing any odours off site. We believe that the odour abatement has been successful at the facility in 2014 despite the number of complaints. As discussed in section 5.4 two odours assessments by an independent body was carried out during 2014 on our odour treatment system which concluded that the system is working effectively and that Thorntons Recycling are not having any negative impact on residents and that the odour generated at the facility is being managed effectively. The EPA also carried out a number of random odour inspections throughout

the year and Thorntons were found not be causing nuisance odours in the surrounding areas.

Thorntons Recycling takes every complaint seriously and is committed to resolving all complaints to the facility. We feel that in 2014 we have done our utmost to be proactive in dealing with local complaints and we aim to continue this trend and have a decrease in complaints during 2015.

12 REVIEW OF NUISANCE CONTROL

Potential generic nuisances at waste transfer and recycling facilities include dust, noise, odour, litter, birds, rodents, traffic. PTWDL do their utmost to control any nuisances which may occur at the facility. Checks on nuisances are carried out daily and corrective actions are carried out as required. A procedure in line with our IMS has been designed to ensure housekeeping is maintained in all areas and is carried out by supervisors (EP08 – Housekeeping Inspections).

In response to EPA suggestions the condition (size) of the stock piles in each shed is monitored and recorded each day as part of the daily environmental check list. Records are maintained on site in the environmental office.

12.1 DUST

PTWDL are required to carry out dust monitoring three times per year. Results of the dust monitoring have been detailed in section 5.1 of this report. Thorntons Recycling staff use power hoses to wet down yard surfaces at the facility during dry periods, dust curtains have been fixed to entrances and exits of the buildings; a dust suppression system is in operation in Building 2 and a dust system RJP Pulse Plant has been installed since March 2006 to remove dust from the air extracted from Building 3. PTWDL has a road sweeper on site at Killeen Road and it is used twice daily in the facility or more frequently if deemed necessary. The sweeper is also used on the Killeen Road and Kylemore Park North road to assist in reducing dust levels due to passing traffic and contributory factors. In 2013 a new mist air system was installed within the buildings on site to further reduce the potential of dust emissions and odour emission on site.

12.2 NOISE

Noise monitoring surveys are conducted annually at the facility; see section 5.3 of this report.

12.3 ODOUR

Tipping of potentially odorous waste and subsequent segregation and processing occurs within the sealed building 3 which assists in preventing odours from escaping beyond the facility boundary. All putrescible waste is removed from the facility within 48 hours. An Odour Abatement System was installed in March 2005 which uses carbon filtration to

extract and treat the molecules that cause odorous air. Further works such as sealing all buildings with polyutherane foam, the installation of an air curtain system and the installation of a pulse plant for dust extraction to improve operation efficiency of the odour treatment system were also carried out since this time. In 2011 a large previously open area of building 3 was closed off with a roller door and metal cladding. A roller door was installed on building 1 to further reduce emissions for the building escaping. In 2014, the carbon was changed three times to ensure a high odour removal rate from the odour system. In 2013 the mist air system was installed to further assist with reducing potential odour emissions.

PTWDL have submitted odour progress reports to the Agency throughout 2014 and Thorntons Recycling will continue to maintain the system in best working practice and keep the EPA informed of the same.

12.3 LITTER

Daily checks are carried out on litter within and around the site boundary. Any litter which may escape is cleared up as soon as is possible. All waste transportation vehicles are either enclosed or have a net which covers waste, preventing littering while waste is in transit. Thorntons Recycling owns and operates a road sweeper which sweeps inside and around the facility twice daily. Staff sweep and tidy picking areas throughout the day and night and daily housekeeping checks are carried out by supervisors in all areas with further checks being carried out by the environmental department on a daily basis. All housekeeping checks are maintained on file in the Environmental Department at Thorntons Recycling Centre.

12.4 BIRDS

Constant moving machinery generally deters birds from causing any problems on site. The situation is being monitored and if necessary further action by the contracted pest control company will be arranged.

12.5 RODENTS

Complete Pest Control conduct fortnightly checks of all bait points around the facility which effectively controls rodents at the facility, all documentation for site visits and reports are maintained on site.

12.6 FLIES

Flies have not been a problem at the facility during 2014 and no preventative fly sprays were required. The presence of flies is checked as part of the daily environmental checks and if required additional action will be carried out by the contracted pest control company.

12.7 TRAFFIC

Thorntons Recycling Centre is bordered to the West of the facility by the busy Killeen Road which has an access entrance into Park West Industrial Estate and is bordered to the North of the facility by Kylemore Park North, both locations receive a considerable amount of traffic.

13 FINANCIAL PROVISIONS, MANAGEMENT STRUCTURE, PROGRAMME FOR PUBLIC INFORMATION

FINANCIAL PROVISIONS

PTWDL is insured by JLT (Appendix 6). PTWDL is insured for Employers Liability, Public/Products Liability and Motor Insurance. PTWDL is a financially secure company which is evident from the director's report and consolidated financial statements for the year ended 31st December 2013. Thorntons Recycling is insured under public liability for €13 million for sudden and accidental pollution incidents.

The company also have employed environmental management staff to ensure best practice guidelines and compliance with waste licence W0044-02 is being adhered to. A comprehensive emergency plan exists for all facilities operated by the company and the company has maintained certification to Environmental Standard ISO 14001 across all its sites in 2014. Environmental risk assessments are updated as part of the impact and aspects register for ISO14001. The Environmental Aspects Register (PM01-F02) for Thorntons Recycling, Killeen Road facility is available for inspection on site. All staff are trained in Health and Safety and Environmental Awareness at Thorntons Recycling Centre.

PROGRAMME FOR PUBLIC INFORMATION

Thorntons Recycling operates an open door policy at the facility and has carried out tours with schools and businesses in 2014. The environmental team have been actively involved in carrying out recycling workshops and audits in schools, hospitals and industrial and commercial businesses as well as giving presentations to some of our larger commercial customers at their facilities.

All new and existing clients are brought through our waste acceptance procedures and are supplied with information by sales representatives or customer care staff in relation to what waste types we can accept at the facility.

Thorntons Recycling Centre continues to upgrade its website so customers can access information such as waste collection permit numbers and facility waste licences etc. The companies on line skip service www.skip.ie provides our customers with services and information in relation to hiring a skip from Thorntons Recycling. All household customers now have a personal log in number to our website which enables them to view their waste activities including weights, collection dates and times etc.

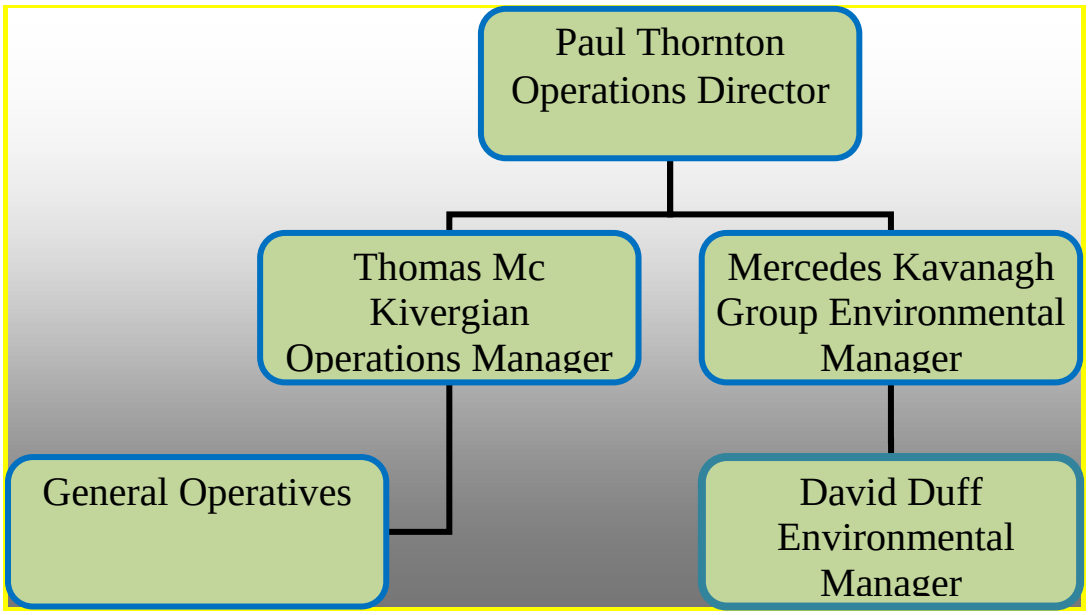
A news update section of our website is updated regularly with news about the company which enables customers and the public to keep up to date with Thorntons Recycling.

All information relating to activities carried out at Thorntons Recycling Centre is maintained on site. Public information is accessible at the site at all times or at the Office of Environmental Enforcement. Detailed Communications Procedures (PM04-Communications and EP01 – Communications Programme) has been implemented in our Integrated Management System and are used throughout the company.

Thorntons Recycling was the runner up for the large operator Repak award in 2014 and in The Green Awards 2014.

MANAGEMENT STRUCTURE

The graph below detailed the 2014 management structure relating to the Killeen Road site for the second half of the year. For the first half of the years Ted Moran was the Operations manager but was succeed by Thomas Mc Kivergian. Ted's role is now as the maintenance manager for Thorntons Recycling.



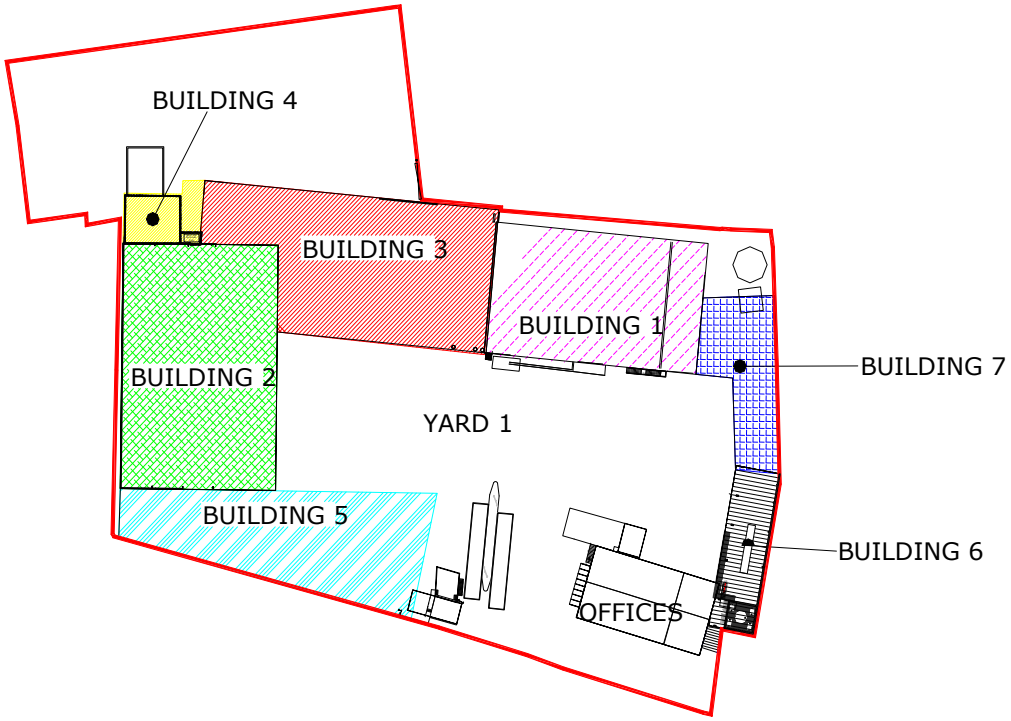
14 FOUL WATER PRODUCTION AND VOLUME OF WATER TRANSPORTED OFF SITE

Thorntons Recycling Centre are limited under schedule C4 of waste licence not to emit more than 20m^3 per day to the sewer at emission point reference F2 which exits at the north of the facility at Kylemore Park North or 12m^3 per day to the sewer at emission

point reference F1 which exits at the south of the facility to Kylemore Industrial Estate. A daily log is maintained on site.

Both foul meters located on F1 and F2 locations are checked during daily checks at the facility and zeroed at the end of the year. A total of 1,195,359 litres was discharged from F1 during 2014 and 19,719 litres from F2. Both are below the max permissible annual discharge for the reporting period by 83% and 99% respectively. Thorntons Recycling Tankering Services is used for all onsite drainage maintenance and can be called in the event of an emergency if required. Approximately 19,200 litres of foul water or drain cleaning and maintenance was removed by tankers from the facility in 2014. Job tickets are located in the drain maintenance file in the Environmental Department, Killeen Road, Dublin 10.

Appendix 1


BUILDING 4
BUILDING 3
BUILDING 1
BUILDING 7
BUILDING 2
YARD 1
BUILDING 5
BUILDING 6
OFFICES

Appendix 2

EWC Code	Materials Received	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Year To Date
20 03 01	MMW In	8034.62	6167.04	6652.50	6615.92	6022.52	4967.77	5982.61	5065.15	4939.97	4770.66	4551.57	3919.42	67689.75
20 03 01	Levy Exempt Clean ups			2.96				20.80						23.76
20 03 07	Bulky MMW	2125.74	3493.47	3944.38	3974.86	3550.54	3614.98	3855.17	3006.28	3344.42	3608.20	3193.96	1457.12	39169.12
19 12 10	Combustile waste suit SRF processing	2025.48	911.62	2310.08	3196.17	2683.18	1628.38	2566.84	1828.70	1283.53	1933.13	1921.22	1441.68	23730.01
20 03 03	Street cleaning residues	1540.26	1168.00	1286.18	1274.80	1846.86	1411.46	1466.16	1284.70	1409.92	1825.26	1869.88	1571.09	17954.57
19 12 12	Inert trommel Fines						57.06		21.80	48.52	48.22	50.14	91.18	316.92
20 03 02	Market waste						0.82		8.96				0.36	10.14
17 01 01	Concrete				21.68	4.32						32.54		58.54
17 01 07	Clean Construction Rubble						13.54							13.54
17 09 04	Mixed C&D Waste	3072.40	4653.32	6142.80	7171.26	7179.24	6108.14	4981.44	3618.95	4045.32	3802.37	3165.88	1551.17	55492.29
17 05 04	Soil and Stones	68.18		18.26	71.98	88.30	177.24	96.60	39.20	39.54	61.04	13.22	20.80	694.36
02 01 06	Straw/ Animal Manure.								19.30					19.30
02 06 01	Bakers Waste	38.84	43.60	24.02	40.90	31.71	26.12	40.76	17.18	38.36	45.96	43.02	48.62	439.09
18 01 04	Non Infectious Healthcare Waste	667.24	664.88	661.76	671.26	719.72	588.54	673.34	638.68	661.72	690.43	650.52	564.88	7852.97
02 03 04	Tobacco	11.62	3.94	4.18		3.12	4.12	3.22	3.14	4.36		16.00	7.86	61.56
02 05 01	Unsuitable food dairy		40.18			1.00						4.42		45.60
02 03 04	Unsuitable food waste	20.96	13.78	15.50	39.48	108.76		49.48	19.02	7.08	4.58		9.20	287.84
16 03 04	Products for Destruction inorganic	10.17		5.44	3.12	6.78	2.12	0.82	12.10	0.52	3.54	2.80	7.00	54.41
02 07 04	Unsuitable Alcohol and Liquid for Destruction	1.00	1.82	16.94		1.34			32.48		10.38	14.72	79.48	158.16
20 01 99	Mixed Dry Recyclables				5.28				7.02					12.30
16 01 18	Metal non ferrous aluminium		1.84		1.80									3.64
17 04 01	Metal, Copper, bronze, brass				0.56								0.24	0.80
15 01 06	Mixed Packaging (dry MMW)	3.70	6.92	2.68	7.71	6.60	16.28	21.76	15.10	16.50	5.92	4.50	3.90	111.57
19 12 01	Cardboard				1.32			.		4.92	2.54			8.78
19 12 02	Ferrous Mixed Metal	5.08	10.30	8.86	24.44	14.60	2.06	8.50	5.88	0.72	1.46	6.74	13.06	101.70
17 04 07	Metal Mixed C & D	9.46	10.72	13.70	2.20	2.08	2.16		3.30	4.12	9.28	1.60		58.62
15 01 03	Wood Packaging	323.42	326.54	460.70	247.10	422.83	230.52	234.28	231.50	216.92	219.99	261.26	125.98	3301.04
19 12 07	Woood Processed Wood e.g. chipped	3.36		3.16			11.80	12.86	11.84	4.10	7.40	0.54		55.06
17 02 01	Wood C & D Waste Wood	20.78	20.88	53.14	33.80	46.70	26.78	66.27	64.02	31.56	60.96	39.98	17.68	482.55
03 01 05	Wood Waste Manufacturing	44.36	25.56	43.00	16.30	30.06	25.84	61.52	23.88	52.08	19.28	12.82		354.70
20 01 38	Wood Municipal Waste	21.60	29.00	76.48	26.68	28.46	37.68	30.60	28.28	30.56	17.54	29.34	21.48	377.70
15 01 02	Mixed Plastic Film - Low Grade		3.26	3.56	3.88	3.24	2.72	4.96	5.50	7.50	4.06	12.60	24.72	76.00
15 01 02	Mixed Plastic PP packaging									0.30				0.30
15 01 02	Mixed Bottles		0.24											0.24
20 01 39	Mixed Hard Plastics	5.54	7.84	7.68	2.49	4.66	8.60	6.12	0.38	7.74	2.72	6.20	2.30	62.27
19 12 05	Glass Packaging		9.20	4.38		2.94			4.50	1.80				22.82
20 01 02	Glass Other	49.06	61.82	75.08	74.00	66.28	61.68	81.64	58.14	66.62	99.04	83.74	65.92	843.02
20 01 08	Brown Bin/ Seperately collected Food Run	2174.05	1909.92	2309.99	2939.00	2765.24	2566.48	2474.10	2324.30	2646.36	2475.04	1779.14	1745.69	28109.31
20 02 01	Green Waste	207.16	109.60	327.62	46.94	139.02	80.24	27.94	29.38	37.64	40.64	24.14	28.36	1098.68
20 01 11	Textiles / Clothes	17.80	2.66	5.42	11.25	2.78	2.20	2.48	2.54	1.56	0.60	4.72	14.42	68.43
16 01 03	ELV Tyres	0.22	0.84					9.08	10.58		23.22	13.42		57.36
17 08 02	Gypsum Products/Plasterboard	31.94	13.02	13.20	7.06	13.64	11.62	5.68	2.70	1.76	2.52	20.46	9.84	133.44
19 09 01	Screenings Sewage Treatment	2.92		0.50		2.62		1.84						7.88
19 09 04	Carbon - Spent activated	5.32			3.54	5.06		5.38			5.32		5.44	30.06
15 01 02	Polystrene				1.44	0.84	2.42							4.70
	TOTAL	20542.28	19711.81	24494.15	26538.22	25805.04	21689.37	22792.25	18444.48	18956.02	19801.30	17831.09	12848.89	249454.90

Appendix 3

EWC Code	Materials Consigned	Jan	Feb	Mar	Apr	May	June	July	August	Sept	October	Nov	Dec	Total Year To Date
20 03 01	MMW (Bord na Mona Drehid Landfill)	806.94	3471.51	968.86	497.64	1068.07	1968.40	1156.36	1047.59	969.20	247.38			12201.95
21 03 01	MMW (Midland)			44.44										44.44
20 03 01	MMW (Greyhound)		143.96			39.04		41.98	61.92	20.36				307.26
20 03 01	MMW (Oxigen)	49.70	39.50	363.78	153.26	63.28							48.84	718.36
20 03 01	MMW (Indaver Waste to Energy)	342.74	189.38	199.56	52.68					106.10	39.66			930.12
20 03 07	Bulky MMW (Dunboyne)			66.44										66.44
20 03 03	Street cleaning residues (Bord na Mona Drehid)	1845.40	1201.12	1599.82	1903.66	2205.96	1711.33	1588.42	1578.58	1468.76	1369.90	1819.44	2111.59	20403.98
19 12 10	SRF (Lagan Cement)	585.84	1433.92	1942.92	1933.94	2515.30	2285.27	2351.98	2351.74	2542.48	2111.84	2137.54	1517.46	23710.23
19 12 10	SRF (Pacon)					194.00	159.36	144.96	71.00			178.32	159.72	907.36
19 12 10	SRF (Dunboyne)	4160.98		141.96	82.04	18.92								4403.90
19 12 10	SRF (Irish Cement)	390.16	1723.42	5869.74	5290.94	3702.12	3484.42	3624.64	3019.94	2312.58	4722.48	4737.88	4153.98	43032.30
19 12 12	Stone (Bord Na Mona Drehid Landfill)	1947.70	2024.00	3564.60	3005.42	4332.02	3552.33	2623.00	1879.25	1556.44	1095.58	1378.82	569.80	27528.96
19 12 12	Stone (Dunboyne)								76.64			25.94		102.58
19 12 12	Stone (Arthurstown)		167.10											167.10
19 12 12	Organic Fines (EnrichEnvironmental)	233.28	32.36	24.46	182.28		27.52							499.90
19 12 12	Organic Fines (McGill Environmental)	527.78	1003.42	1264.14	1421.80	1443.52	1234.66	1368.12	1154.54	1278.72	1399.62	1583.70	877.82	14557.84
19 12 12	Organic Fines (Bord Na Mona)	1378.76	498.52	589.12	380.42	594.99	1130.44	396.76	200.30	878.66	249.48	205.98	29.58	6533.01
19 12 12	Trommel Fines (Bord na Mona Drehid)	2779.92	3912.36	4483.14	5826.29	5137.35	4801.32	5535.51	3613.51	3901.94	4294.02	3339.48	1115.04	48739.88
19 12 12	Trommel Fines (Ballynagran)								23.42					23.42
19 12 02	Ferrous Mixed Metals (Hammond Lane)	382.27	287.48	417.58	296.20	183.30	233.02	173.68	94.48	171.36	71.14	37.20	223.18	2570.89
19 12 02	Ferrous Mixed Metals (Multimetals)	53.06	182.04	158.64	305.78	337.04	362.80	411.54	388.34	290.30	378.92	451.36	277.58	3597.40
19 12 02	Ferrous Mixed Metals (Wilton Waste)		26.56		16.52	14.60								57.68
19 12 03	Non-ferrous metals (Hammond Lane)	32.56	34.34	50.79	69.92	97.31	51.62	71.64	47.71	61.54	157.84	61.60		736.87
17 04 11	Metal cabling (National Recycling)		1.60											1.60
17 04 11	Metal cabling (Wilton Waste)								4.54		2.26	2.20	4.24	13.24
17 04 01	Copper and bronze (Hammond Lane)	1.03												1.03
17 04 01	Copper and bronze (Wilton)										4.22	5.44	10.64	20.30
15 01 04	Metallic Packaging Aluminium (MDR Facility)	9.48	16.44	9.88	26.14	20.58	17.46	21.98	20.30	15.18	21.46	35.62		214.52
15 01 04	Metallic Packaging Steel (Multimetals Facility)							18.76			20.04		8.10	46.90
15 01 04	Metallic Packaging Tin (Wilton Waste)	71.24	30.58	53.82	22.34	66.28	12.96	34.54	16.40	34.56	26.14	41.08	52.84	462.78
15 01 04	Metallic Packaging Aluminium (Hammond)	4.78			6.08	7.40						5.40		23.66
20 01 39	Hard Plastic (Polymer fuels/Irish Polymers)	11.50	13.72	10.86	8.98	7.18	4.48							56.72
20 01 39	Hard Plastic (Leinster Environmental)									5.74	6.34	6.20		18.28
20 01 39	Hard Plastic (Irish Polymer Extrusions)							5.32		5.36	9.24		3.78	23.70
20 01 39	Hard Plastic (Irish Packaging)	3.60												3.60
20 01 08	Compostable Food Waste (Kilmainhamwood)	2241.88	1732.44	2237.98	2504.70	1551.02	1801.31	2138.71	2204.14	1752.60	2009.12	937.42	910.68	22022.00
20 01 08	Compostable Food Waste (Waddock Composting)	94.08	140.72	115.38	133.58	22.52	150.82					126.32	284.40	1067.82
20 01 08	Compostable Food Waste (Barna)					24.22								24.22
20 01 08	Compostable Food Waste (BNM Drehid Landfill)													0.00
20 01 08	Compostable Food Waste (Panda/B9 Energy)					261.60	56.42							318.02
20 01 08	Compostable Food Waste (Acorn Recycling)				160.40	183.08	55.64	137.90	186.58	293.66	178.18	366.86	58.02	1620.32
20 02 01	Green waste (Bord Na Mona)										14.32	16.92		31.24
20 02 01	Green Waste (PDM)	64.16												64.16
17 08 02	Plasterboard (Allied Waste Management)											1.90	7.46	9.36
20 01 11	Textiles/Clothes (MDR)	19.44												19.44
16 05 05	Gas Cylinders (Quarantine)		0.36	0.64		1.38		1.10	0.20	0.64		1.10		5.42
20 01 27	Tyres (Barrockstown Farm)											45.48		45.48
19 12 07	Wood (PDM)	1129.46	912.80	1417.72	1207.47	1205.42	1092.08	779.66	820.96	734.48	1111.40	711.66	500.80	11623.91
	TOTAL	19167.74	19219.65	25596.27	25488.48	25297.50	24193.66	22626.56	18862.08	18400.66	19540.58	18260.86	12925.55	249579.59
	Diff	1374.54	492.16	-1102.12	1049.74	507.54	-2504.29	165.69	-417.60	555.36	260.72	-429.77	-76.66	-124.69

Appendix 4

THORNTONS RECYCLING CENTRE
PLANT CAPACITY REPORT JANUARY 2015

INTRODUCTION

Thorntons Recycling Centre, Killeen Road, Dublin 10 is currently licensed under waste licence W0044-02 to accept 250,000 tonnes per annum of Domestic, Commercial, Industrial Non Hazardous and Construction Demolition Waste. To handle such large waste quantities efficiently and without significant environmental emissions, adequate plant machinery has to be in place to quickly handle and dispatch the materials delivered.

To quantify the processing capabilities of the facility this capacity report has been produced to estimate the quantities of waste the transfer station can currently accept before waste begins to accumulate and potentially effect the surrounding environment. This capacity report has identified spare plant that can be substituted for critical plant in the event of a breakdown. Furthermore, sufficient essential spare parts and staff who are capable of rectifying faults are also detailed and available to bring critical plant machinery back online after initial breakdown.

THORNTONS RECYCLING CENTRE PLANT CAPACITY

The following tables specify all plant on site and their individual capacity along with standby capacity of all substitute machinery (see tables 1, 2, 3)

Table 1 capacity of waste handling machinery

THORNTONS RECYCLING CENTRE HANDLING CAPACITY 2015					
Area	**Details**	**Machine**	**Capacity (tonnes per day)**	**Spare**	**Spare Capacity (tonnes per day)**
Waste Handling	Handling Skip Waste (B2)	Libherr 1	1500	Fuchs 6 (PDM)	1500
Waste Handling	Loading Trailers Oversize (B2)	Fuch 8	1500	Shovel 2 - JCB loading shovel 456	2000
Waste Handling	Loading MSW line (B3)	Libherr 2	1500	CAT Fuchs	1200
Waste Handling	Replacement during cleaning	Fuchs 9	1500	Shovel 3 & 4 Cat (PDM x 1)	4000
Waste Handling	Unloading trailers in the yard	Fork lift 1 (7 Tonne)	1000	Forklift 3 &5 MDR centre	2000
Waste Handling	Moving full and empty waste trailers	Shunter 1	1200 (* Based on 100 tonnes per hour for 12 hours)	Forklift 4 MDR	1000
Waste Handling	Moving waste in Building 3	Shovel - Volvo L120H	2000	Teleporter 1&2 in MDR	2000
Waste Handling	Moving waste in building 1	Shovel 5 - Volvo L120F	2000	Shovel 5 & 1 L90C (Dunboyne & Kilmainhamwood)	4000
Waste Handling	Moving waste in yard- Spare	Shovel - Volvo L120F	2000	Shovel 2 - JCB loading shovel 456	2000
Waste Handling	Spare in yard	Cat 360B Teleporter	1000		
Waste Handling	Moving full and empty waste trailers	Shunter 2	1200 (* Based on 100 tonnes per hour for 12 hours)		
			16,400		**21,700**

Table 2: Current Capacity of Waste Processing Machinery.

THORNTONS RECYCLING CENTRE CURRENT DAILY PROCESSING CAPACITY 2015						
Area	**Details**	**Machine**	**Capacity (tonnes per day) Based on 14 hr day**	**Spare**	**Spare Capacity**	**Emergency Spare Parts In Store**
Processing	C.I.D line- crusher, 2 x trommels, 2 x Nihots, flip flop and picking lines (14 hr day)	C.I.D line	490	Diversion of waste to another facility or work a longer shift	Yes	Yes Motors, Belts and rollers
Processing	MSW line- crusher, waste screen and Nihots (14 hour day)	MSW line	560	Bulking material and consigning to landfill	Yes	Yes Motors, Belts and rollers

1050

Table 3 Current Capacity of Waste Transportation

THORNTONS RECYCLING CENTRE CURRENT TRANSPORT CAPACITY 2015					
Area	**Details**	**Machine**	**Capacity (tonnes per day)**	**Spare Capacity**	**Emergency Spare Parts In Store**
Transport	Moving waste to landfill - Loose Waste	7 Open Top Trailers	(2 driver, 5 lds * 25t per ld) **125**	Yes	Yes
Transport	Moving SRF to outlet	8 Closed trailers and 5 walking floor trainers	(2 driver, 12ld 24t per ld) **288**	Yes	Yes
Transport	Moving Compostable waste	3 Aluminium trailers	(2 driver, 4lds 25t per day) **100**	Yes	N/A
Transport	Moving Wood to PDM	7 Open top trailer snad 5 walk floor	(1 drivers,3 lds * 25t per ld) **75**	Yes	N/A
Transport	Moving mixed metals	2 Open top bulker, 4 40ft tippers.	(1 drivers,2 lds * 16t per ld) **32**	Yes	N/A
Transport	Moving Organic Fines	2 walking floors and 3 tipper trucks	(2 drivers,3 lds * 25t per ld) **75**	Yes	N/A
Transport	Moving Trommel Fines and Stones	2 rigid tipper trucks	(2 drivers,10lds*22t per ld) **220**	N/A	Yes
			915		

As can be seen from Tables 1, 2 and 3 Thorntons Recycling has sufficient plant capacity to process above the current licence quantity of 250,000 tonnes per annum. Table 2 and 3 displays the current capacity of waste processing machinery and the current transport capacity. Should the facility be required to handle more than that displayed in Table 2 and 3, hours of processing can be increased as the facility is licenced to operate under a twenty four hour licence and extra drivers and trailers can be hired to accommodate transport of materials. The trailers and lorries are able to transport a number of different types of waste streams so trailer types are interchangeable to transport material off site as required.

PTWDL operates other facilities such as Thorntons Recycling PDM, Thorntons Recycling Dunboyne, Kilmainhamwood Composting, Thorntons Recycling Security Shredding and Thorntons Recycling MDR. All these facilities have similar mobile plant on site which can be used at Thorntons Recycling Centre Killeen Road if required.

PTWDL employs a maintenance team who are responsible for ordering and cataloguing all essential spare parts. The team consists of qualified fitters and electricians, who have their own maintenance workshop and service bay onsite at the Killeen Road facility. A garage has been developed in Park West Industrial Estate where a team of 13 are employed. The garage is equipped with all the necessary specialized equipment and an emergency service vehicle for call out or to fix mechanical breakdowns. PTWDL have 24 hour access to Hose Doctor who can be on site within the hour to replace any damaged hydraulic fittings.

CONCLUSION

It is apparent from the information supplied that the facility and its workings have sufficient capacity to handle the current tonnages permitted to enter the facility and indeed could handle an increase in tonnage if required.

Appendix 5

PM03- F01 Management Programme 2014

COMPLETED | CARRIED FORWARD FROM 2013 | ON HOLD

Ref Numb	Date	Type	Objective and Target	Location	Responsibility	Method	Time Frame	Status
EP07	Feb-14	Environmental	Review of customers accounts to ensure accurate information for AERs	Killeen road	DD/OOS	1. Run customer reports from WIMS and filter by source and also compare waste type and product type. 2. Fix errors in WIMS	Apr-14	**Completed AER submitted 11.03 14. WIMS meeting organised with tarnsport and credit control to clean up data 14.03.14**
EP09	Feb-14	Environmental	Carry out additional odour checks in the residental area of ballyfermot	Killeen road	DD/OOS	1. On days when the wind direction is blowing towards the residencial area of ballyfermot, carry out an off site odour assessment and log on the daily odour check sheet	Sep-14	**Started OOS spot checking as required on going for summer months and DD carrying out randonly - Completed**
EP10	Feb-14	Environmental	Review daily check sheets and add in additional column for recording more information- such as if an odour is persistant or intermittent, yard condition etc	Killeen road	DD	1. Review all environmental daily check sheets. 2. Update with amendments and update IMS documents	Mar-14	**Completed - DD/OS updated and linked to ISO**
EP11	Feb-14	Environmental	To review re locating the cut off valves to the foul lines out of the buildings- so in the event of a fire they can be accessed safely	Killeen road	Ted	1. Review suitability of proposal to move cut off valve switch from inside B3 to outside the building so easy access in the event of a fire	Jun-14	**Completed - GC/OS organised with TM and new signage put in situ access to FW2 now from behind odour abatement system in KR rather than inside B3.**
EP12	Feb-14	Environmental	Create an odour prevention policy	Killeen road	DD	1. Gather all the current procedures into a simplified odour preventiong policy document	Jun-14	**Completed by GC and subnitted May 2014 to EPA on the Alder system saved on Q drive in Killeen Road file not linked to ISO**
EP13	Feb-14	Environmental	Review of fire prevention measures on site in line with the EPA fire prevention documentation	Killeen road	DD	1. Review EPA guidance document. 2, Compare with current procedure in killeen road	Jul-14	**Complted - EHS board for emergencies created summer 2014 MA organised DCC fire brigade to come on site summer 2014 recommendation passed to H & S depart**

PM03- F01 Management Programme 2015

COMPLETED		CARRIED FORWARD FROM 2014			ON HOLD			
Ref Numbe	**Date**	**Type**	**Objective and Target**	**Location**	**Responsibility**	**Method**	**Time Frame**	**Status**
EP 05	Jan-15	Environmental	Killeen Road Site environmental appearance for summer 2015 - hanging baskets etc	Killeen Road	DD	1. Discuss with Paul and have a third party deliver and erect flower baskets.	Jun-15	**WIP**
EP 08	Jan-15	Environmental	Project - SRF - Linder Shredder replacement in Killeen Road	Killeen Road	DD	1. Remove old linder shredder and store on killeen road. 2. Install new linder shredder	Feb-15	**Completed. Installation work carried out in February and process operating again.**
EP 11	Jan-15	Environmental	Create SOP for environmental emmergency situations- such as for the weighbridge in the event of a power cut, odour system in the event of a power cut and for when warning alarms are activated on site	Killeen Road	DD	1. Review correct procedure with maintenance and operations staff. 2. Draft SOP's. 3. Have mainteance and operations approve SOP's. Finalise SOP's. 4 Update ERP and Training file for the site	May-15	
EP 12	Jan-15	Environmental	Repak Survey on SRF produced at the killeen road facility.	Killeen Road	DD	1. Discuss with repak. 2. Appoint consultants. 3. Carry out work. 4. Report survey findings to Repak.	June 2015.	
EP 13	Jan-15	Environmental	Review and update the Killeen road Process procedures and flow diagams for 2015. For use on educational tours and for the sales team	Killeen Road	DD	1. Review process flow diagrams. 2 Review process procedures. 3. File old revisions.	Feb-15	**Completed. Records updated on the X drive in the environmetnal guidance folder.**
EP 22	Feb-15	Environmental	Concreting works for the main yard around the FW pumping chamber	Killeen Road	Ted / DD	1. Cut concrete. 2 Remove concrete. 3. Top up infill. 4. Put in rebar. 5. Pour concrete	Aug-15	
EP 23	Feb-15	Environmental	Errect steel wall between incoming MSW and Organic fines bay	Killeen Road	Ted / DD	1. Remove current concrete structures. 2. Fix steel plated dividing wall in place.	Sep-15	

Appendix 6

JLT Ireland
Warrington House
Mount Street Crescent
Dublin 2

Tel +353 1 2026000
Fax +353 1 2375200
Email jlt@jlt.ie

www.jlt.ie

1st July 2014

Re: Padraig Thornton Waste Disposal Ltd

This is to confirm that we act as Insurance Brokers for the above client and that we currently hold the following covers in place on their behalf:-

Employers Liability:
Covering the legal liability of the Insured to employees for death or bodily injury or disease arising out of and in the course of their employment by the Insured in the business of Waste Collection, Recycling and Disposal including Electrical Waste and End of Life Vehicles, Composting, Maintenance of Own Vehicles and Contractor's Vehicles Used on the Business of the Insured, Bin Repair and Property Owners during the period of Insurance.

Insurers: FBD plc
Policy No.: 004330532201
Renewal Date: 01st July 2015

Limit of Indemnity: €13,000,000 any one occurrence inclusive of all costs and expenses.
A separate excess policy placed with QBE Ireland brings the limit up to €20,000,000

Public / Products Liability:
Covering the legal liability of the Insured for accidental bodily injury to third party persons or accidental damage to third party material property arising in connection with the business and subject to the limit of indemnity specified. Including legal liability arising out of goods sold or supplied.

Insurers: FBD plc
Policy No.: 00433053401
Renewal Date: 01st July 2015

Limit of Indemnity: Public Liability €2,600,000 any one accident,
Products Liability €2,600,000 any one period
A separate excess policy placed with QBE Ireland brings the limit up to €13,000,000
Cover is subject to Insurers policy terms and conditions

Indemnity to principals clause applies.

Motor Fleet:
Insurers: FBD plc
Policy No.: 004330532201
Renewal Date: 01st July 2015

Third Party Property Damage Limit €1.3 m but increased to €6.4m under an excess policy with QBE Ireland.

"These statements have been made in good faith and are a resume of the insurance cover in force (which is subject to the full terms and conditions of the policy). We accept no responsibility whatsoever for any inadvertent or negligent act, error or omission on our part in preparing these statements or for any loss, damage or expense thereby occasioned to any recipient of this letter".

Appendix 7

Sheet : Facility ID Activities | AER Returns Workbook | 29/1/2015 14:51

Guidance to completing the PRTR workbook

AER Returns Workbook

REFERENCE YEAR	2014

1. FACILITY IDENTIFICATION

Parent Company Name	Padraig Thornton Waste Disposal Limited
Facility Name	Thornton's Recycling Centre
PRTR Identification Number	W0044
Licence Number	W0044-02

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Killeen Road
Address 2	Ballyfermot
Address 3	Dublin 10
Address 4	
	Dublin
Country	Ireland
Coordinates of Location	-6.35373 53.3348
River Basin District	IEEA
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	David Duff
AER Returns Contact Email Address	dduff@thorntons-recycling.ie
AER Returns Contact Position	Environmental Manager
AER Returns Contact Telephone Number	086 8371959
AER Returns Contact Mobile Phone Number	086 8371959
AER Returns Contact Fax Number	n/a
Production Volume	250000.0
Production Volume Units	
Number of Installations	3
Number of Operating Hours in Year	8000
Number of Employees	40
User Feedback/Comments	
Web Address	www.thorntons-recycling.ie

2. PRTR CLASS ACTIVITIES

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

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

Is it applicable?	No
Have you been granted an exemption ?	No
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) ?	No

This question is only applicable if you are an IPPC or Quarry site

| PRTR# : W0044 | Facility Name : Thornton's Recycling Centre | Filename : PRTR W0044_2014.xls | Return Year : 2014 | Page 1 of 1

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4.1 RELEASES TO AIR Link to previous years emissions data

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
					0.0	0.0	0.0	0.0

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

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

RELEASES TO AIR					Please enter all quantities in this section in KGs							
POLLUTANT		METHOD								QUANTITY		
			Method Used		D2	D3	D4	D5	D7			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	Emission Point 5	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
210	Dust	M	OTH	30 Day composite sample measured in mg/m2/day using standard method VDI2119	0.05	0.03	0.05	0.05	0.08	0.26	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: Thornton's Recycling Centre

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	

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS — Data on ambient monitoring of stem/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this only concerns Releases from your facility

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

POLLUTANT		RELEASES TO WATERS			Please enter all quantities in this section in KGs			
			Method Used			QUANTITY		
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

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

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4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A - PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER											
POLLUTANT			METHOD			Please enter all quantities in this section in KGs			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 POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER						Please enter all quantities in this section in KGs							
POLLUTANT		METHOD				FW1	FW2		QUANTITY				
		Method Used											
Pollutant No.	Name	M/C/E	Method Code	Designation or Description		Emission Point 1	Emission Point 2	T (Total) KG/Year	A (Accidental) KG/Year		F (Fugitive) KG/Year		
306	COD	M	OTH	Standard method for the examination of water and wastewater APHA/20th Ed		189.58	12.5	202.08		0.0		0.0	
308	Detergents (as MBAS)	M	OTH	Standard method for the examination of water and wastewater APHA/20th Ed		2.46	0.003	2.463		0.0		0.0	
314	**Fats, Oils and Greases**	M	OTH	Standard method for the examination of water and wastewater APHA/20th Ed		10.85	0.77	11.62		0.0		0.0	
324	Mineral oils	M	OTH	Standard method for the examination of water and wastewater APHA/20th Ed		4.58	0.59	5.17		0.0		0.0	
332	Ortho-phosphate (as PO4)	M	OTH	Standard method for the examination of water and wastewater APHA/20th Ed		3.0	0.034	3.034		0.0		0.0	
240	Suspended Solids	M	OTH	Standard method for the examination of water and wastewater APHA/20th Ed		64.78	3.58	68.36		0.0		0.0	
303	BOD	M	OTH	Standard method for the examination of water and wastewater APHA/20th Ed		79.61	5.26	84.87		0.0		0.0	

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

4.4 RELEASES TO LAND

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

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

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

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

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					
Within the Country	15 01 04	No	46.9	metallic packaging	R13	M	Weighed	Offsite in Ireland	Multimetals,WFP-WW-09-0014-01	Blessington,,,Co. Wicklow,,,Ireland		
Within the Country	15 01 04	No	462.78	metallic packaging	R13	M	Weighed	Offsite in Ireland	Wilton Waste Recycling Ltd,WFP-CN-10-0005-01	Kiffagh,Crosserlough,Ballyjamesduff,Co Cavan,Ireland		
Within the Country	15 01 04	No	214.52	metallic packaging	R13	M	Weighed	Offsite in Ireland	PTWDL T/A Thorntons Recycling MDR,WFP-DC-10-0021-02	Unit 51 Henry Road,Parkwest Business Park,Dublin ,12,Ireland		
Within the Country	16 01 03	No	45.48	end-of-life tyres	R13	M	Weighed	Offsite in Ireland	Barrockstown Farm Limited,None	Barrockstown ,Maynooth ,Co Meath , ,Ireland		
Within the Country	16 05 05	No	5.42	gases in pressure containers other than those mentioned in 16 05 04	R13	M	Weighed	Offsite in Ireland	Calor Gas,N/A	Long Mile Road,,,Dublin,12,Ireland		
Within the Country	17 04 01	No	1.03	copper, bronze, brass	R3	M	Weighed	Offsite in Ireland	Hammond Lane,WP 98107	Pigeon House Road,Ringsend,Dublin,4,Ireland		
Within the Country	19 12 02	No	57.68	ferrous metal	R4	M	Weighed	Offsite in Ireland	Wilton Waste Recycling Ltd,WFP-CN-10-0005-01	Kiffagh,Crosserlough,Ballyjamesduff,Co Cavan,Ireland		
Within the Country	19 12 02	No	3597.4	ferrous metal	R4	M	Weighed	Offsite in Ireland	Multimetals,WFP-WW-09-0014-01	Blessington,,,Co. Wicklow,,,Ireland		
Within the Country	19 12 02	No	2570.89	ferrous metal	R4	M	Weighed	Offsite in Ireland	Hammond Lane,WP 98107	Pigeon House Road,Ringsend,Dublin,4,Ireland		
Within the Country	19 12 03	No	736.87	non-ferrous metal	R4	M	Weighed	Offsite in Ireland	Hammond Lane,WP 98107	Pigeon House Road,Ringsend,Dublin,4,Ireland		
Within the Country	19 12 07	No	11623.91	wood other than that mentioned in 19 12 06	R3	M	Weighed	Offsite in Ireland	PTWDL T/A Thorntons Recycling Woodchipping,WFP-KE-10-0061-01	PDM,Kill,Co. Kildare,,,Ireland		
Within the Country	19 12 12	No	48739.88	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R5	M	Weighed	Offsite in Ireland	Bord na Mona Drehid landfill,W0201-03	Carbury,,,Co. Kildare,,,Ireland		
Within the Country	19 12 10	No	4403.9	combustible waste (refuse derived fuel)	R13	M	Weighed	Offsite in Ireland	PTWDL T/A Thorntons Recycling Dunboyne,W0206-01	Dunboyne,,,Co. Meath,,,Ireland		
Within the Country	19 12 10	No	23710.23	combustible waste (refuse derived fuel)	R1	M	Weighed	Offsite in Ireland	Lagan Cement,P0487-05	Kinnegad,,,Co. Meath,,,Ireland		
Within the Country	19 12 10	No	43032.3	combustible waste (refuse derived fuel)	R1	M	Weighed	Offsite in Ireland	Irish Cement Ltd,P0030-04	Drogheda,,,Co Louth,,,Ireland		
Within the Country	19 12 12	No	167.1	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R5	M	Weighed	Offsite in Ireland	Arthurstown Landfill,W0004-03	Kill,,,Co. Kildare,,,Ireland		
Within the Country	19 12 12	No	27528.96	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R5	M	Weighed	Offsite in Ireland	Bord na Mona Drehid landfill,W0201-03	Carbury,,,Co. Kildare,,,Ireland		
Within the Country	19 12 12	No	14557.84	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R3	M	Weighed	Offsite in Ireland	McGill Environmental ,W0180-01	Coom,Glenville,,,Cork,Ireland		
Within the Country	19 12 12	No	499.9	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R3	M	Weighed	Offsite in Ireland	Enrich Environmental Ltd,WFP-MH-08-0004-01	Newtown,Rathganley,Kilcock ,Co. Meath,Ireland		