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1. Introduction

Oxygen Environmental Limited hold EPA Waste Licence Register Number W0152-03 to operate a Waste Transfer Station at the Robinhood Industrial Estate, Robinhood Road, Ballymount, Dublin 22. In accordance with the requirements of Condition 11.9 of the Waste Licence, an Annual Environmental Report (AER) for the facility must be submitted to the Environmental Protection Agency (EPA).

This AER covers the reporting period from the 1st of January 2009 to the 31st of December 2009.

This facility is located at:

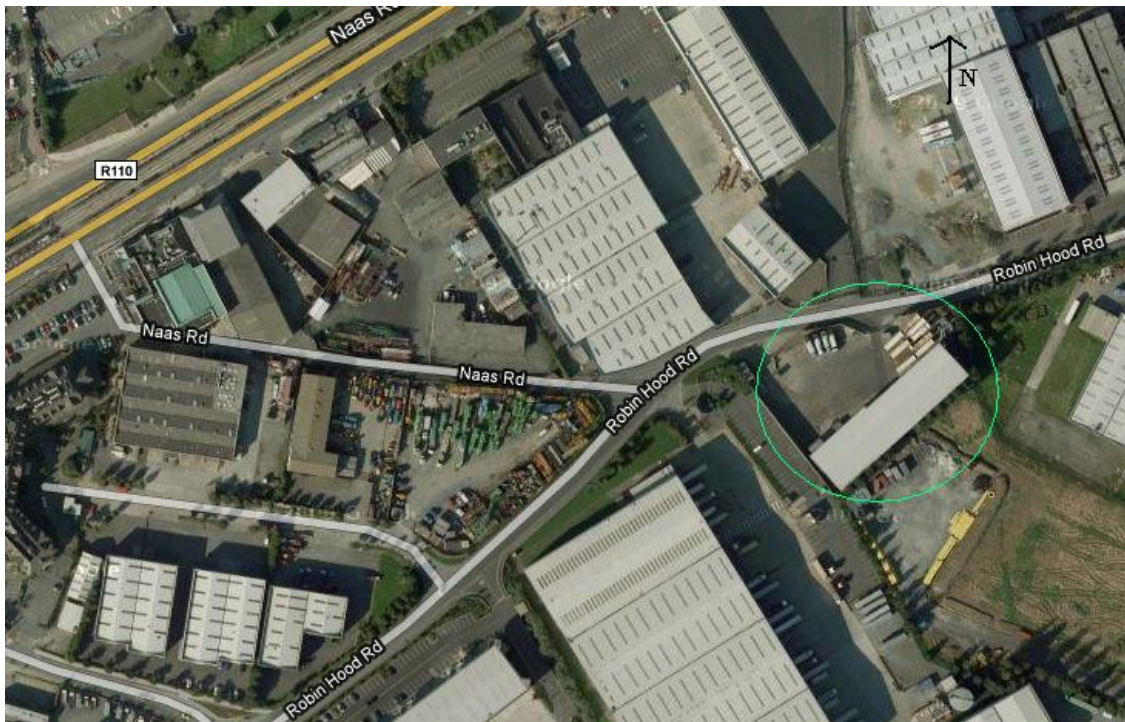
Oxygen Environmental Ltd.,
Robinhood Industrial Estate,
Robinhood Road,
Ballymount,
Dublin 22.

Tel: 01 4263118

Fax: 01 4567192

The Waste Transfer Station is located within an industrial area. The facility is surrounded by warehouses and industrial businesses. The Robinhood Road is located at the northern boundary of the site.

Figure 1.1. Location Map of Oxygen Environmental Ltd., Robinhood.



Google 2010

Oxygen Environmental Ltd. Robinhood

1.0 Description of Operations

Waste handling activities at the site in 2009 consisted of the acceptance and bulking up of municipal solid waste preceding transfer to landfill. All the waste that was destined for Arthurstown Landfill (W0004-03) was baled prior to transfer. Baling and temporary storage of a small quantity of dry recyclables and plastic bottles also took place.

2.1 Process Operations

The licensed waste activities, permitted under the Third Schedule of the Waste Management Acts 1996 to 2003, in the Waste Licence W0152-3 are as follows:

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

This activity is limited to bulking and transfer of waste.

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

This activity is limited to the transfer and reloading of waste.

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 is produced.

This activity is limited to storage prior to bulking and transfer of waste.

All the waste that enters the facility is recorded on arrival using the Genesys software system. The vehicle is then directed to the tipping area inside the shed where the load is inspected. Any non-conforming material such as recyclables or large bulky items are segregated out from the pile, reloaded into a skip and transferred to the Oxigen Ballymount Facility (W0208-01) for recovery.

2.0 Quantity and Composition of Waste Recovered, Received and Disposed of during the Reporting Year 2009

3.1 Waste received at the facility consisted of household and commercial municipal solid waste, food waste and small quantity of plastic. This material was either baled for transfer to landfill or temporarily stored prior to transfer for recycling or recovery. The waste received at Robinhood during the reporting period was recorded in tonnes. The breakdown of quantities received as per each EWC type is listed in Table 3.1.1.

Table 3.1.1 Tonnage of Waste Received by Source and Material Type

Source/Material	MSW	Plastic	Food	Canteen	Total
	20 03 01	15 01 02	20 02 01	20 03 01	
Domestic	10,607.11				10,607.11
Commercial	5,177.14		341.62	9.44	5,528.20
Internal Transfers	3,935.00	16.24			3,951.24
Third Party	26,691.48		903.02		27,594.50
Total	46,410.73	16.24	1,244.64	9.44	47,681.05

3.2 All waste transferred from the Oxigen Robinhood Facility was transferred to EPA approved permitted or licensed facilities. The majority of waste removed from the facility was baled municipal waste which was transferred to Arthurstown Landfill in Kill, Co. Kildare. Other waste consigned was sent for further recovery or temporary storage.

Table 3.2.1 Tonnage of Waste Removed from the facility by Destination and Material

Destination/ Material	Permit/Licence Number	Plastic	Dry Rec	Food Waste	MSW	Bulky	Total
		15 01 02	20 03 01	20 02 01	20 03 01	20 03 07	
Arthurstown Landfill	W0004-03				6556.7		6556.7
Cavan Landfill	W0077-02				26643.24		26643.24
Kyletalesha Landfill	W0026-02				12,257.65		12257.65
Offaly Landfill	W0029-02				1,306.38		1306.38
O'Tooles Composting	WP01-07			899.04			899.04
Ballymount	W0208-01	16.24	216.80			11.68	244.72
Total		16.24	216.8	899.04	46763.97	11.68	47907.73

3.0 Emissions from the Facility

Environmental monitoring results for the reporting period are outlined in the following sections. The results have been summarised in the tables below and the original monitoring reports are available on site. The sampling points for the environmental monitoring are unchanged and the results show that there is a high level of compliance with the standards set in the licence. An environmental monitoring results summary is also presented in the 2009 PRTR Returns Worksheet in Appendix 2.

Tables 4.1.1 and 4.1.2 Monthly Foul Water Results 2009

Parameter	Unit	ELV	Feb	June	Aug	Dec
Sulphates (as SO ₄)	mg/l	1000	97.5	187.4	101.5	102.9
Flow Rate	m ³ /hr	1	0.12	0.21	0.08	0.18

Parameter	Units	ELV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature	*C	42	11	11.4	10.9	10.9	12.1	11.9	15.9	11.7	13.9	16.1	18.1	16.7
pH	pH Units	6-10	6.21	6.61	6.46	7.02	6.85	6.63	6.93	6.93	6.33	7.11	6.43	6.97
BOD	mg/l	1000	868	688	812	540	471	968	772	932	840	961	1108	865
COD	mg/l	3000	2250	1620	1605	770	775	2400	2800	2750	2800	2900	2700	2000
Total Suspended Solids	mg/l	1000	392	36	268	169	190	525.3	976	333	848	452	502	956
Oils, Fats & Grease	mg/l	100	17.3	86	15	8	13.2	86	10	8	87	39	76	22
Mineral Oils	mg/l	10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Detergents	mg/l	100	0.206	0.323	0.097	0.308	0.2	0.2	0.564	0.745	0.139	0.069	0.049	0.912

The reading for BOD in November has slightly exceeded the Emission Limit Value as laid out in the Licence. The interceptor was immediately emptied and cleaned out and all subsequent results have been within the limit values.

4.2 Schedule B.2 and C.2.2 of Waste Licence W0152-03 requires that emissions to surface water are analysed on the monthly basis. The samples are analysed for Biological Oxygen Demand, Suspended Solids, Ammonia and Mineral Oils. The results are presented below. TSW1 is located at a border of the facility and the samples that are analysed at this point are representative of what came onto the site. TSW2 is located at the far end of the facility, the water that is sampled at this point flows through the site and the interceptor before arriving at TSW2. Therefore, in order to get an accurate reading for emissions contributed by Oxygen, we have taken the difference between the emissions at TSW1 and TSW2. However, there was no flow at either monitoring point when inspected by the Facility Manager so there were no results for emissions to surface water.

Table 4.2.1 Monthly Surface Water Results 2009

Parameters	Units	Monitoring Point	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
BOD	mg/l	TSW1	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
		TSW2	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Increase/Decrease			0	0	0	0	0	0	0	0	0	0	0	0
Suspended Solids	mg/l	TSW1	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
		TSW2	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Increase/Decrease			0	0	0	0	0	0	0	0	0	0	0	0
Ammonia (as N)	mg/l	TSW1	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
		TSW2	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Increase/Decrease			0	0	0	0	0	0	0	0	0	0	0	0
Mineral Oils	mg/l	TSW1	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
		TSW2	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Increase/Decrease			0	0	0	0	0	0	0	0	0	0	0	0

4.3 Schedule B.1 and C.6 of Waste Licence W0152-03 requires that dust emissions are monitored on a quarterly basis. The results are displayed below.

Table 4.3.1 Quarterly Dust Results 2009

Monitoring Station	Units	ELV	February	March	July	November
D1	mg/m ² /day	350	98.7	126.4	300	301.1
D2	mg/m ² /day	350	145.9	151.1	217	191.6
D2	mg/m ² /day	350	165.9	62.1	340	111.1

4.4 Schedule B.1 and C.1.2 of Waste Licence W0152-03 requires that certain emissions to air are monitored. Ammonia, Hydrogen Sulphide and Mercaptans are monitored on the monthly basis while amines, odour units and particulates are monitored bi-annually. The results are displayed below.

Table 4.4.1 Monthly Air Emissions Results 2009

Parameter	Units	ELV	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Mercaptan	Conc ppm (v/v)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hydrogen Sulphide	Conc ppm (v/v)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ammonia	Conc ppm (v/v)	50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Mercaptan	Conc ppm (v/v)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hydrogen Sulphide	Conc ppm (v/v)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ammonia	Conc ppm (v/v)	50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Mercaptan	Conc ppm (v/v)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hydrogen Sulphide	Conc ppm (v/v)	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ammonia	Conc ppm (v/v)	50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

Table 4.4.2 Particulates Results 2009

Monitoring Point	March					December				
	Sampling Times		Particulates Conc $\mu\text{g}/\text{m}^3$			Sampling Times		Particulates Conc $\mu\text{g}/\text{m}^3$		
	Start	Finish	Average	Min	Max	Start	Finish	Average	Min	Max
A1	9.01	10.04	19	4	69	10.14	11.21	18	1	75
A2	10.14	11.21	11	2	59	11.34	12.41	22	2	89
A3	11.28	12.37	8	1	21	12.48	13.49	16	1	68

There are no emissions limit values for particulates specified in the Licence for the facility. Particulate levels are low and are at the background concentrations for the area.

Table 4.4.3 Odour Results 2009

Monitoring Point	Average Odour Unit	March	December
A1	ou/m ³	2	2
A2	ou/m ³	2	3
A3	ou/m ³	3	2

There are no emissions limit values for odour units specified in the Licence. The odour units are low at all locations. Generally at 5 ou/m³ people become consciously aware of the presence of an odour and levels greater than this are strong enough to lead to complaints being made.

4.5 Schedule B.4 and C.5 of Waste Licence W0152-03 requires that noise monitoring is carried out on an annual basis. The annual noise monitoring for 2009 was carried out on the 8th December. The locations of the monitoring points are mapped in Appendix 1 and the results of the noise monitoring are detailed below.

Table 4.5.1 Annual Noise Results 2009

Location	Sampling Interval	Duration (mins)	L _{Aeq}	L _{A10}	L _{A90}	Wind Speed m/s	Sampling Notes
Day Time Measurement							
N1	09:03 - 10:03	60	58.4	59.3	51.1	0.5 - 2.0	Traffic passing on the road brings levels up to 65dB at times. Activity can be heard -52-55dB.
N2	10.16 - 11.16	60	53	56.1	47.4	0.5 - 2.5	Activity is audible at this location between 48 and 53 dB. Traffic on the road up to 58dB.
N3	11.26 - 12.26	60	54.7	58.6	52.2	0.1 - 2.0	Plant can be heard at between 50 - 52 dB. Lorries entering the plant reach up to 60 dB.
N4	14.45 - 15.45	60	59.2	57.8	48.6	0.1 - 2.0	Plant can be heard at between 46 - 51 dB. Traffic from road is main noise source reaching up to 80dB.
NSL1	13.35 - 14.35	60	58.7	59.3	45.4	0.1 - 2.5	Traffic reaches up to 60 dB. Plant barely audible above background.
Night Time Measurement							
NSL1	00.36 - 01.36	60	44.3	47.1	37.8	0.1 - 0.8	Passing Traffic and distant traffic is the main source of noise. The plant is not operating at this time.

The noise limits for the operation are laid out in the Licence. The daytime limit is L_{Aeq} <55dB over 30 minutes and the night time limit is L_{Aeq} <45dB over 30 minutes.

Traffic movements not associated with the operation were the main contributing factor to the L_{Aeq} levels. The background noise levels excluding the impact from traffic at up to 53.0 dB is a better indication of noise emanating from the operation. Plant activity was below 55 dB at all locations. Night time noise levels at NSL1 are greater than the night time limit of 45dB due to passing traffic. The plant is closed at night and so makes no noise contribution.

5.0 Resource and Energy Consumption Summary

Gas oil and Electricity are the two forms of energy used on site. This energy is used to power machinery such as the baler and to fuel vehicles such as the front end loader and shunter. Electricity is also used in the day to day running of the canteen and office.

Table 5.1 Summary Table of Resource Consumption for the Reporting Period

Site Energy Usage 2009	Quantity	Units
Gasoil	20,713	Litres
Electricity	225,947	kWh

5.2 Diesel Consumption

The diesel consumption at the facility decreased by more than 50% in 2009 when compared to the previous year. The quantity used in 2009 was 20,713 litres compared to 47,600 litres used in 2008. This was partly due to a reduction in tonnage but was also attributed to more efficient use of machinery. Figure 5.2.1 shows the diesel usage trend over the two year period by month. Figure 5.2.2 shows the usage per tonne processed for both years.

Figure 5.2.1

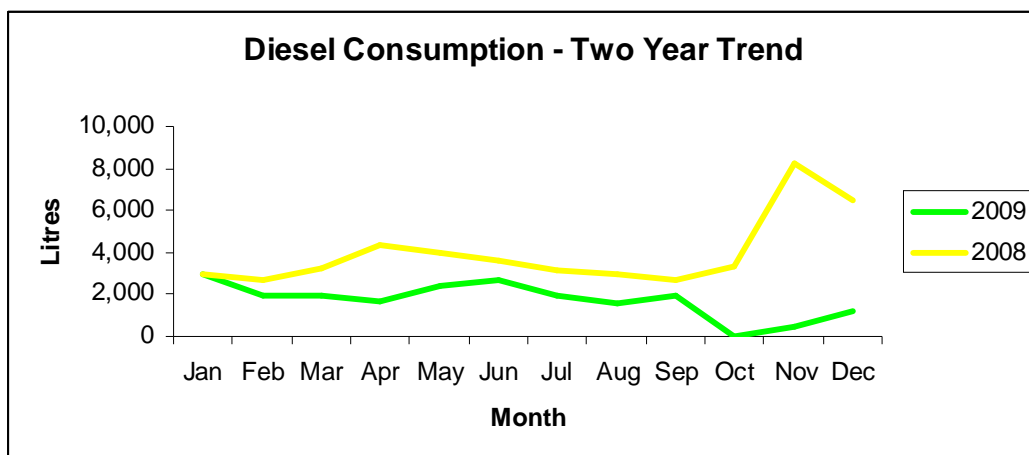
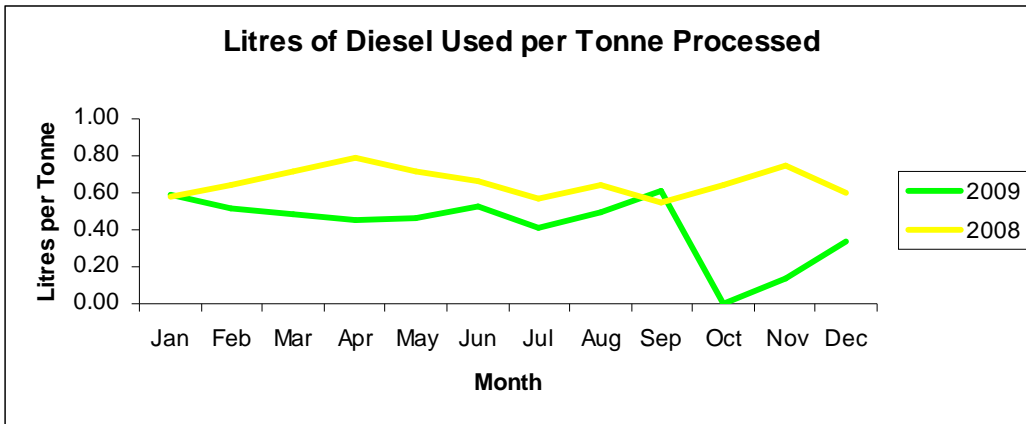


Figure 5.2.2



5.3 Electricity Consumption

The electricity consumption at the facility also decreased largely in 2009 even compared to previous years. Figure 5.3.1 shows the total energy consumption in 2008 when compared to 2009. Figure 5.3.2 shows total consumption as a three year trend.

Figure 5.3.1

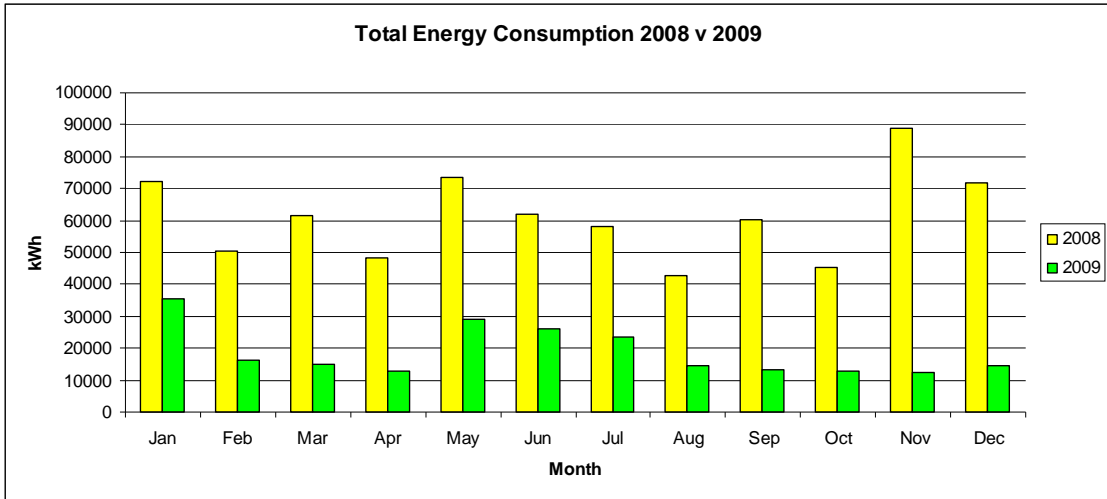
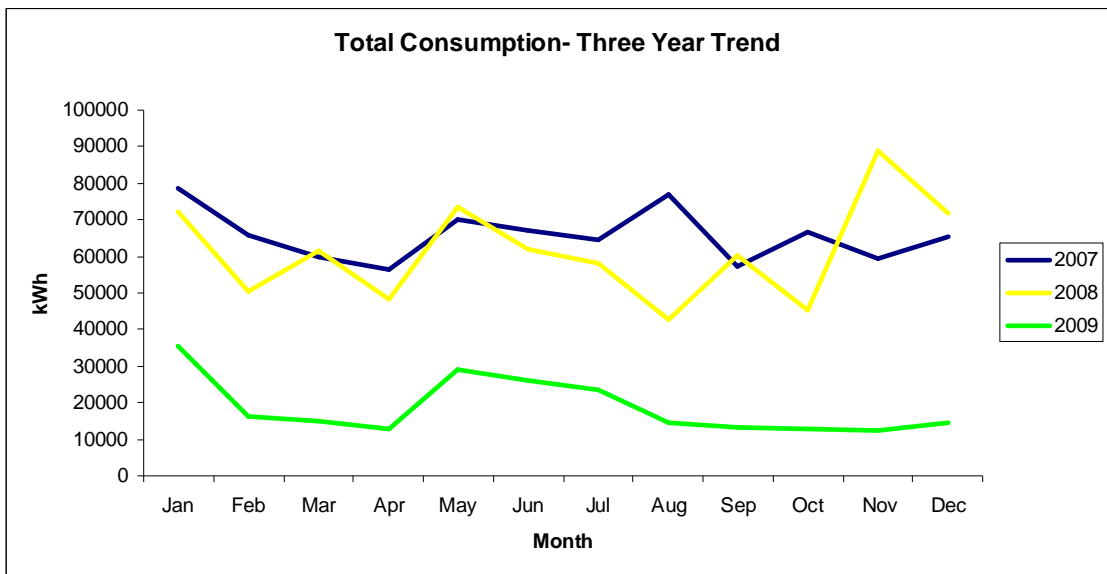


Figure 5.3.2



6.0 Proposed Development/Infrastructural Works 2010

Oxigen will be putting into operation some form of pre-treatment of the municipal solid waste that comes into the facility before July 2010 in line with obligations set out at EU level. Oxigen are considering several options including the use of a screen and trommel on site to segregate the biodegradable and recyclable portion of the waste.

7.0 Environmental Management Program (EMP)

As part of the overall EMS at the facility, an Environmental Management Plan is in place in order to achieve the objectives and targets set out for the coming year and to ensure the facility is operating to high environmental standards.

7.1 Report on Previous Year

A summary report for the EMP that was submitted in the AER for 2008 is discussed in this section. The objectives and targets for 2009 were as follows:

Objective 1 – Explore options to reduce tonnage to Landfill.
Reason – To help reach Government and EU targets.
Method for Achieving Target – Research all option, look for case studies, pull together info and communicate findings to senior management.
Responsibility – The Environmental Manager and Environmental Compliance Officer are responsible for the achievement of this target.
Progress- All options available have been researched and discussed. A screen and trommel will be used at the facility to pre-treat the waste before the non-recyclable/recoverable fraction is sent to landfill.
Objective 2 – Upgrade EMS
Reason – To improve the environmental performance of the company and as a step towards attaining the ISO 14001 Environmental Standard.
Method for Achieving Target – Upgrade and formalise procedures
Responsibility – The Environmental Manager and Environmental Compliance Officer are responsible for the achievement of this target.
Progress- Oxigen sought advice regarding how best to integrate the Robinhood EMS into the ISO 14001 system. Certification Europe advised on how best to tie it in and work will commence on doing so in the coming year.

7.2 Objectives and Targets for the Coming Year 2010

Objective 1 – Integrate the EMS into scope of current ISO 14001 for the Ballymount facility (W0208-01).
Reason – To implement a higher standard to EMS across the entire company.
Target 1. – Integrate environmental procedures, methodologies and all other documents.
Target 2. – Ensure that all staff are aware of the integrated EMS.
Target 3. – Bring EMS to pre-audit stage.
Responsibility – The Environmental Manager and Environmental Compliance Officer are responsible for the achievement of this target.

Objective 2 – Site Upgrade
Reason – To improve the physical appearance of the site and help prevent environmental pollution.
Target 1. – Upgrade concrete hardstand area- upgrading the hardstand to a higher quality provides a better and safer surface to work and drive upon while helping to prevent environmental pollution from runoff escaping to surface and/or groundwater.
Target 2. – Painting of Drains- the drains should be painted with red or blue paint to indicate whether they are leading to the surface or foul line. (Red for foul and blue for surface). This is important so that the drains can be instantly identified if there was an accidental spillage at the facility.
Responsibility – The Facility Manager is responsible for the achievement of this target.

Objective 3 – Installation of Screening equipment for pre-treatment
Reason – To help reach government and EU targets.
Target 1. – Install and commission screen and trommel
Responsibility – The Facility Manager and Operations Manager are responsible for the achievement of this target

8.0 Tank and Pipeline testing and inspection report

8.1 A survey of the complete drainage system at the facility was carried out by P.C. Drain Cleaning Ltd., on the 25th June 2008 and all drains were found to be in good working order. Details of the drainage survey including maps and reports were submitted to the Agency on the 23rd July 2008.

8.2 Portable bunds are maintained on site for the storage of hydraulic oil, engine oil, waste oil, diesel, coolants and waste chemicals. These bunds have all been certified for integrity by the suppliers for a period of 3 years from the date of purchase.

9.0 Reported Incidents and Complaints Summary

No complaints were received relating to the Robinhood facility. However, a fly control program is in place at the facility and it is regularly sprayed for flies in the summer in order to ensure that the facility remains free from fly activity.

10.0 Review of Nuisance Controls

Eastern Pest Control (EPC) carried out pest control at the facility. During the summer months EPC sprayed the inside of the shed with a pesticide fog to control fly activity. This was carried out at regular intervals throughout 2009. EPC made a total of eight visits to the site during the year to monitor the situation and put in place any control measures that were necessary.

Rodent activity at the facility is also controlled by EPC, bait boxes are placed at key locations around the site. There were no sightings of rodents at the facility during 2009. A pest control summary report from EPC can be found in Appendix 3.

Daily site inspections are carried out by the compliance officer which highlight any nuisances on site such as litter, pests, noise, birds, flies, odour or dust. Should any such nuisances be recorded, then appropriate measures are undertaken.

11. Management Structure

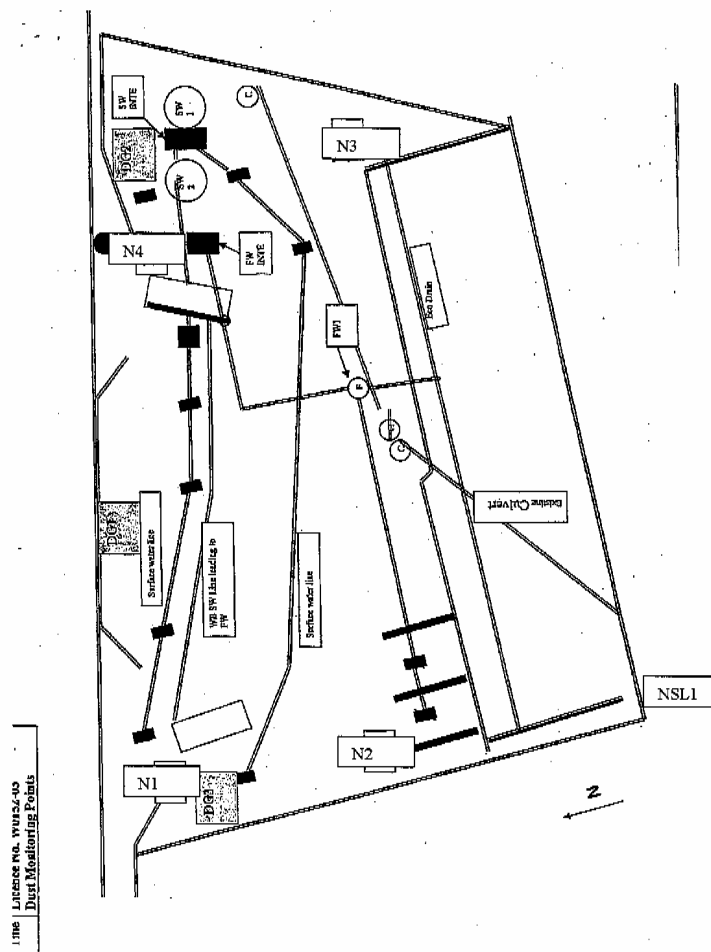
There was a slight change in the management structure at the facility during 2009. John Clune started with the company in March 2009 in an operations role for the Ballymount and Robinhood facility. Barry Doyle remains the Facility manager at Robinhood. The management structure is depicted in Appendix 4.

Appendix 1

Noise Monitoring Locations

Appendix 1

Site map showing noise sensitive locations



BHP CEM Laboratory

Appendix 2

PRTR Returns Worksheet

(Uploaded separately)

Appendix 3

EPC Pest Control Summary 2009



Eastern Pest Control

Rathfeigh House, Rathfeigh, Tara, Co. Meath
Tel: 041-9825105 or 01-8351444 Fax: 041-9825623

Date: 25 March 2010

Pest Control Summary Report for 2009

Area covered: Ballymount & Robinhood facilities

Number of visits per year: Eight

Level of activity: During the year level of activity was minimal. As a result of construction work now finished in Ballymount facility the level of activity has remained low. In the Robinhood facility no problems were noted and there were no sightings reported. However there continues to be a problem with bait boxes being damaged by machinery in the Ballymount site.

Observations: Due to a build-up of waste on site resulting from problems related to the recession the facility at Ballymount experienced higher than normal levels of fly activity. Extra spraying was carried out during the season and at no stage did the problem become excessive.

Yours sincerely,

Director of EPC

Appendix 4

Robinhood Management Structure

