

Murphy Environmental Gormanston Annual Environmental Report 2008 EPA Licence W0151-01





Annual Environmental Report Contents

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i Manager's Statement



**Murphy Environmental
Gormanston Facility
Manager**

Emma Murphy

Thank you for having a read of Murphy Environmental's sixth Annual Environmental Report.

Writing this piece forces me to take a look back at 2008 and put it in context of our last six years of operation. Like almost every other business in the country, we have felt the effects of the economic downturn. Perhaps we had advance warning that it was on its way in 2007 – working very much 'at the coalface' with the construction sector, it was obvious that things were slowing down.

We've had to steer the business accordingly and we are confident for its future. We remain committed to maintaining our excellent operational and environmental track record.

Our site restoration works progressed steadily during 2008. In addition, Murphy Concrete Manufacturing Ltd. is now in ownership of a quarry adjacent to the licensed Gormanston site, for which we have submitted a planning application for site restoration proposals. Our goal is to review our Waste Licence boundary during 2009 to include this area also.

As a waste operator, Murphy Environmental has an important role to play in ensuring that the protection and improvement of our local environment remains core to our business development and we look forward to guiding the company through these more challenging times.



**Murphy Environmental
Hollywood Ltd. Facility
Manager**

Ken Rooney

Murphy Environmental Hollywood Ltd. continued to consolidate its place in the waste market last year. As you will see, our incoming tonnages were down significantly for the year; however as a company we used this 'down time' to address a number of business issues, not least establishing the site as a separate and independent arm of the Murphy group of companies.

Murphy Environmental Hollywood Ltd. is now a well-known and very well respected facility, especially for niche waste management requirements, like low-level contaminated soils from development sites, and a range of specialist inert wastes from the industrial and municipal sector. As a company, we've worked very hard at positioning ourselves as a market leader since we opened the site in 2002 and our customers and regulators have come to recognise us as transparent, cooperative and progressive operators.

For us, a key requirement of the AER is to highlight the progress made in restoring the site year-on-year. Whilst we are busy managing the business and the environment, we have to keep focused on that overall goal. Working or visiting the Hollywood site, you can't but be aware of the environment around you, with stunning views – on a clear day – of the local countryside, as far as the Irish Sea. We intend that our operations and restoration plans will enhance the site and its wider context now and well into the future.

About this Report

This report is the sixth Annual Environmental Report (AER) for each of the Gormanston and Hollywood facilities and contains data for the calendar year 2008. This report is available to download from www.murphyenvironmental.ie and previous AERs are available on request.

ii Gormanston: A Key Waste Management Facility in Ireland

ii
Gormanston:
A Key Waste
Management
Facility

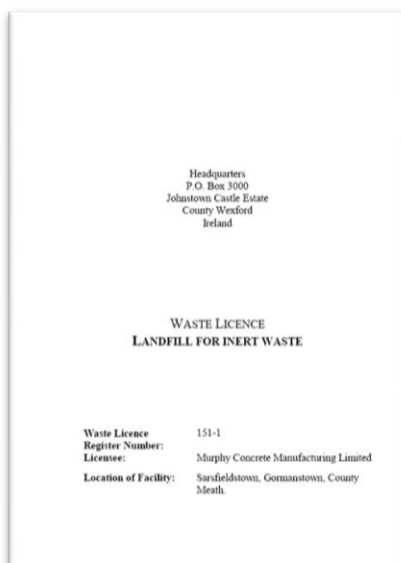
About the Gormanston Facility

Murphy Environmental holds a Waste Licence (Number W0151-01) from the Environmental Protection Agency ('EPA', also referred to as 'the Agency') for restoration of the Gormanston site and recovery of inert Construction & Demolition (C&D) materials. The site is located just off the M1 motorway at Sarsfieldtown, Gormanston Co. Meath.

In 2003, Murphy Environmental was established as a trading division of Murphy Concrete Manufacturing (MCM) Ltd., to serve as the waste management division of the company. Murphy Environmental is responsible for all aspects of the management and operation of the facility and compliance with the Waste Licence. We operate a second inert Waste Licence (Reference W0129-02) at Hollywood, Naul, Co. Dublin.

The EPA Waste Licence

The current Waste Licence for the Gormanston facility has the reference number W0151-01. W0151-01 was issued on the 5th June, 2003 for the operation of a facility for the recovery of inert C&D waste in an active sand and gravel pit so as to restore the site into the surrounding landscape.



A full copy of our EPA Waste Licence, plus summaries of monitoring reports and a wide range of other information relating to the company can be downloaded from our website, www.murphyenvironmental.ie.

The Formation of Murphy Environmental Hollywood Ltd.

Murphy Environmental underwent a level of organisational restructuring in 2008, which led to the division of the companies which operate the Gormanston and Hollywood sites. The Murphy Group of companies now operate under the following:

- Murphy Concrete Manufacturing Ltd.: manages quarrying operations;
- Murphy Environmental: operates the Gormanston facility (W0151-01); Murphy Environmental is a trading division of MCM;
- Murphy Environmental Hollywood Ltd.: operates the Hollywood facility (W0129-02)

Murphy Environmental Hollywood Ltd. (MEHL) was established on 1st October 2008. On this date also, the EPA accepted the Transfer of Waste Licence from Murphy Concrete Manufacturing Limited to Murphy Environmental Hollywood Limited. Our new MEHL logo is shown here.



Construction & Demolition Waste in Ireland

Latest EPA figures (*EPA Waste Report*, published in 2009) show that the total quantity of construction and demolition (C&D) waste collected in 2007 was estimated at 17.8 million tonnes, an increase of 5.8% on 2006. During 2007, a reported 12.8 million tonnes (71.8%) of C&D waste was recovered and 975,000 tonnes (5.4%) was disposed at authorised landfills and at waste permitted facilities.

The EPA report states that there continues to be a large discrepancy between the reported collection of C&D waste and its reported disposal and recovery. In 2007, there was a gap of over 4 million tonnes. Local authorities estimate that non-reporting Waste Collection Permit holders collected up to 633,000 tonnes of C&D waste. Of active permitted (recovery) sites, only 770 reported from a total 1,688 active sites, a reporting rate of 45%.

Local authorities estimate that non-reporting facility permit holders handled over 1.3 million tonnes. This still leaves a gap of over 2 million tonnes of waste and the EPA report states that “this in all likelihood represents a general lack of attention by the construction and demolition industries, and elements of the waste industry serving it, of the need to keep good records and provide reports to local authorities”.

We’re proud to say the Murphy Environmental licensed facilities (W0151-01 and W0129-02) offer exemplary waste records and reports to our customers, the EPA, Local Authorities and the lead authorities tasked with management of the waste collection permitting system.

The following tables provide details of the national statistics for C&D waste for 2007, and the significant contribution made by Murphy Environmental Gormanston in terms of the national infrastructure for C&D waste management in Ireland: of the approximate 2.9 million tonnes of C&D waste recovered at EPA licensed landfills, approximately 16% of that was managed at Gormanston.

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**Gormanston:
A Key Waste
Management
Facility**

Collection and Management of Construction & Demolition waste in Ireland, 2007 (EPA, 2009)

Total C&D Waste Collected (tonnes):		17,791,745
Management	Recovery (tonnes)	Disposal (tonnes)
Recovery at EPA licensed landfill	2,864,045	
Disposal at EPA licensed landfill		800,835
Recovery at LA licensed landfill	9,910,730	
Disposal at LA licensed landfill		174,549
Totals	12,774,774	974,934

Management of Construction & Demolition waste at Gormanston, 2007

Management	Recovery (tonnes)
Recovered at Gormanston, 2007	469,795
Recovered at EPA licensed landfills nationally, 2007	2,864,045
Percentage Recovered at Gormanston vs. Total C&D Waste Recovered at EPA Landfills, 2007	16%

iii Gormanston Restoration 2008

Under the Waste Management Act (1996), waste activities may be classified as waste disposal or waste recovery, within which there are a number of classes of activity. The Waste Licence (Ref. W0151-01) lists the activities which Murphy Environmental is licensed to carry out at Gormanston:

Disposal

Class 1: Deposit on, in or under land (including landfill)

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

Recovery

Class 3: Recycling or reclamation of metals and metal compounds

Class 4: Recycling or reclamation of other inorganic materials

Class 13: Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced

Waste Types Accepted

Only inert waste is acceptable at Gormanston. Inert waste means waste that does not undergo any significant physical, chemical or biological transformations.

Inert waste will **not**:

- Dissolve, burn or physically or chemically react
- Biodegrade (decompose)
- Adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health.
- Generate a leachate (runoff) which could cause pollution or endanger the quality of surface water and/or groundwater.

The majority of the material accepted at Gormanston is comprised of soils and stones and other construction- or demolition-type material.

Waste Acceptance Procedures

We have agreed detailed Waste Acceptance Procedures with the EPA, to ensure only appropriate clean and inert wastes are accepted at the site.

Waste Collection Permits

All hauliers delivering waste to site must hold a valid Waste Collection Permit. Anyone collecting waste is required by law to hold a valid Waste Collection Permit. We maintain a detailed on-site register of Waste Collection Permits for all vehicles delivering waste to our facilities.

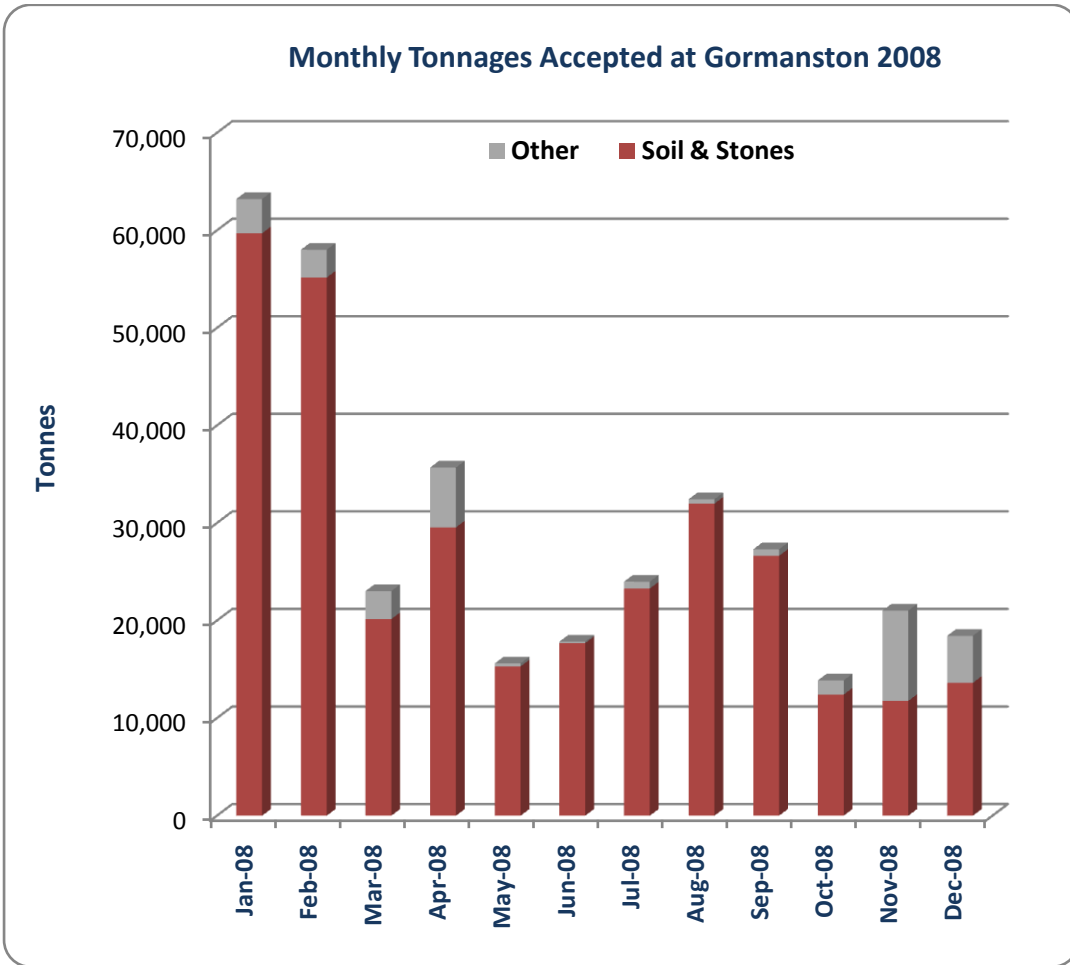
Weighbridge Software

Murphy Environmental operates specially-designed computer software to manage waste records.

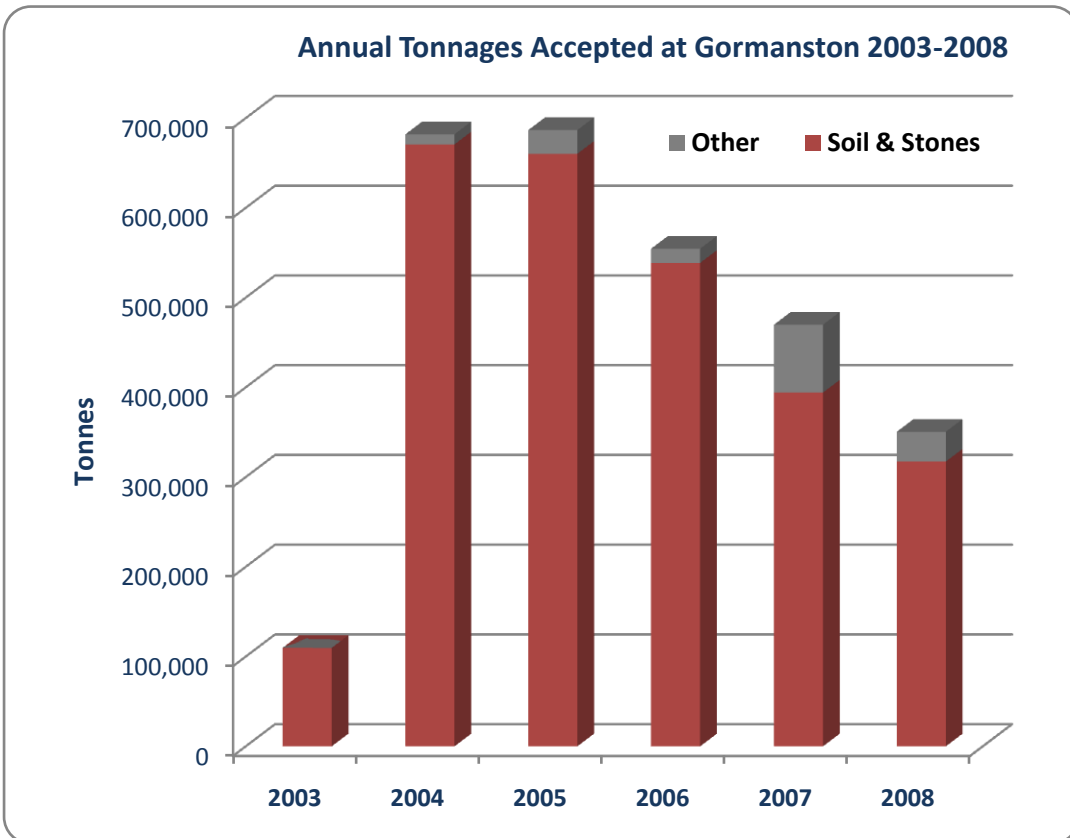
Methods of Waste Deposition

Inert waste material is brought to the site in trucks from construction/ demolition or soil removal sites. Material is deposited directly into the active restoration area, as directed by the weighbridge operator and banksman.

iii
Gormanston
Restoration
2008



iii
Gormanston
Restoration
2008



Materials Accepted 2008

A summary of waste accepted in 2008, classified by EWC code, is presented in the table below and the chart on page 7. It can be seen that *Soils & Stones* were the largest contributor to the waste accepted at the facility.

Approximately 350,000 tonnes of inert waste was accepted at Gormanston in 2008. Although this remains a significant tonnage, 2008 waste acceptance was 25% lower than 2007 figures.

Type Of Waste	EWC Code	Tonnes 2003	Tonnes 2004	Tonnes 2005	Tonnes 2006	Tonnes 2007	Tonnes 2008
Stone, Rock & Slate	17 05 04 (SL)	-	806	39	81	-	217
Recovered Gravel & Crushed Rocks	17 05 04 (RG)	-	-	19,405	2,937	69,956	8,192
Natural Waste Sand & Clay	17 05 04 (NS)	-	72	-	5,200	2,232	197
Concrete	17 01 01	-	2,538	6,393	7,530	3,348	23,544
Bricks	17 01 02	-	7,286	-	15	-	-
Mixture of Concrete, Bricks, Tiles & Ceramics	17 01 07	-	-	256	31	62	1,019
Soil & Stones	17 05 04	109,734	670,758	660,294	538,698	394,196	317,307
Mixed C&D	17 09 04	-	555	275	-	-	-
Annual Total Tonnage		109,734	682,015	686,662	554,492	469,794	350,476
Total Tonnage Accepted To-date		2,853,173					

iii
Gormanston Restoration 2008

Proposed Restoration of the Site and Timescale of such Development

The restoration and aftercare of the facility shall be carried out in accordance with the Restoration and Aftercare Management Plan approved by the EPA.

Progress on Restoration of Completed Phases

The Gormanston site is being restored based on a zonation system of Zones 1 to 8.

- **ZONE 1** has been used for the storage of pipes by Bord Gais but this activity ceased at year-end 2007.
- **ZONES 2 to 4** are areas of historical waste deposition. These areas were capped and grassed during 2005. Zones 1 and 4 were subject to a gas pumping trial, which was reported on in 2006.
- **ZONE 5** is filled and is to be capped and grassed during 2009.

- **ZONE 6** is the current tipping area for incoming material and will remain so through 2009.
- **ZONE 7** is the location of the Cemex batching plant.
- **ZONE 8** will be developed as a C&D waste recovery area. There will also be capacity for filling.

Site Survey showing Existing Levels of the Site

An updated topographical survey was submitted to the Agency in April 2008. A copy is available in the Site Office.

New Plant Purchased

A new Volvo L150F-LS loading shovel (see below) became operational at the Gormanston site in April 2008.

iii
**Gormanston
Restoration
2008**



iv Management Systems

Management Team

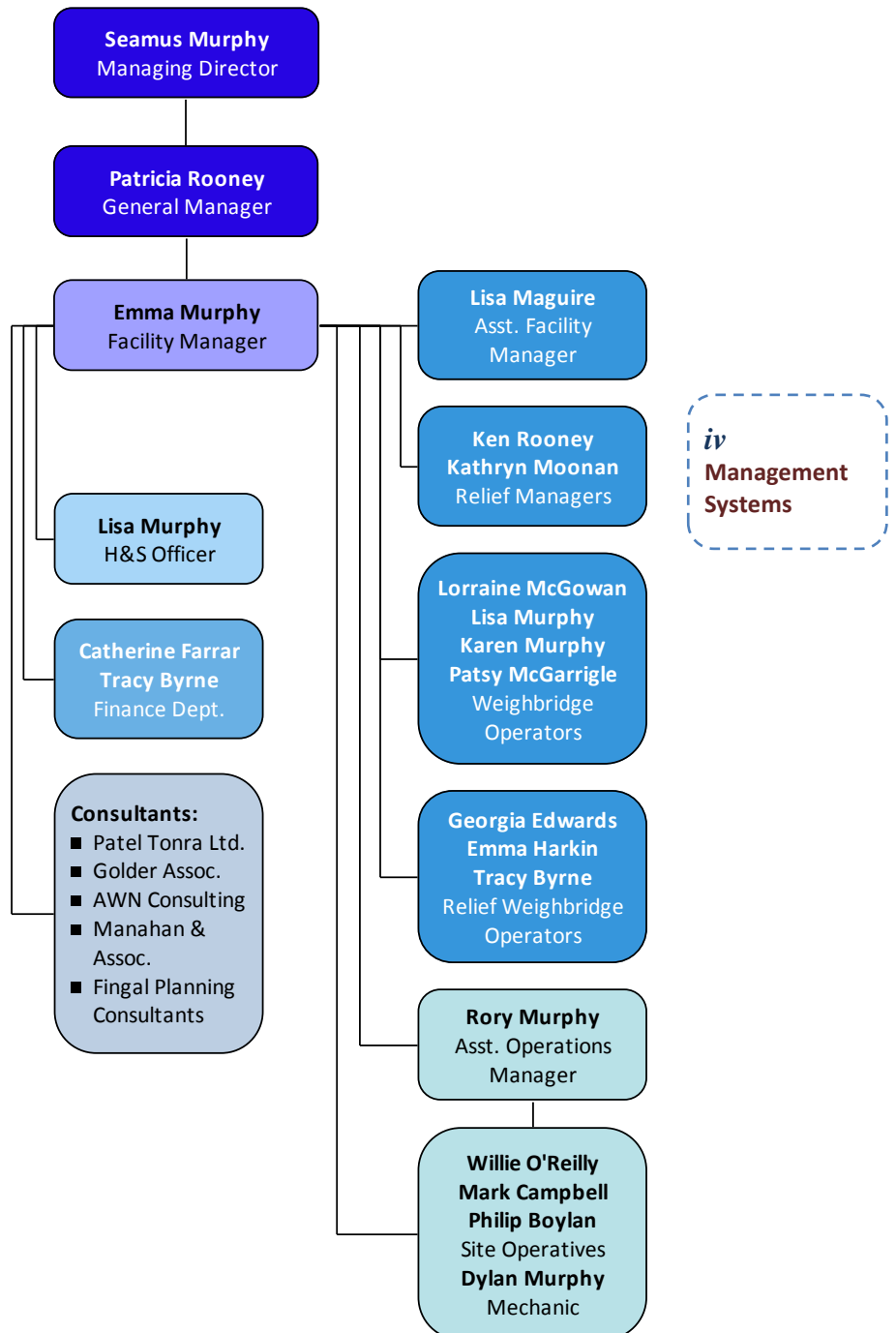
Murphy Environmental has dedicated management teams at its Gormanston and Hollywood facilities. Patricia Rooney is the General Manager of the company, and Seamus Murphy is the Managing Director.

The Facility Manager at Gormanston is Emma Murphy and the Assistant Facility Manager is Lisa Maguire. They are supported by an office team, who have responsibility for operating the weighbridge and office and data management duties, and an operations team, who direct and control incoming vehicles in restoration areas.

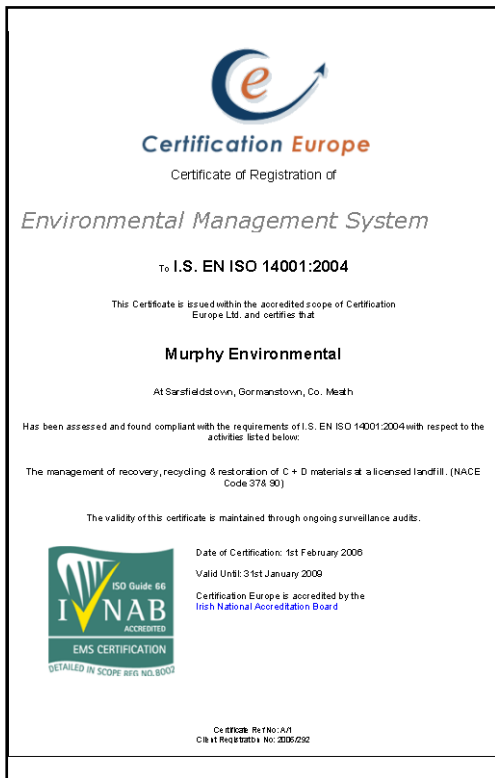
The operations of Murphy Environmental and Murphy Concrete Manufacturing Ltd. at the Gormanston site were further integrated during 2008, in terms of staffing, training, weighing, etc.

The company is further supported by its consultant teams – Patel Tonra Ltd., Environmental Consultants, Golder Associates, Engineering Consultants, AWN (Air and Noise Consultants), Fingal Planning Consultants and Manahan & Associates (Planning Consultants).

Organisational Chart



Environmental Management System



Independent ISO14001:2004 certification has been extended until July 2009 – Murphy Environmental Gormanston will be re-certified during 2009.

The Gormanston site was the second privately-operated landfill (Murphy Environmental Hollywood Ltd being the first) to achieve accreditation to ISO14001, the international standard for Environmental Management Systems, in 2005.

Procedures/EMS Documentation Developed, 2008

A number of new procedures and other EMS documentation were developed during 2008, as follows.

Objectives & Targets Training Procedure (P4.2.C)

- Outlines the creation, purpose, altering and completion of Objectives and Targets

Emergency Response Checklist (P4.7.B)

- A checklist for certain activities to be completed in the case of an emergency

Waste Collection Permit Audit (P5.5.B) and Form (F5.5.H)

- To audit check to ensure up-to-date Waste Collection Permits are held on site

Fuel Procedure (P6.5.A)

- Deals with the practices for receiving and usage of fuel onsite

Landfill Gas Monitoring Database (F5.1.E)

- To collate all landfill gas monitoring results within one database, to enable graphs to be generated and to view trends arising in results

Groundwater & Dust Monitoring Database (F5.1.F)

- To collate all groundwater and dust monitoring results within one database, to enable graphs to be generated and to view trends arising in results

Quarterly Monitoring Point Database (F5.5.G)

- To maintain a register of all monitoring locations

Quotation Form for Disposal of Waste (F6.4.C)

- For the provision of customer quotations

Employee Accident Report Form (F8.0.A.1)

- Records to be completed in the case of an employee accident

Non-Employee Accident Report Form (F8.0.A.2)

- Records to be completed in the case of non-employee accident

Company Machinery Vehicle Accident (F8.0.A.3)

- Records to be completed in the case of company vehicle accident

Non-Company Machinery Vehicle Accident (F8.0.A.4)

- Records to be completed in the case of non-company vehicle accident



Murphy Environmental Gormanston (W0151-01)

Environmental Objectives and Targets

A core requirement of ISO14001 is the setting and reviewing of environmental Objectives and Targets (O&T), structured around the overall goal of continual environmental improvement.

Our O&T Register is an invaluable tool to help us manage our goals for the site. We use it to strategically plan for issues for the forthcoming year, and it serves as a reminder of key target dates.

The O&T schedule which was included in the 2007 AER is presented below. An indication of progress against targets is given; where targets were not achieved in 2008, reasons for this are discussed overleaf. A number of additional targets which were included in the register over the course of the year are also listed.

Performance against Objectives & Targets, 2008

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Progress
Submit AER to the Agency			⊙										👍
Carry out bi-annual noise monitoring and Noise at Work monitoring					⊙				⊙				👍
Carry out daily meteorological monitoring	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	👍
Carry out quarterly dust monitoring			⊙			⊙			⊙		⊙		👍
Carry out quarterly leachate & groundwater monitoring		⊙		⊙			⊙			⊙			👍
Carry out bi-annual surface water monitoring				⊙						⊙			👍
Install computers in garages for improved upkeep of records				⊙									👎 (a)
Emergency Response Procedure drills			⊙										👍
Mobile phone alarm system connected to H&S alarm	⊙												👎 (b)
Appeal conditions of Quarry Registration issued by Meath County Council		⊙											👍
Investigate sprinkler system							⊙						👍
Submit Licence Review application to the EPA					⊙								👎 (c)
Seed and grass Zone 5						⊙							👎 (d)

iv
Management
Systems

Key:

⊙ = Target



= Achieved 2008



= Not Achieved 2008

Murphy Environmental Gormanston (W0151-01)

Notes on 2008 Targets Unachieved:

- (a) Garage computers were not installed during 2008; this target has been moved forward to 2009.
- (b) Mobile phone alarm system connected to H&S alarm: the implementation of this scheme proved unviable due to constraints associated with the service provider.
- (c) Submit Licence Review Application to the EPA: A Waste Licence Review application was not submitted to the EPA during 2008 due to the submission of planning application documentation to the Local Authority in relation to the neighbouring site; this target has been moved forward to 2009.
- (d) Seed and grass Zone 5: Zone 5 was not grassed in 2008 due to ongoing preparatory works in this area, i.e. in terms of destoning and soil preparation; this target has been moved forward to 2009.

Objectives & Targets, 2009

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Submit AER to the Agency			⊙									
Carry out bi-annual noise monitoring and Noise at Work monitoring					⊙				⊙			
Carry out daily meteorological monitoring	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Carry out quarterly dust monitoring			⊙			⊙			⊙		⊙	
Carry out quarterly leachate & groundwater monitoring		⊙		⊙			⊙			⊙		
Carry out bi-annual surface water monitoring				⊙						⊙		
Install computers in garages for improved upkeep of records				⊙								
Emergency Response Procedure drills			⊙									
Seed and grass Zone 5						⊙						
Install computers in garages for improved upkeep of records							⊙					
Bund integrity testing at Cemex								⊙				



Health & Safety Systems

Lisa Murphy is the Health & Safety Officer for the company, and together with the managers across the business, has implemented wide-ranging H&S benefits since she commenced in her position in 2006.

First Aid Bags

First aid bags are installed at three strategic locations on each site: one in the offices, one in the garage/mobile mechanic's unit, and one located with a machine driver. Their positioning means that, in the event of an accident at any point on the site, a First Aider and a first aid bag can reach the victim within a very short period of time.

Defibrillator

A defibrillator machine is installed in both the Gormanston and Hollywood site offices, owing to the high numbers of customers and visitors moving through each site on a daily basis. The defibrillator is normally used immediately following a cardiac arrest, to restart the heart rhythm. 11 of our staff have received accredited training in the use of the defibrillator.



Personal Alarm System

All site staff has been issued with personal alarms and air foghorns. Visitors and consultants involved in site work are also issued with such alarms.

Occupational Noise Monitoring

A Noise at Work survey was carried out at Gormanston during June 2008. The purpose of the survey was to determine if any of our operatives were exposed to excessive noise levels related to working with, at or near heavy equipment or machinery. The results of the survey indicated that, within most of the cabs of the vehicles, the Peak Action Level was not exceeded.

Noise exposure levels measured within the Komatsu Dozer were reported as having the potential to exceed the Action Level and it was recommended by the noise consultants that hearing protection be supplied to the dozer operator.

The recommendations for the crusher units and the washer unit were to ensure the continued use of hearing defenders for prolonged working at these locations.

Murphy Environmental maintained its policy of issuing hearing defenders to all operators of heavy vehicles/equipment during 2008.

Safepass Training, 2008

18 staff members attained Safepass accreditation during April-May 2008.

H&S Induction DVD

Murphy Environmental undertook the production of a Health & Safety and general company and site induction DVD in 2007, which is used for training of all new staff.

Financial Provision

Murphy Environmental has established a Liabilities and Restoration Fund for the site, in consultation and agreement with the Agency.

During 2008, and due to the separation of the Murphy group of companies which operates the Gormanston and Hollywood facilities, separate and independent Liabilities Risk and Restoration & Aftercare Funds were put in place, to address requirements for each of the sites on its own terms.



✓ Training

Our company training and conference room, located at Gormanston, was opened in June 2006. This includes a fully integrated computer system, ceiling-mounted projector and touch-screen/whiteboard. This resource offers us excellent facilities for internal staff training and allows external trainers to deliver their courses at our site offices.

Personal training files for all staff are securely retained in the training room, where staff can keep notes and records of training they have received, and where copies of training certificates are retained.

Overview of Training Received by Murphy Environmental Staff in 2008

At Murphy Environmental, training of new staff and ongoing training for existing staff is emphasised at each stage of an employee's career.

All staff employed by Murphy Environmental has a foundation level of waste management knowledge. The FÁS National Waste Management Training programme has been completed by all Facility Managers and Assistant Facility Managers in the company.

Our Hollywood Facility Managers completed their Fás On-site Competency Assessment in Waste Management during 2008, and are part of a select number of Waste Managers in the country to hold this qualification.

Developing 'In-house' Training Skills

In addition to management qualifications obtained from external organisations, a strong emphasis is placed on internal training at all levels in the company, and records of all such training events are retained on site.

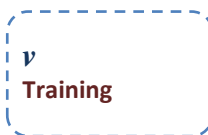
This became more evident in 2008, as internal specialist skills and experience are developed within the company.

New weighbridge operatives are given intensive training on the Waste Acceptance Procedures and weighbridge software. This is backed up by Waste Licence training, and training on specific parts of the EMS, as required.

Benefits of Internal Training to Murphy Environmental

From our point of view, developing our in-house training skills has a range of benefits:

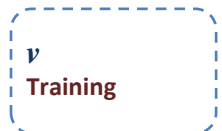
- We can modify and 'fine tune' the content of the training to suit our specific training requirements and personnel.
- We use our in-house training programmes to encourage co-operation and foster team-building, which is particularly important at the staff induction phase.
- We sometimes mix the trainee group between operational and office-based staff, and between various levels and functions within the organisation. This helps to give all sections of the business an appreciation and understanding of each other's roles.
- The training course does not end when the trainer leaves the room: the skills taught during the course will be put into practice under the supervision, and with the assistance of, colleagues. This means that the training can be evaluated regularly.
- We can deliver training at convenient dates that suit the team and the business. Furthermore training can take place at our premises, thus avoiding travel time for all attendees.
- It is far more cost-effective to conduct in-house training than to send teams out for public training.



Murphy Environmental Gormanston (W0151-01)

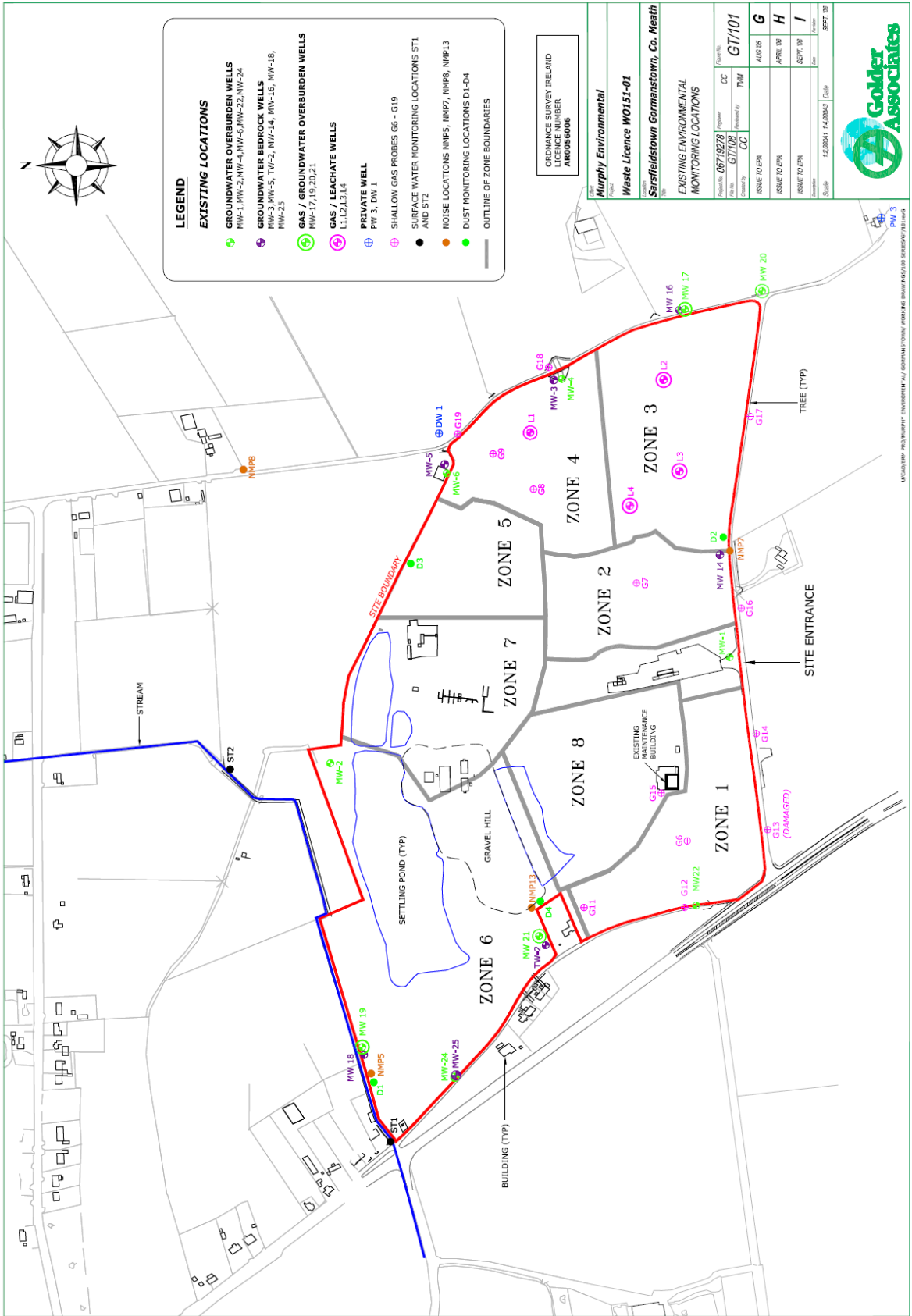
Training Completed 2008

Month, 2008	Training	Course Provider	Number of Staff Trained
Jan/Feb/Jun	Legal Training	Patel Tonra Ltd	5
Feb	EPA Training Day on PRTR and Electronic Annual Reporting	EPA	2
Feb	EPA Training Day on Waste Treatment Survey	EPA	2
Mar	Objectives & Targets Training	Internal	2
Apr	Completion of Sample Log and Register	Internal	2
Apr	Risk-based Evaluation of Infrastructure Projects	Internal	1
Jun/Jul/Sept/Oct	MCM Weighbridge Training	Internal	4
Jun	Negotiation Skills for Engineers	Engineers Ireland	1
Jun	Accounts Technician Training	The Institute of Accounting Technicians in Ireland (IATI)	1
Jun	Post Grad. Dip in Environmental Engineering	Trinity College	1
Jul	GA2000 Gas Software	CSL	2
Jul/Aug	Web design Course	IBaT	1
Jul	Internal Auditor Training	CE Europe	4
Aug	Fás Site Assessment	Fás	2
Sept	Site Induction Gormanston	Internal	1
Sept	SAGE Accounts Training	Internal	1
Oct	PO-GRNI Training	Internal	6
Oct	Updates to Legal Register	Patel Tonra Ltd	4
Oct	Site Induction Hollywood	Internal	1
Oct	MCM Cash Sales Invoicing	Internal	1
Oct	Murphy Environmental Gormanston weighbridge training, EMS & Company Folder	Internal	2
Oct	Uploading Invoices to SAGE; running statements	Internal	2
Nov	PO-GRNI Procedure and month-end cut-offs	Internal	6
Nov	Training on how to become a 'super user' on the server	Liam O'Connor	1
Nov	All-Island Public Consultation Conference, Croke Park	Conference	1
Nov	Alcontrol Laboratories Contaminated Land Analysis	Alcontrol	1



vi Monitoring and Measurement

Gormanston Environmental Monitoring Locations 2008



vi
Monitoring
and
Measurement

Monitoring Requirements

Murphy Environmental is required to conduct regular monitoring to ensure that no environmental impact is occurring as a result of site operations. All monitoring reports are submitted to the EPA, and summaries are available for all to view at www.murphyenvironmental.ie

Monitoring of noise, dust, surface water, groundwater, leachate and meteorology is conducted throughout the year.

Meteorological Data

Meteorological data was obtained from the meteorological station situated at Dublin Airport. The parameters obtained were: precipitation, temperature, wind speed and direction, relative humidity and atmospheric pressure (as per Schedule D.5 of the Waste Licence).

Wind Direction

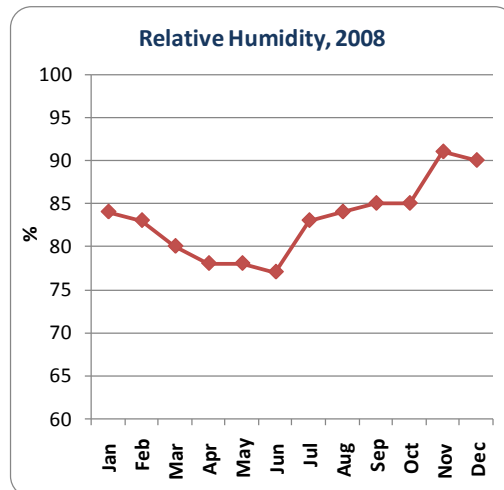
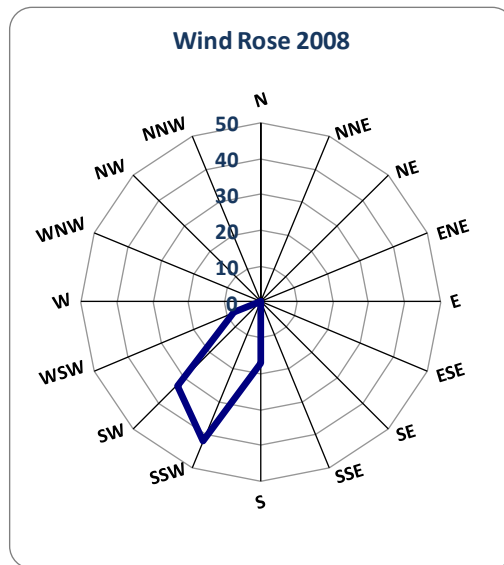
The wind rose for 2008 indicates that winds were mainly from a south-westerly direction.

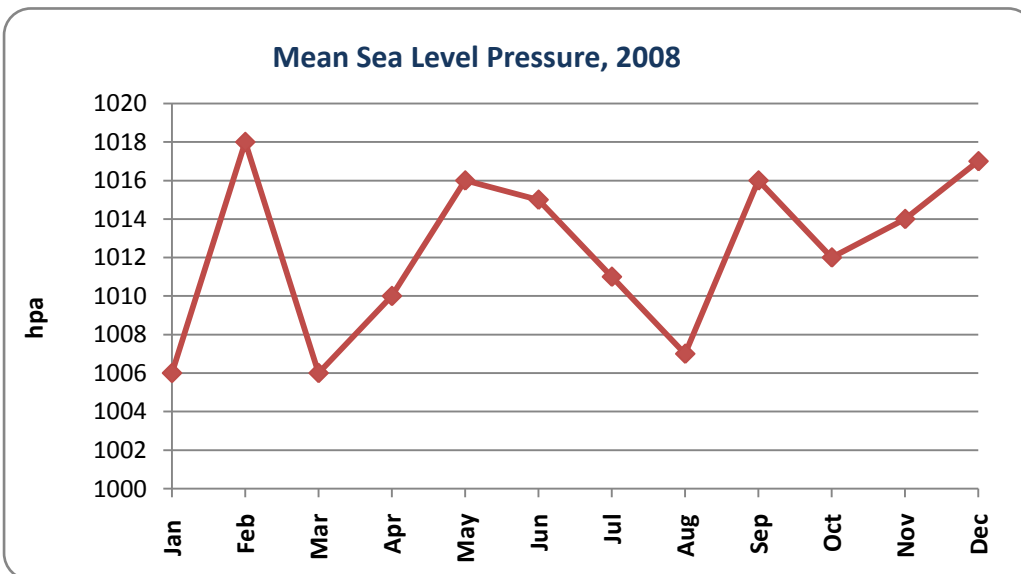
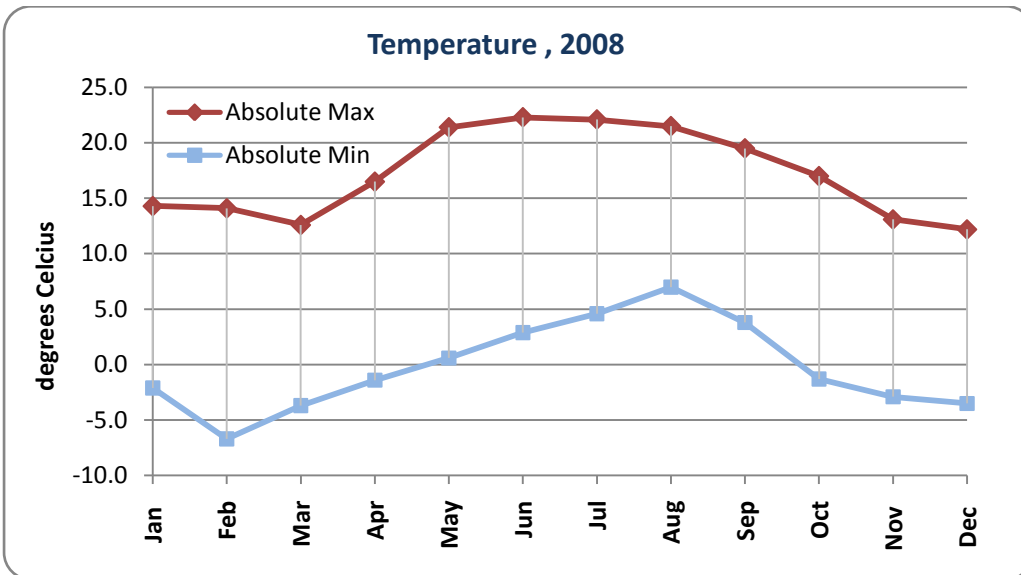
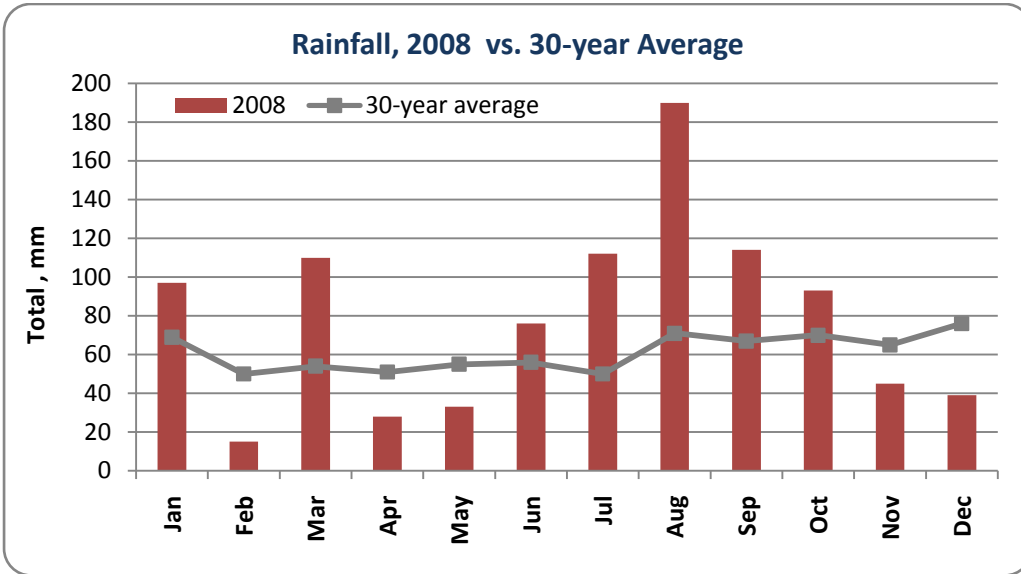
Daily wind data and all meteorological data required under the licence are retained on site.

Rainfall

The total rainfall for 2008 was 952mm.

This is significantly higher than the 30-year average (734mm); furthermore there were significant variations within individual months, e.g. March 2008 rainfall was 110mm compared with a 30-year average rainfall amount of only 54mm. The months of July and August were exceptionally wet; the combined total of the two months was 302mm of rainfall, more than double the 30-year average for these two months (121mm). There were three days in August 2008 when daily rainfall exceeded 20mm.





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Water Balance Equation

The water balance equation is estimated as follows:

- Annual Rainfall, 2008 = 952mm
- Annual Evapotranspiration, 2008 = 455mm

It is assumed that water losses during operations will be numerically approximately 50% of evapotranspiration from vegetated surfaces, i.e. 227.5 mm/year.

- Effective Rainfall = 952mm – 227.5mm = 724.5mm/year
- The surface area of Zones 1 to 6 at the facility is 249,000m². Therefore the amount of recharge within Zones 1 to 6 is estimated as:
- 249,000m² x 0.7245m/year = 180,400 m³/year.

Dust Monitoring

Murphy Environmental must monitor dust levels at four locations (D1, D2, D3 and D4) once per quarter. Dust emission limits are set in Schedule C.2 of the licence.

Dust is measured using a Bergerhoff dust gauge. This is exposed over a 30-day period to collect bulk dust deposition. The gauge consists of a gauge bottle supported on a stand of approximately 1.5 metres high. The samples collected are then transferred to a laboratory for gravimetric (weight) analysis to determine the concentration of deposit material in each gauge bottle.

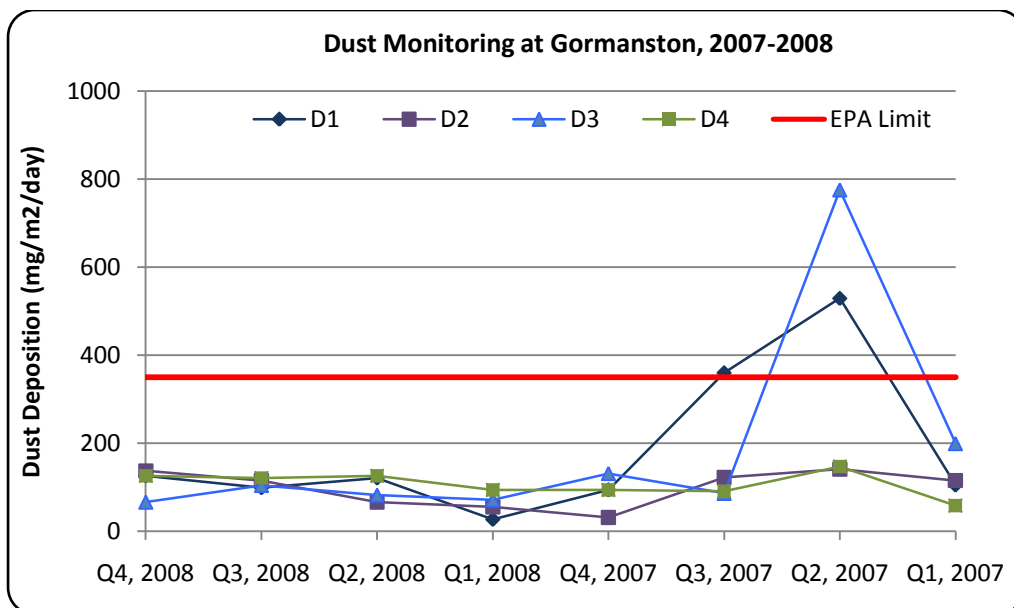
Dust Monitoring Results, 2008

Four dust surveys were conducted at the Gormanston site during 2008.

There was no breach of the licence limit for dust during 2008 - the Gormanston site achieved a 100% compliance rate.

Dust management techniques, such as dampening of roads and hardstand areas using the water bowser, sprinklers, wheelwash and roadsweeper, are used by Murphy Environmental on an ongoing basis to manage and minimise dust levels.

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Noise Monitoring

Murphy Environmental must monitor noise levels at 4 locations (NMP5, NMP7, NMP8 and NMP13) twice per annum (Schedule D.4). Noise emission limits are set in the licence (Schedule C.1). Noise is monitored using a specialist noise meter.

Noise Monitoring Results 2008

The biannual noise survey was conducted in June and November 2008. The results from the noise survey indicated that noise levels exceeded the EPA daytime limit of 55 dB(A) and the night-time limit of 45 dB(A) at a number of monitoring points; however the dominant noise source at all locations was road traffic along the local road network, and site operations at the Murphy Environmental facility were not audible at any of the locations.

The Murphy Environmental facility was not operating during the night-time survey period and did not contribute to the noise environment in the area during this period.

In light of the results of the noise surveys, it was concluded that the Murphy Environmental facility at Gormanston was in compliance with the noise limits specified in the Waste Licence.

Gormanston Noise Monitoring Locations:

NMP5 - located close to the R132 roadway beyond the north-western boundary of the facility

NMP7 - located along a local roadway which leads east from the R132 roadway at a point close to the main entrance

NMP8 – located along a local roadway to the northeast of the facility

NMP13 - located close to a dwelling, which overlooks the site from beyond the south-western boundary of the facility

Noise Monitoring (Daytime), 2008

Location	Daytime Noise		
	LA _{eq} dB(A)		
	Q2, 2008	Q4, 2008	EPA Limit
NMP5	61	62	55
NMP7	51	55	55
NMP8	50	54	55
NMP13	53	55	55

Noise Monitoring (Night-time), 2008

Location	Night-time Noise		
	LA _{eq} dB(A)		
	Q2, 2008	Q4, 2008	EPA Limit
NMP5	58	57	45
NMP7	48	55	45
NMP8	41	52	45
NMP13	49	49	45

Surface Water Monitoring

Surface water monitoring was carried out during Quarters 2 and 4, 2008 at ST-1 (upstream) and ST-2 (upstream).

There was no breach of the European Communities (Quality of Surface Water Intended for the Abstraction of Drinking Water) Regulations, 1989 (S.I. No. 294 of 1989) for a category A3 quality standard (the surface water quality assigned to Gormanston) at either ST-1 or ST-2.



Groundwater Monitoring

Murphy Environmental must monitor groundwater at:

- 17 monitoring boreholes: MW-1, -2, -3, -4, -5, -6, -14, -16, -17, -18, -19, -20, -21, -22, -24, -25 and TW2
- 1 private well: PW3 (this is only point locally from which water may be extracted for human consumption)
- 4 leachate wells: L1, L2, L3, and L4 (L1, L2 and L3 were dry during all sampling rounds in 2008).

The water level in each borehole is recorded using a “dip meter”. During sampling it was borne in mind that stagnant groundwater in the well casing and in close proximity to the borehole is not representative of the general groundwater at any given location.

To ensure that the groundwater samples extracted from the monitoring boreholes were representative of the water held in the underlying subterranean strata and not stagnant water held in the borehole casings, evacuation of the boreholes was undertaken before sampling was carried out.

Groundwater Monitoring Results, 2008

Groundwater monitoring was conducted during Quarters 1, 2, 3 and 4 of 2008. Results were compared against EU Drinking Water Regulations.

A total of approximately 70 parameters were tested at each of the 18 groundwater monitoring locations during 2008.

During 2008, a total of over 1,250 individual analytical tests were conducted on groundwater samples.

The table below provides an indication of the overall level of compliance for all of the parameters measured quarterly during 2008, at all groundwater monitoring locations in and around the site.

The vast majority complied with relevant legislation and guideline limits. If there is a breach of guideline limits, Murphy Environmental must report this as an ‘incident’ to the EPA.

Groundwater ‘Incidents’ 2008

Murphy Environmental has continually reported a number of parameters to the Agency as incidents since monitoring commenced in 2003 (see page 31).

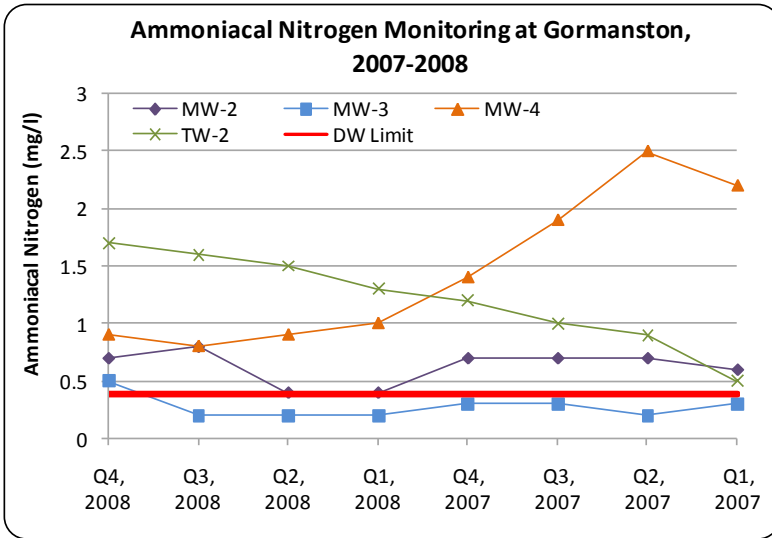
The overall 2008 compliance rate for quarterly monitoring parameters in groundwater boreholes was 97% (compared against limits prescribed in the Drinking Water Directive 98/83/EC).

Compliance with Quarterly Monitoring Requirements in Groundwater Boreholes, 2008

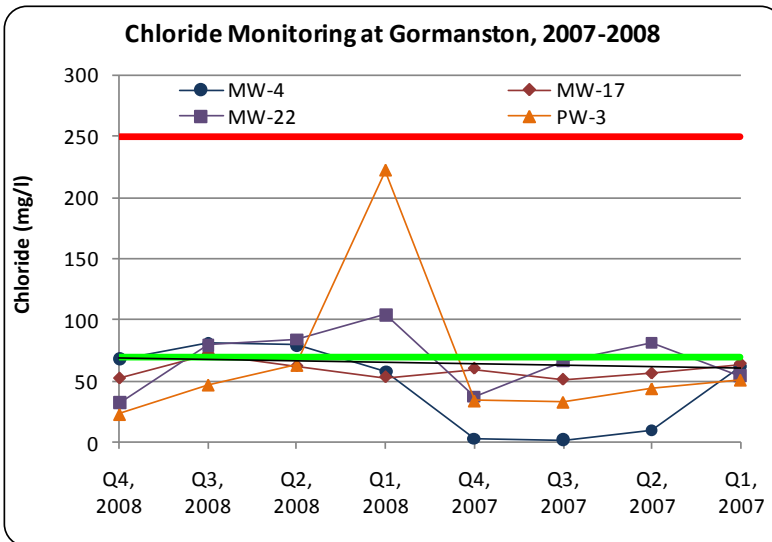
Quarterly Groundwater Parameter	Total No. of tests*	2008 Results vs. Drinking Water Limit Values		% Compliance
		In Compliance	Breached Limit Values	
Ammoniacal Nitrogen	72	60	12	83%
Chloride	72	72	0	100%
Electrical Conductivity	72	72	0	100%
pH	72	71	1	99%
Dissolved Oxygen	69	69	0	100%
Total Organic Carbon	72	72	0	100%
Phenols	72	72	0	100%

* Generally 18 Boreholes x 4 Sampling Rounds

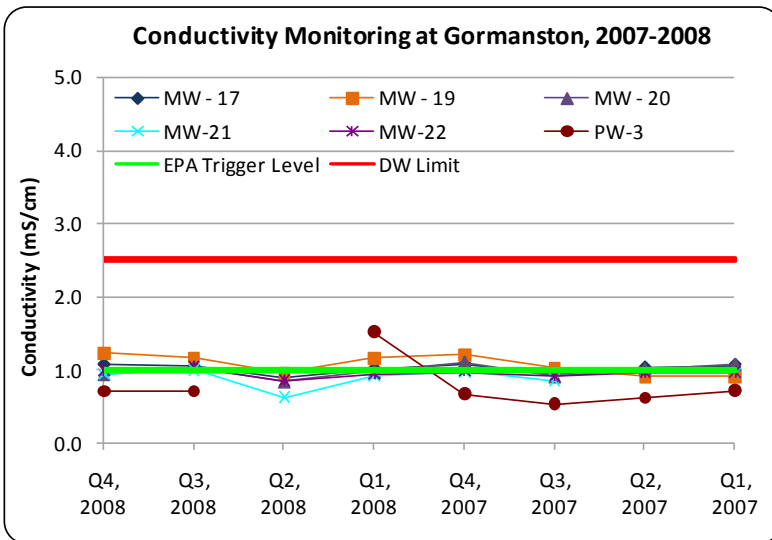




The 2008 compliance rate for Ammoniacal Nitrogen was 83% (compared against Drinking Water Regulation limits)



The 2008 compliance rate for Chloride was 100% (compared against Drinking Water Regulation limits)



The 2008 compliance rate for Conductivity was 100% (compared against Drinking Water Regulation limits)

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Please note that charts above depict only monitoring points which breached EPA trigger levels or Drinking Water Directive limits; all other monitoring points complied with prescribed limit values.

Ammoniacal Nitrogen

Ammoniacal Nitrogen exceeded guideline limits in MW-2, MW-3, MW-4 and TW-2 during 2008. It is thought to have been associated with agricultural or sewage sources in the vicinity of the site. This trend was also observed in 2007 as is shown in the graph on page 23.

Chloride

The EPA Trigger level for chloride for the site is 70 mg/l. The levels recorded at MW-4, MW-17, MW-22 and PW-3 monitoring wells were in exceedance of this value during some of the 2008 monitoring rounds but were within the limit set by the Drinking Water Directive of 250 mg/l.

The remaining monitoring wells were in compliance with both the Drinking Water Regulation limit and the EPA Trigger Level.

Chloride exists in all natural waters and has no direct health or sanitary significance.

Conductivity

The EPA Trigger level for conductivity for the site is 1.0 mS/cm. The levels recorded at 6 monitoring wells were in exceedance of this value during some of the 2008 monitoring rounds but were within the limit set by the Drinking Water Directive of 2.5 mS/cm.

The remaining 12 boreholes were in compliance with both the Drinking Water Regulation limit and the EPA Trigger Level.

Conductivity is a measure of the mineral salt content of water and has no direct health or sanitary significance.

Total & Faecal Coliforms

Microbiological monitoring of the groundwater is required annually; this was carried out at the site during Quarter 2, 2008. During Quarter 2, as can be seen from the table on page 25, results for Faecal and Total Coliforms were found to be at levels above Drinking Water Regulation limits.

It is likely that the presence of total and faecal coliforms can be attributed to agricultural or sewage contamination in the locality as landfill waste is not usually associated with this type of contamination.

Estimated Indirect Emissions to Groundwater

Based on the area of Zones 1 to 4, effective rainfall and leachate monitoring data for 2008, the cumulative and indirect emissions to groundwater were estimated at 18 tonnes per annum.

Leachate Monitoring

Leachate is formed when water passes through waste in a landfill cell. Samples could only be obtained from L-4 as there was no leachate present at the other leachate monitoring points.

There were elevated levels of Ammoniacal Nitrogen, Chemical Oxygen Demand, Iron and Manganese in the L-4 leachate. The Surface Water Regulation limits are used for comparison purposes due to the fact that there are no trigger levels for leachate.

No leachate was removed off-site during 2008.

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Coliform Analysis in Groundwater Boreholes, 2007-2008

Bore-hole Ref.	Faecal Coliforms (cfus/100ml)			Total Coliforms (cfus/100ml)		
	Q2, 2008	Q2, 2007	DW Limit	Q2, 2008	Q2, 2007	DW Limit
MW-1	<1	<1	0	<1	<1	0
MW-2	<1	<1	0	<1	<1	0
MW-3	1	7	0	2,500	7	0
MW-4	<1	<1	0	2	6	0
MW-5	36	5	0	2,100	62	0
MW-6	<1	<1	0	500	19	0
MW-14	<1	1	0	1	15	0
MW-16	<1	1	0	200	1	0
MW-17	<1	<1	0	1	10	0
MW-18	<1	<1	0	2	<1	0
MW-19	1	<1	0	7	<1	0
MW-20	<1	<1	0	<1	42	0
MW-21	<1	-	0	1	-	0
MW-22	14	<1	0	500	1	0
MW-24	<1	6	0	1	32	0
MW-25	<1	2	0	25	2	0
PW-3	4	<1	0	1	<1	0
TW-2	<1	4	0	30,000	10	0

Other Instances of Groundwater 'Incidents' with reference to Guideline Limit Values during 2008

Parameter	Location	Concentration (mg/l)	Limit (mg/l)*	Quarter, 2008	Possible Causes
Manganese	MW-1	0.169	0.05	Q2	The occurrence of manganese is presumed to be associated with the geology of the quarry and the surrounding bedrock. Manganese was detected up-gradient and down-gradient of the site, as well as in on-site analysis.
	MW-2	0.125	0.05	Q2	
	MW-4	1.450	0.05	Q2	
	MW-18	0.310	0.05	Q2	
Sulphate	MW-17	169	140	Q1	Sulphate is naturally-occurring in sedimentary rock. The high levels may be due to locally deposited non-native soil.
	MW-19	453	140	Q1	
	MW-19	252	140	Q2	
	PW-3	414	140	Q1	
	PW-3	158	140	Q2	

* Drinking Water Regulation limit values are referenced for Manganese; EPA Trigger Level is referenced for Sulphate



Landfill Gas Monitoring

The inert material deposited at Gormanston will not generate landfill gas; however, landfill gas is monitored at Gormanston because of historic waste deposits on site.

Landfill gas is measured at 20 monitoring wells on the Gormanston site (within the waste: G-6, G-7, G-8, G-9, G-11, L-1, L-2, L-3 and L-4; outside waste: G-12, G-14, G-15, G-16, G-17, G-18, G-19, MW-17, MW-19, MW-20 and MW-21).

Gas Monitoring Results, 2008

The level of landfill gas is monitored on a quarterly basis and levels are compared against limits set down in Schedule C of the Waste Licence. Methane (CH₄) and Carbon Dioxide (CO₂) results are summarised in the table opposite.

In monitoring locations outside waste, methane was recorded consistently at, or close to, 0% v/v. During Quarter 2, 2008, methane was detected at a low level of 0.1% v/v in the majority of gas wells, and at 0.2% v/v at G-14. The licence specifies a CH₄ emission limit of 1% v/v in any building on or adjacent to the facility.

Carbon dioxide levels recorded above 1.5% v/v at monitoring locations outside waste or at perimeter locations were reported to the EPA as incidents. Such incidents were recorded at G-12, G-17, G-19, MW-17 and MW-20 during 2008.

Methane results at monitoring locations within the waste were variable during 2008, as shown on the chart on page 27. G-9 showed consistently high methane levels during the year.

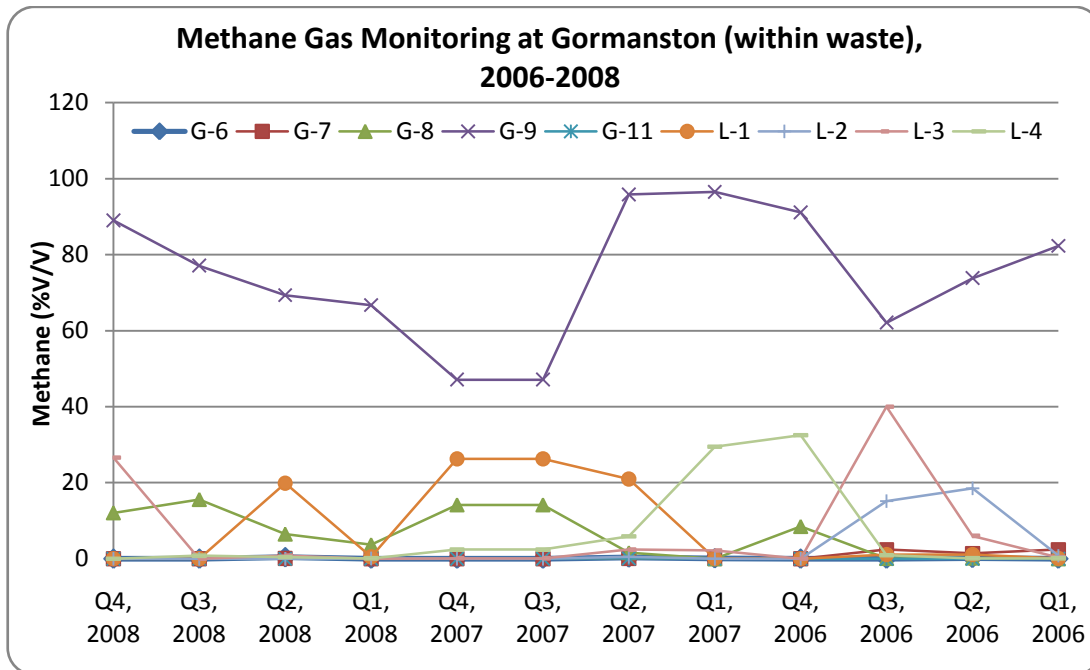
Gas monitoring Methane results for locations situated outside waste or at perimeter locations

Monitoring Location	2008 Methane Levels (%v/v)			
	Q1	Q2	Q3	Q4
G-12	0	0.1	0	0
G-14	0	0.2	0	0
G-15	0	0	0	0
G-16	0	0.1	0	0
G-17	0	0.1	0	0
G-18	0	0.1	0	-
G-19	0	0.1	0	0.1
MW-17	0	0.1	0	0
MW-19	0	0	0	0
MW-20	0	0.1	0	0
MW-21	0	0.1	0	0

Gas monitoring Carbon Dioxide results for locations situated outside waste or at perimeter locations

Monitoring Location	2008 Carbon Dioxide (% v/v)			
	Q1	Q2	Q3	Q4
G-12	2.1	6.9	8.6	7.5
G-14	0.6	0.8	0.9	0.7
G-15	0.1	0.1	0	0
G-16	0.4	0.5	1.2	1.1
G-17	0.1	0.1	2.7	1.4
G-18	0	0.6	-	-
G-19	0.9	2.7	3.2	2.7
MW-17	1.6	0.3	0.5	0.5
MW-19	0.4	1.4	0.1	0.1
MW-20	2.0	0.8	1.3	1.8
MW-21	1.1	0.1	0	0





Composition of Wastes Removed off-site

General municipal waste (e.g. from the site canteen) and waste paper are collected and removed off-site by permitted waste collectors for recycling or disposal.

The following was removed off-site during 2008:

- 22,000 litres of mixed municipal waste bins
- 36,300 litres of dry recycling bins
- 13,700 litres of waste oil
- 340 litres waste filters from garage operations
- 750 litres of waste kerosene

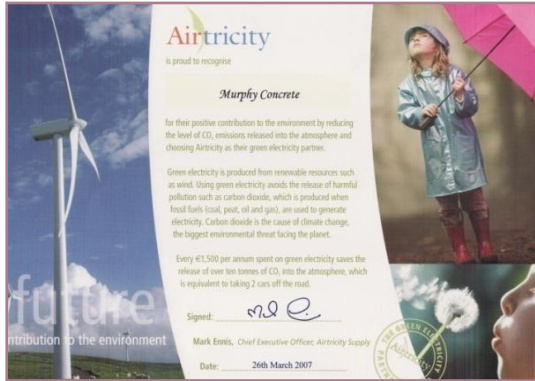
Bund Testing

No bund integrity testing was completed during 2008. Remedial works were undertaken at the bund located in Zone 7 during 2008, and bund integrity testing will be scheduled for 2009.



Energy & Resource Use

Murphy Environmental's energy provider is Airtricity, one of Ireland's green renewable energy providers. Their power is sourced from windfarms and from certified hydro-power stations.



Electricity Use 2008

Based on electricity bills, the energy consumption at Murphy Environmental Gormanston for 2008 was:

- 71,450 kWh for site offices, and
- 409,412 kWh for the on-site MCM washing plant and the garage
- **TOTAL: 480,862 kWh**

Electricity-related Carbon Emissions, 2008

Airtricity data from December 2007 states that 89% of its energy is sourced from renewable sources, as opposed to 9% for ESB. Electricity generated by Airtricity produces 151.5 grams CO₂ per kWh, as opposed to 671.6 grams for non-renewable energy provider (Source: Airtricity).

The chart opposite shows the actual CO₂ emissions based on electricity use at Gormanston in 2008, and potential emissions, if the same amount of electricity has been sourced from non-renewable sources.

Based on 2008 consumption rates, CO₂ emissions associated with Murphy Environmental Gormanston electricity usage were 72.85 tonnes.

Murphy Environmental Gormanston avoided over 250 tonnes of CO₂ emissions in 2008 by switching to a green energy provider.

The average Irish car releases 167g CO₂/km, with an average mileage of 16,894 km/annum, i.e. total annual CO₂ emissions of approximately 2.8 tonnes.

In 2008, Murphy Environmental Gormanston avoided the release of 250 tonnes of CO₂ emissions to the atmosphere – this is the equivalent of taking 89 cars off the road for a year.


Water

Water usage at Murphy Environmental Gormanston was not metered in 2008.

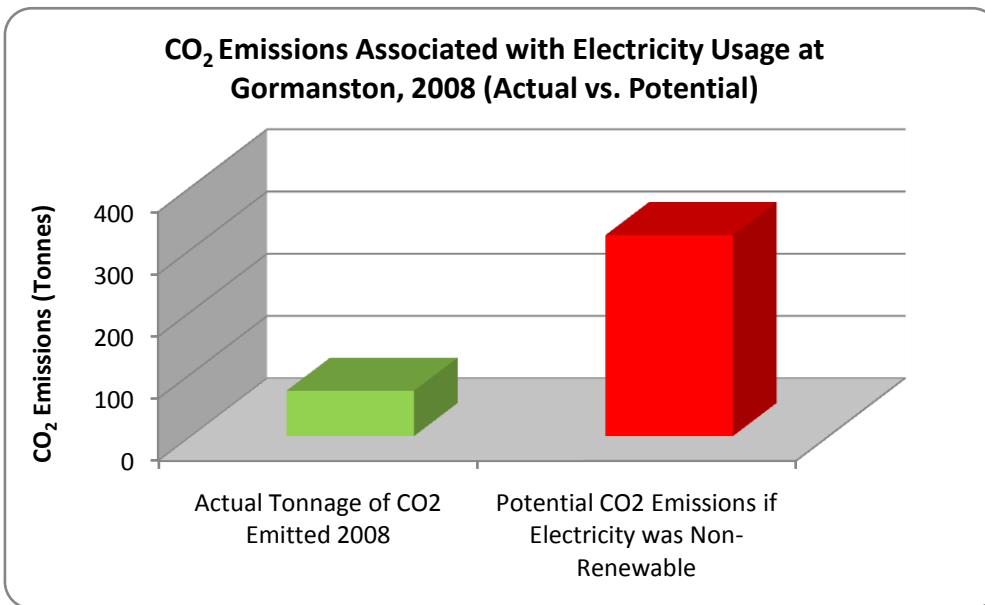
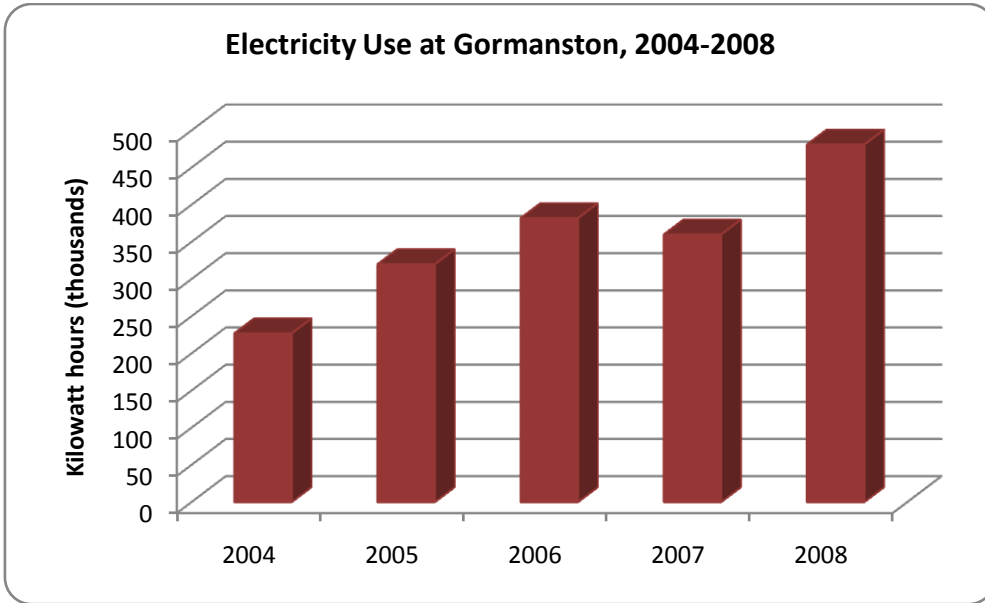
Diesel

During 2008, a total of 176,620 litres of road diesel and 206,838 litres of green diesel were used by plant associated with operations at Murphy Environmental Gormanston.

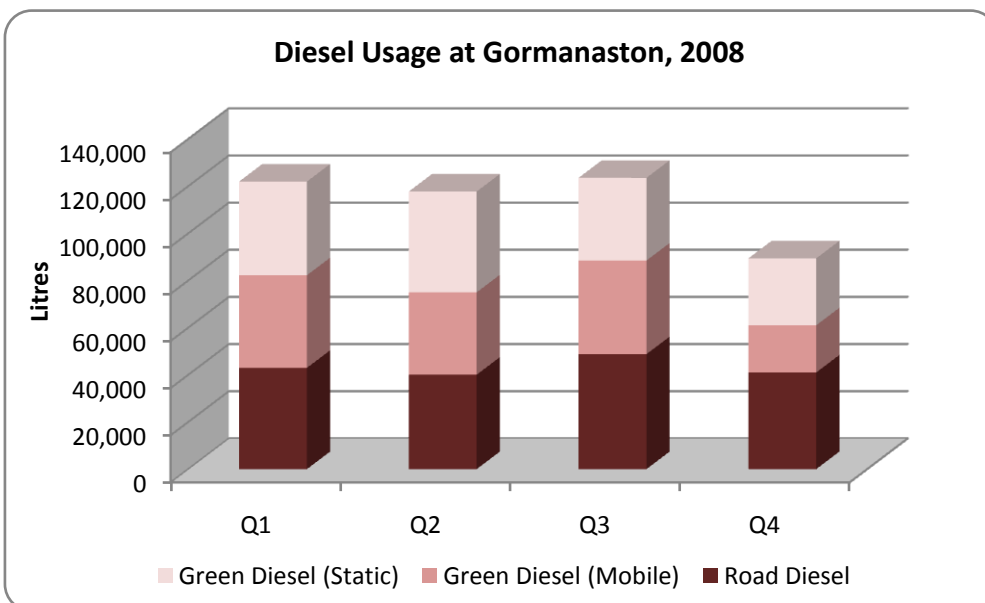
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By using electricity generated from renewable energy sources, Murphy Environmental Gormanston avoided the release of the equivalent of 89 cars' CO₂ emissions.



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Open and Transparent

All of our monitoring information, EPA correspondence, etc. is on the public record. It is available for inspection at our site offices or at the EPA Inspectorate Office in Clonskeagh, Dublin. We also make available all our monitoring results and other company information at our website, www.murphyenvironmental.ie.

Public Commitments

Murphy Environmental has developed a communications procedure to allow the public access to facility information. The main methods are:

- The company website, www.murphyenvironmental.ie, which is updated regularly with company news, monitoring results and licence information.
- Annual Environmental Reports, available on our website
- Company newsletter
- Site notice board
- Complaints are recorded and tracked
- An information pack is available to customers and interested parties
- Site documentation is available for inspection at the site office
- Our Facility Managers are available to answer any queries

We are also in routine and regular communication with the Agency with reference to compliance requirements and requests for information.

Avoiding Nuisance

Murphy Environmental has invested in a number of pieces of equipment in order to better manage our environmental impacts. Roads in the vicinity of the site are serviced by a facility roadsweeper and water bowser. All trucks exiting our site must use the wheelwash, further reducing the potential for the generation of mud on roads.

Daily, weekly and monthly site inspections are carried out to ensure that the site is kept clean and free of anything that might be perceived to cause a nuisance to site neighbours.

Complaints

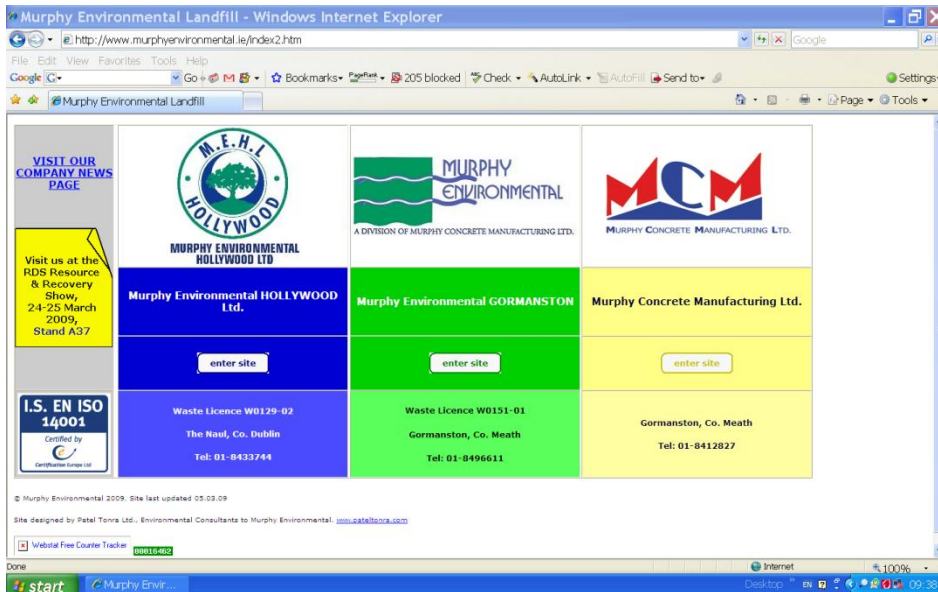
Murphy Environmental logs all complaints or comments relating to the site which may be received directly by them, by the EPA or other parties. There were two public concerns received during 2008.

In Quarter 1, 2008 (24/01/08), Meath County Council Roads Section issued a complaint regarding mud on roads close to the Gormanston site. The roadsweeper was called to address the issue.

In Quarter 3, 2008 (11/08/08), Meath County Council wrote to Murphy Environmental requesting cutting of hedges, shrubs and trees adjacent to the CR439 road. A contractor was employed to cut the hedges, which was completed on 29th August 2008.



Murphy Environmental Gormanston (W0151-01)



www.murphyenvironmental.ie

Environmental Incidents

Any incident that occurs on site must be reported to the EPA in accordance with the licence conditions. Incidents arising during 2008 are summarised in the table opposite. An incident is defined by the Waste Licence as:

- An emergency
- Any emission which does not comply with the requirements of the licence
- Any trigger level specified in the licence which is attained or exceeded
- Any indication that environmental pollution has, or may have, taken place
- The non-acceptance or rejection of any waste load at the facility

The following incidents were reported to the EPA during 2008 (please see the 'Monitoring and Measurement' Section for further details):

No.	Date	Incident
2008_01	17/01/08	Gas monitoring exceedence
2008_02	31/03/08	Groundwater monitoring exceedence
2008_03	02/04/08	Gas monitoring exceedence
2008_04	09/06/08	Gas monitoring exceedence
2008_05	05/06/08	Groundwater monitoring exceedence
2008_06	02/07/08	Break-in
2008_07	12/09/08	Gas monitoring exceedence
2008_08	12/09/08	Groundwater monitoring exceedence
2008_09	18/11/08	Groundwater monitoring exceedence
2008_10	18/12/08	Gas monitoring exceedence

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Local Schools Sponsorship Programme

Murphy Environmental launched an environmental sponsorship programme of local primary schools in December 2005. We made a commitment to maintain the initiative for a minimum of five years, with the objective of fostering long-term projects. Projects which promote and encourage the preservation and protection of the environment are rewarded, with the specifics of the selected projects entirely at the schools' discretion.

The following primary schools have been sponsored by Murphy Environmental in relation to the promotion of environmental issues:

1. White Cross N.S., Julianstown, County Meath
2. Laytown N.S., Laytown, County Meath
3. St. Patrick's N.S., Stamullen, County Meath
4. Balscadden N.S., Balscadden, County Dublin
5. Realt na Mara N.S., Donacarney, Mornington, Co. Meath
6. Saints Peter & Paul N.S., Chapel Street, Balbriggan, County Dublin
7. St. George's Church of Ireland N.S., Hampton Street, Balbriggan, County Dublin
8. Hedgestown N.S., Hedgestown, Lusk, County Dublin
9. Naul N.S., Naul, County Dublin
10. St. Oliver Plunkett N.S., Balrothery N.S., Balrothery, County Dublin
11. St. Mologa's N.S., Bremeore, Balbriggan, Co. Dublin
12. Balbriggan Educate Together N.S., Hamlet Lane, Balbriggan, Co. Dublin
13. St. Teresa's N.S., Pinewood, Balbriggan, County Dublin

Many of our sponsor schools are new 'Green Flag' holders, a demonstration of their hard work and commitment to sustainability projects.



Corporate Policies

Our Environmental and Health & Safety Policies (reproduced overleaf) were written to document the company's overarching policy commitments in these two key areas. The policy statements are fully backed up by the resources required to fulfil our goals.

With the establishment of Murphy Environmental Hollywood Ltd. in 2008, our company policies, and indeed our entire Environmental Management Systems, were made site-specific, with a view to the separate and distinct aspects of our Hollywood and Gormanston operations.

The policies have been translated into Russian and Polish to accommodate drivers from the prominent nationalities entering Murphy Environmental sites. They were distributed to drivers, and are available to download from our website.

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A DIVISION OF MURPHY CONCRETE MANUFACTURING LTD.

Environmental Policy Statement

W0151-01 Gormanston Scope

The management of recovery, recycling & restoration of C&D Materials at a Licenced Landfill

Our business

Murphy Environmental is the waste management division of Murphy Concrete Manufacturing Ltd., based in Gormanston Co. Meath. Murphy Environmental operates waste management facility Gormanston, Co. Meath with a maximum intake for landfill and waste recovery of 750,000 tonnes per annum. The facility operates under the terms of a Waste Licence from the Environmental Protection Agency (EPA). **Our site set new standards for restoration in Ireland, and we are developing a major centre for recovery and recycling of Construction & Demolition-type waste.**

Our core principles

Our overall objectives are to enhance the environment at our site by implementing programmes of controlled restoration, and to research, develop and facilitate waste management and recovery options for the construction and related sectors. Murphy Environmental is conscious that waste-related activities have the potential to impact on the environment. We are fully committed and obliged under our EPA licences to manage and operate our facilities to the highest possible standards thus ensuring that our activities do not cause environmental pollution.

Our staff and customers

Murphy Environmental facilities are managed by experienced and trained teams, who receive every support from management to fulfil their responsibilities towards environmental management. We are committed to achieving a safe working environment, where our staff are valued and respected. We will work to meet the demands of our customers wherever possible, without compromising company policy or stated environmental objectives and legal requirements.

Management of the environment

We have established Environmental Management Systems for our facilities.

We commit to:

- Satisfying and exceeding all legal requirements for waste management and other relevant legislation
- Managing our environmental impacts and improving our performance by setting and reviewing environmental objectives and targets
- Avoiding nuisance to neighbours by managing traffic, noise, dust and mud
- Carrying out regular environmental monitoring and publishing results on our website
- Reporting publicly on the operation and management of the facility
- Certifying our Environmental Management Systems to ISO14001:2004

This policy will be displayed in our Site Offices, made available to all employees and interested parties and published on www.murphyenvironmental.ie

Patricia Rooney
General Manager, Murphy Environmental



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Health & Safety Policy Statement

In accordance with the Safety, **Health and Welfare at Work Act 2005** and in fulfilling its obligations to both employees and the public, Murphy Environmental Gormanston & Murphy Concrete Manufacturing Ltd produce the following safety statement in respect of health, safety and welfare:

It is the aim of **Murphy Environmental Gormanston & Murphy Concrete Manufacturing Ltd** to achieve a working environment, which is free of work-related accidents and ill health and to this end the company will pursue continuing improvements from year to year.

Murphy Environmental Gormanston & Murphy Concrete Manufacturing Ltd undertake to discharge their statutory duties by:

- **Identifying hazards in the workplace, assessing the risks related to them and implementing appropriate preventative and protective measures;**
- **Providing and maintaining modern work equipment; in compliance with BAT (Best Available Techniques)**
- **Establishing and enforcing safe methods of work;**
- **Recruiting and appointing personnel who have the skills, abilities and competence commensurate with their role and level of responsibility;**
- **Ensuring that tasks given to employees are within their skills, knowledge and ability to perform;**
- **Ensuring that technical competence is maintained through the provision of refresher training as appropriate;**
- **Promoting awareness of health and safety and of good practice through the effective communication of relevant information (see www.hsa.ie);**
- **Furnishing sufficient funds needed to meet these objectives;**
- **Being proactive in the production of satisfactory compliance documents for drivers, visitors, contractors & suppliers entering our facilities, under the terms of H & S legislation.**

This health and safety statement will be reviewed annually to monitor its effectiveness and to ensure that it reflects changing needs and circumstances

This policy will be displayed in our Site Offices, made available to all employees and interested parties and published on www.murphyenvironmental.ie



Patricia Rooney
General Manager, Murphy Environmental

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Community



Przepisy o Bezpieczeństwie i Higii

Zgodnie z aktem z 2005 o Zasadach Higieny i Bezpieczeństwa Pracy przepisów w stosunku do pracowników oraz osob publicznych firm Gormanston i Murphy Concrete Manufacturing Ltd. Wydaly ponizsze regu Bezpieczenstwie i Higienie pracy.

Celem obu firm jest stworzenie warunkow i srodowiska pracy, ktore zagrozen zdrowia czy zycia. Podjeto wszelkie srodki w celu polepszenia zobowiazuja sie do podejmowania dzialan polepszajacych to srodowisk

Firmy Murphy Environmental Gormanston i Murphy Concrete Manufacturing Ltd. podejmuje nastepujace kroki, aby sproszcz powyzszym przepisom

- Okreslenie niebezpieczenstwa w miejscu pracy, okreslenie oraz podejmowanie srodkow prowadzacych do usuniecia
- Zapewnienie nowoczesne wymagami BAT (Best Available Technology) do pracy i jego kons
- Okreslenie zasad bezpiec zasad
- Zatrudnianie presonelu, zgodne z wykonywana p

Декларация по



PRZEPISY o Ochronie Sr

W0151-01 Gormanston Scope

Zarządzanie odzyskiem, recyklingiem i restauracją materiałów typu C&D (Construction & Demolition – budowa i rozbiórka) na terenie licencjonowanego wysypiska odpadów.

Firma

Firma Murphy Environmental jest oddziałem firmy oczyszczające Murphy Concrete manufacturing Ltd., z siedziba w Gormanston, Co. Environmental prowadzi działalność z czyszczeniem odpadów i nie jednego miliona ton rocznie. Powyższe firmy działają na podstawie Environmental Protection Agency (EPA). Nasze firmy określily nowe s' powierzchni użytkowych w Irlandii, rozwijamy nowe centrum odzysk nieczystosci zwiazanych z sektorem budowlanym i remontowym.

Nasze glowne cele

Naszym glownym zamierzeniem jest stworzenie warunkow odpowiednich do kontrow odzyskiwania i usuwania zanieczyszczen z sektora budowlanego. Murphy Environmental ma na uwadze fakt, ze dzialania prowadzace do produkcji zanieczyszczen maja ogromny wplyw na srodowisko naturalne. Jesteśmy upowaznieni na podstawie licencji EPA do prowadzenia dzialalnosci zwiazanej z gromadzeniem i przetworzeniem odpadow i zanieczyszczen na najwyzszym standardzie i z zasadami zgodnymi z ochrona srodowiska naturalnego.

Nasi pracownicy i klienti

Nasza firma jest prowadzona przez doswiadczonego i wyszkolonego zespolo pracowników, ktorzy otrzymuja od firmy pelne poparcie w celu osiagniecia zalozonych celow i odpowiedzialnosci w stosunku do srodowiska aturalnego. Nasz cel to stworzenie bezpiecznych warunkow pracy, gdzie nasi pracownicy sa doceniani i szanowani. Nasz cel to sproszczanie wymaganiam naszych klientow, zgodnie z polityka firmy i ochrona srodowiska naturalnego oraz przepisow prawnych.

Stworzyliśmy System Ochrony Srodowiska na terenie naszego zakladu.

- Zobowiazujemy sie do:
- Przestrzeganiem przepisow prawnych i legislacyjnych zwiazanych z przetworstwem odpadow i zanieczyszczen
 - Poprawa naszych dzialan i podejmowaniem srodkow niezbednych do osiagniecia celow zgodnych z ochrona srodowiska naturalnego
 - Ograniczanie dzialan powodujacych niedogodnosci w stosunku do naszych sasiadow poprzez usuwanie zrodla halasu, kurzu, ruchu drogowego w obrebie naszego zakladu
 - Regularne monitorowanie srodowiska i umieszczanie sprawozdan z tych dzialan na naszej stronie internetowej
 - Wydawanie raportow dla publicznej wiadomosci, zwiazanych z dzialalnoscia naszej formy
 - Prowadzenie dzialan zgodnych z Certyfikatem ISO14001:2004

Powyzsze przepisy zostana wywieszone w siedzibach naszych firm w celu udostepnienia ich naszym pracownikom oraz osobom zainteresowanym oraz zostana umieszczone na stronie www.murphyenvironmental.ie

Patricia Rooney
General Manager, Murphy Environmental



Наша Декларация по Защите Окружающей Среды

W0151-01 Gormanston Scope

Обнаружение, переработка и восстановление строительных отходов и продуктов сноса на лицензированной мусорной свалке

Наш бизнес

Предприятие "Murphy Environmental" является отделом по управлению отходами организации "Murphy Concrete Manufacturing Ltd", основанной в Gormanston Co. Meath. Предприятие "Murphy Environmental" руководит предприятиями по управлению отходами в восстановлении отходов больше одного миллиона тонн в год. Эти предприятия действуют на условиях лицензии по отходам Организации по Защите Окружающей Среды (EPA). Наши предприятия установили новые стандарты для создания восстановления в Ирландии, и мы разрабатываем большой центр для восстановления и переработки отходов

Наш основные принципы

Нашими общими задачами является улучшить окружающую среду на территориях наших предприятий при помощи программ управляемого восстановления, и исследовать, развивать и способствовать управлению отходами и возможностям восстановления для конструкции и относящихся к ним секторов. Предприятие "Murphy Environmental" считает что связанная с отходами деятельность имеет потенциал повлиять на окружающую среду. Мы полностью берем на себя обязанность согласно нашей лицензии Организации по Защите Окружающей Среды управлять и вести наши предприятия до наивысших возможных стандартов и таким образом гарантировать, что наши действия не приведут к загрязнению окружающей среды.

Наш штат и клиенты

Предприятия "Murphy Environmental" руководятся опытными и обученными коллективами, которые получают любую поддержку от руководства для исполнения своих обязанностей относительно управления окружающей среды. Мы взяли на себя обязательство Мы будем работать для того, чтоб выполнить требования наших заказчиков, где возможно, не ставя под угрозу политику

Управление окружающей средой

Мы учредили Систему Управления Окружающей Среды для наших предприятий. Мы берем на себя обязательства:

- Соответствие и превышение всех законных условий для управления отходами и другого относящегося к этому законодательства
- Управление нашими воздействиями на окружающую среду и улучшение нашего работы при помощи установления и пересмотра задач и целей окружающей среды
- Избежание причинения неудобств для соседней управлениям транспорта, шумом, пылью и грязью
- Доведение до конца регулярного мониторинга за окружающей средой и публикация результатов на нашем вебсайте
- Публичное сообщение о деятельности и управление предприятия
- Наша Система Управления Окружающей Среды удостоверена за ISO14001:2004

Эта политика будет размещена в наших Зданиях Предприятия, будет доступной для всех работников и заинтересованных сторон и опубликована на: www.murphyenvironmental.ie

Patricia Rooney
General Manager, Murphy Environmental



Политика соответствия и ответственности

и хорошей практики при помощи информации (См. www.hsa.ie);

абжения необходимыми запасами.

етворительной соответствующей идрядчиков и поставщиков, лования, указанным в и.

ности будет пересматриваться тивность и убеждатся что оно тва

иятия, будет доступной для всех на: www.murphyenvironmental.ie

Rooney
менеджер, Murphy Environmental
8495611) | Версия 02 (Oct. 2008)



vii
Engaging with the Community

Our Company Policies in Polish and Russian

Murphy Environmental Sponsors the 2008 Fireball World Championship, Thailand

During the 6th to the 21st March 2008, the Fireball World Championships took place at the Royal Varuma Yacht Club, Pattaya, Thailand. Seven Irish Fireball crews made the trip to Thailand to take part in the International Fireball World Championship.

Local man Seamus Moore from Balbriggan and team member Noel Butler who is a member of the Dun Laoghaire motor yacht club, finished 15th overall in the race and were the best of the Irish boats taking part.



Seamus Moore and Murphy Environmental were in contact throughout the race meet, in which Seamus outlined the highs and lows encountered during the five-day race meet. The highs include the 7th and 8th place finishes along with the consistent results achieved, and more importantly the achievement of coming 15th overall in the World Championships.



Introduction to the Fireball

The Fireball is a high performance, two-person sailing dinghy. The boat itself measures 4.93m with a beam of 1.4m and a weight of only 95kg. It is powered by an upwind area of 11.43 sq m and downwind the symmetric spinnaker adds a further 13.01 sq m. All this sail area is kept in check with a single trapeze for the crew. Needless to say that in a good blow the boat can certainly move and still be controllable thanks to its very adjustable rig. The Fireball is intended to sail best at an angle of about three degrees.

Moore/Butler 14894 (IRL)



vii
Engaging with
the
Community

Murphy Environmental Gormanston (W0151-01)

Sporting beneficiaries

Murphy Environmental continued to support a range of local sports clubs through 2008.

North County Cricket has been supported by us and MCM this year through the sponsorship of the Fingal A and Fingal B Leagues; the club continues to flourish as one of the best Cricket Clubs in the country, proving to be a great source of provincial and national talent for the game.

GAA naturally has also been close to our hearts and minds when allocating sponsorship and we have supported a number of clubs locally, including a golf classic for St. Pat's in Stamullen, and a new set of jerseys for Cuchulainn Gaels G.A.A. club in County Louth.

Horse Racing at Bellewstown, Co. Meath Meath are the proud custodians of the oldest racecourse in Ireland and our Managing Director, Seamus Murphy, is also one of the Racecourse Committee responsible for the management and upkeep of this very special track and its annual July meeting. Murphy Environmental sponsors a number of races, including the 'Mullaghacurry Cup', the feature race of the August meeting.

The Golf Club in Balrothery received sponsorship for the annual Balbriggan golf classic.

The Balbriggan Lions Club received sponsorship for their golf classic in May 2008.

Patricia Rooney Finalist for the O₂ Businesswoman of the Year Award 2008

The O₂ *Women Mean Business* Conference and Awards 2008, designed to recognise the outstanding achievements of Ireland's businesswomen, took place on Monday September 29th 2008 at Dublin's Shelbourne Hotel, St. Stephen's Green.



Among the finalists for the O₂ Businesswoman of the Year Award 2008 was the Murphy Environmental General Manager Patricia Rooney.

General Manager elected Drogheda & District Chamber President

Murphy Environmental General Manager, Patricia Rooney, was elected the Drogheda & District Chamber President during 2008.

Patricia is only the second woman ever to hold the title of President of the Chamber of Commerce.

Driving forward a new tourism vision for the town and encouraging new entrepreneurs are just some of the ambitions Patricia Rooney would like to see achieved by the organisation.



Patricia led the 'Drop the VAT Campaign' in November 2008, to assist the commercial and retail sectors of the county to stem the flow of income and sales north of the border.

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**Engaging with
the
Community**



viii PRTR

What is EU PRTR?

The European Pollutant Release and Transfer Register (E-PRTR) is an inventory of pollutant emissions from industry and other sources across Europe. The aim of the inventory is to make information more available to the public on pollutant emissions and waste transfers from a range of industrial sectors. Reporting under PRTR is an annual process.

Scope of the E-PRTR

The E-PRTR has an expanded list of chemicals to be reported on an annual reporting frequency. The E-PRTR applies to industrial facilities falling within 9 activity sectors:

1. Energy;
2. Production and processing of metals;
3. Mineral industry;
4. Chemical industry;
5. Waste and wastewater management;
6. Paper and wood production and processing;
7. Intensive livestock production and aquaculture;
8. Animal and vegetable products from the food and beverage sector; and
9. Other activities.

EPA Requirements

2009 is the second year in which Murphy Environmental and other licensed facilities have completed an electronic report of emissions data and waste transfers via the EPA website. There is also a requirement to include a printed copy of the PRTR return in the AER (please find attached).

Features of E-PRTR

The main features of the E-PRTR are as follows:

- 91 specified pollutants are required to be reported upon if they are released to air, water or land, either as permitted emissions or as accidental releases, or transferred to off-site Waste Water Treatment Plants (WWTPs).
- Types of emissions to be reported include deliberate, accidental, routine and non-routine releases.
- The transfer of hazardous and non-hazardous wastes must also be reported under the new Regulation.
- E-PRTR returns must be made by EPA to the EU, and consequently returns from operators must be made to EPA, on an annual basis.
- Facilities are required to ensure an appropriate quality of the data they report to their Competent Authority.
- The data they provide must be complete, consistent and credible; this requires that they use, to the extent possible, internationally approved data recording and collection methodologies, or other methods shown to be equivalent.

(Source: EPA)





AER Returns Worksheet

Version 1.1.04

REFERENCE YEAR	2008
-----------------------	------

1. FACILITY IDENTIFICATION

Parent Company Name	Murphy Concrete Manufacturing Ltd.
Facility Name	Murphy Concrete Manufacturing Ltd
PRTR Identification Number	W0151
Licence Number	W0151-01

Waste or IPPC Classes of Activity

No.	class_name
3.1	Deposit on, in or under land (including landfill).
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

Address 1	Sarsfieldtown
Address 2	Gormanstown
Address 3	Co. Meath
Address 4	
Country	Ireland
Coordinates of Location	584145.000
River Basin District	IEEA
NACE Code	382
Main Economic Activity	Waste treatment and disposal
AER Returns Contact Name	Emma Murphy
AER Returns Contact Email Address	Emma_Murphy@mcm-environmental.com
AER Returns Contact Position	Facility Manager
AER Returns Contact Telephone Number	01-8496611
AER Returns Contact Mobile Phone Number	086-2551616
AER Returns Contact Fax Number	01-8496612
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	2866
Number of Employees	4
User Feedback/Comments	Please note W0151-01 is a RECOVERY facility for CLEAN & INERT materials only
Web Address	www.murphyenvironmental.ie

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5d	Landfills
5c	Installations for the disposal of non-hazardous waste

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 ?	



Murphy Environmental Gormanston (W0151-01)

4.1 RELEASES TO AIR

| PRTR#: W0151 | Facility Name : Murphy Concrete Manufacturing Ltd | Filename : W0151_2008 PRTR.xls | Return Year : 2008 |

06/05/2009 15:37

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR								
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
						0.0	0.0	0.0

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

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR								
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
						0.0	0.0	0.0

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

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

RELEASES TO AIR								
POLLUTANT		METHOD			QUANTITY			
Pollutant No.	Name	M/C/E	Method Used		Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description				
						0.0	0.0	0.0

* 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: Please enter summary data on the quantities of methane flared and / or utilised	Murphy Concrete Manufacturing Ltd				
	T (Total) kg/Year	M/C/E	Method Used		Facility Total Capacity m3 per hour
			Method Code	Designation or Description	
Total estimated methane generation (as per site model)	0.0				N/A
Methane flared	0.0				0.0 (Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A



Murphy Environmental Gormanston (W0151-01)

4.2 RELEASES TO WATERS

| PRTR# : W0151 | Facility Name : Murphy Concrete Manufacturing Ltd | Filename : W0151_2008 PRTR.xls | Return Year : 2008 |

06/05/2009 15:40

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this only c

RELEASES TO WATERS								
POLLUTANT		METHOD USED			QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
						0.0	0.0	0.0

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

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS								
POLLUTANT		METHOD USED			QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
						0.0	0.0	0.0

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

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

RELEASES TO WATERS								
POLLUTANT		METHOD USED			QUANTITY			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	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

4.3 RELEASES TO WASTEWATER OR SEWER

| PRTR# : W0151 | Facility Name : Murphy Concrete Manufacturing Ltd | Filename : W0151_2008 PF

06/05/2009 15:40

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER								
POLLUTANT		METHOD			QUANTITY			
No. Annex II	Name	M/C/E	Method 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 POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER								
POLLUTANT		METHOD			QUANTITY			
Pollutant No.	Name	M/C/E	Method 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

Murphy Environmental Gormanston (W0151-01)

4.4 RELEASES TO LAND

| PRTR# : W0151 | Facility Name : Murphy Concrete Manufacturing Ltd | Filename : W0151_2008 PRTR.xls | Return Year : 2008 |

06/05/2009 15:40

SECTION A : PRTR POLLUTANTS

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

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

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRTR# : W0151 | Facility Name : Murphy Concrete Manufacturing Ltd | Filename : W0151_2008 PRTR.xls | Return Year : 2008 |

06/05/2009 15:40

Transfer Destination	European Waste Code	Hazardous	Quantity T/Year	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Name and Licence / Permit No. of Recoverer / Disposer / Broker	Address of Recoverer / Disposer / Broker	Name and Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)	Licence / Permit No. of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	17 05 04	No	217.0	stone, rock & slate	R5	M	Weighed	Onsite in Ireland	Murphy Concrete Manufacturing Ltd W0151-01	Sarsfieldstown, Gormanston, Co. Meath		
Within the Country	17 05 04	No	8192.0	recovered gravel & crushed rocks	R5	M	Weighed	Offsite in Ireland	Sold for reuse to various parties	Sarsfieldstown, Gormanston, co. Meath		
Within the Country	17 05 04	No	197.0	Natural Waste Sand & Clay	R5	M	Weighed	Offsite in Ireland	Sold for reuse to various parties	Sarsfieldstown, Gormanston, Co. Meath		
Within the Country	17 01 01	No	23544.0	Concrete	R5	M	Weighed	Onsite in Ireland	Murphy Concrete Manufacturing Ltd W0151-01	Sarsfieldstown, Gormanston, co. Meath		
Within the Country	17 01 07	No	1019.0	Mixture of concrete, bricks, tiles and ceramics	R5	M	Weighed	Onsite in Ireland	Murphy Concrete Manufacturing Ltd W0151-01	Sarsfieldstown, Gormanston, Co. Meath		
Within the Country	17 05 04	No	317307.0	Soil & stones	R5	M	Weighed	Onsite in Ireland	Murphy Concrete Manufacturing Ltd W0151-01	Sarsfieldstown, Gormanston, co. Meath		

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



ix AER Licence Requirements

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- Reporting Period	3
- Waste activities carried out at the facility	6
- Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year	7-8
- Types and Quantity of recovered materials sold to third parties (e.g. as aggregate material)	8
- Calculated remaining capacity of the facility and the year in which final capacity is expected to be reached	9
- Methods of deposition of waste	6
- Summary report on emissions	17
- Summary of results and interpretation of environmental monitoring	17
- Resource and energy consumption summary	28-29
- Proposed development of the facility and timescale of such development	9
- Volume of leachate produced and volume of leachate transported / discharged off-site	24
- Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year	9
- Report on the restoration of completed cells / phases	9
- Site survey showing existing levels of the facility at the end of the reporting period	9
- Estimated annual and cumulative quantities of landfill gas emitted at the facility	26
- Estimated annual cumulative quantities of indirect emissions to groundwater	24
- Annual water balance calculation and interpretation	20
- Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report	12
- Schedule of Environmental Objectives and Targets for the forthcoming year	13
- Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation	11
- Tank, pipeline and bund testing and inspection report	27
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- Reported incidents and complaints summaries	30-31
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Murphy Environmental Gormanston (W0151-01)



A DIVISION OF MURPHY CONCRETE MANUFACTURING LTD.

For further information, please contact:

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