Annual Environmental Report 2010

MURPHY ENVIRONMENTAL HOLLYWOOD LTD.

EPA LICENCE W0129-02

I.S. EN ISO 14001

Certified by Certification Europe Ltd

AER Requirements: EPA Licence W0129-02

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M.E.H.L HOLLYWOOD

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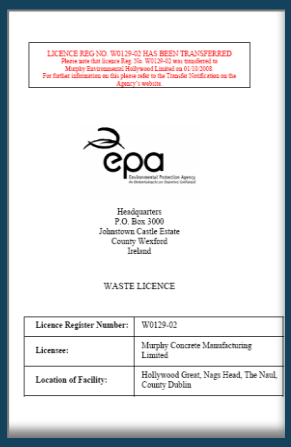
1.

About the Hollywood Facility



LICENCE REG NO. W0129-03 HAS BEEN TRANSFERRED
Please note that licence Reg. No. W0129-02 was transferred to Murphy Environmental Hollywood Limited on 01/10/2008
For further information on this please refer to the Transfer Notification on the Agency's website

epa
Environmental Protection Agency
An tGhníomhaireacht um Chaomhnú Comhshaoil

Headquarters
P.O. Box 3000
Johnstown Castle Estate
County Wexford
Ireland

WASTE LICENCE

Licence Register Number:	W0129-02
Licensee:	Murphy Concrete Manufacturing Limited
Location of Facility:	Hollywood Great, Nags Head, The Naul, County Dublin

EPA Licence

Murphy Environmental Hollywood Ltd. (MEHL) holds a Waste Licence (Number W0129-02) from the Environmental Protection Agency ('EPA', also referred to as 'the Agency') for an inert landfill at Hollywood Great, Nag's Head, Naul in North County Dublin.

Site History

- 1975 – Murphy Concrete Manufacturing (MCM) Ltd. began quarrying at the site
- 1999 – MCM Ltd. applied for an EPA licence to restore the quarry
- 2002 – EPA issued licence 129-1 (later became 'W0129-01') in December 2002
- 2003 – Landfilling activities commenced at Hollywood
- 2003 – *Murphy Environmental* was established as a trading division of MCM Ltd., to serve as the waste management division of the company
- 2007 – Quarrying activities at Hollywood ceased at the end of 2007
- 2008 – The current Waste Licence for the facility (W0129-02) was issued on the 21st May, 2008, following a Waste Licence Review
- 2008 – *Murphy Environmental Hollywood Ltd.* (MEHL) was established on the 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*.

2010

The economic collapse throughout Ireland which commenced in late 2008 and persists at the time of publication of this AER has impacted significantly on the intake of materials to the Hollywood facility. In addition, with huge regret, the company has found it necessary to effect redundancies because of the construction sector collapse in particular. It is hoped that an opportunity to be an employment creator once again will be afforded with the successful achievement of the proposals currently before the regulators for consideration.

Proposals for an Integrated Waste Management Facility at Hollywood

In December 2010, MEHL lodged planning and licensing applications for a proposed integrated waste management facility at the site of the existing MEHL landfill in Hollywood Great, Nag's Head, Naul, Co. Dublin. Applications, including an Environmental Impact Statement, were lodged with An Bord Pleanála and the EPA.

EU waste policy requires member states to achieve self-sufficiency in the management of waste – currently there is no option in Ireland but to export certain wastes. The need for hazardous landfill capacity in Ireland has been highlighted by the EPA for over ten years. Managing such waste in Ireland will give rise to economic opportunities and a beneficial spin-off for local industries and local employment.

The proposed development is for the acceptance of solid non-biodegradable waste, including hazardous and non-hazardous waste-to-energy residues, hazardous and non-hazardous soils and inert soils, and other compatible waste streams. The proposed MEHL integrated waste management facility will comprise of specially engineered landfill cells for inert, non hazardous and hazardous non-biodegradable solid waste. This facility will also consist of:

- New site entrance and access road at the southern boundary; new administration building and site management infrastructure.
- Solidification plant with associated storage tanks and silos; a storage building.
- Surface water and foul water management systems; leachate management system.

The quantity of waste accepted at the facility will not exceed the existing planning and waste licence limit of 500,000 tonnes per annum. The opening hours and the hours within which waste can be accepted will be as per the current EPA licence.

2. Waste Acceptance 2010

Background

Under the Waste Management Act (1996), waste activities can be classified as waste disposal or waste recovery, within which there are a number of classes of activity. The Waste Licence (Ref. W0129-02) lists the activities which MEHL is licensed to carry out at Hollywood:

Disposal

- Class 1: Deposit on, in or under land (including landfill)
- Class 5: Specially engineered landfill, including placement into lined discrete cells, which are capped and isolated from one another and the environment **(this was the only class of licensed activity conducted on site in 2010)**
- 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

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 viewed on our website, www.mehl.ie

Waste Types Accepted

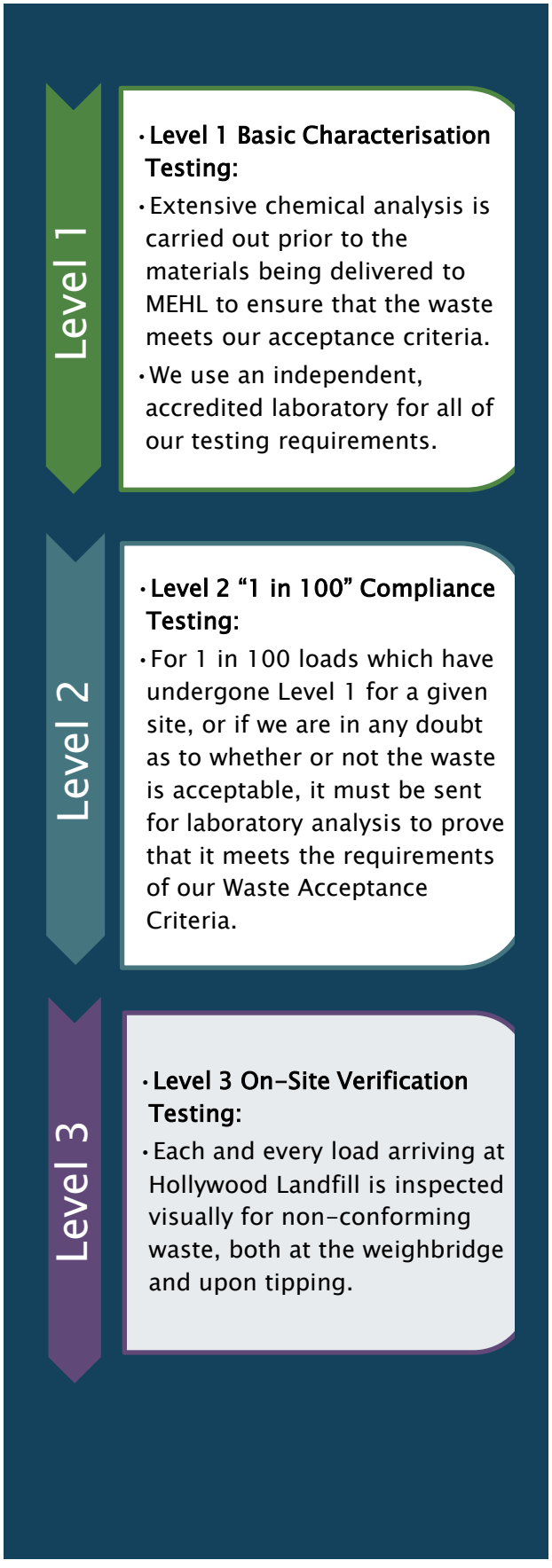
Only inert waste is acceptable at Hollywood. Inert waste means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will **not:** dissolve, burn or physically or chemically react; biodegrade (decompose); adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health; or 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 Hollywood is comprised of soils and stones and other construction & demolition-type material.

Controlling Incoming Waste

All hauliers delivering waste to site must 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.

We have developed rigorous Waste Acceptance Procedures for the Hollywood Landfill, in accordance with the EPA Waste Licence and *EU Council Decision (2003) Establishing Criteria and Procedures for the Acceptance of Waste at Landfills*.



Waste Placement and Control

Inert waste material is delivered to the facility in trucks from the site of origin. MEHL operates specially-designed computer software to manage waste records. The exact location of where each load is tipped within the cell is recorded on the weighbridge software for future traceability. Material is deposited directly into the active tipping area, as directed by the weighbridge operator and banksman.

Waste Acceptance 2010

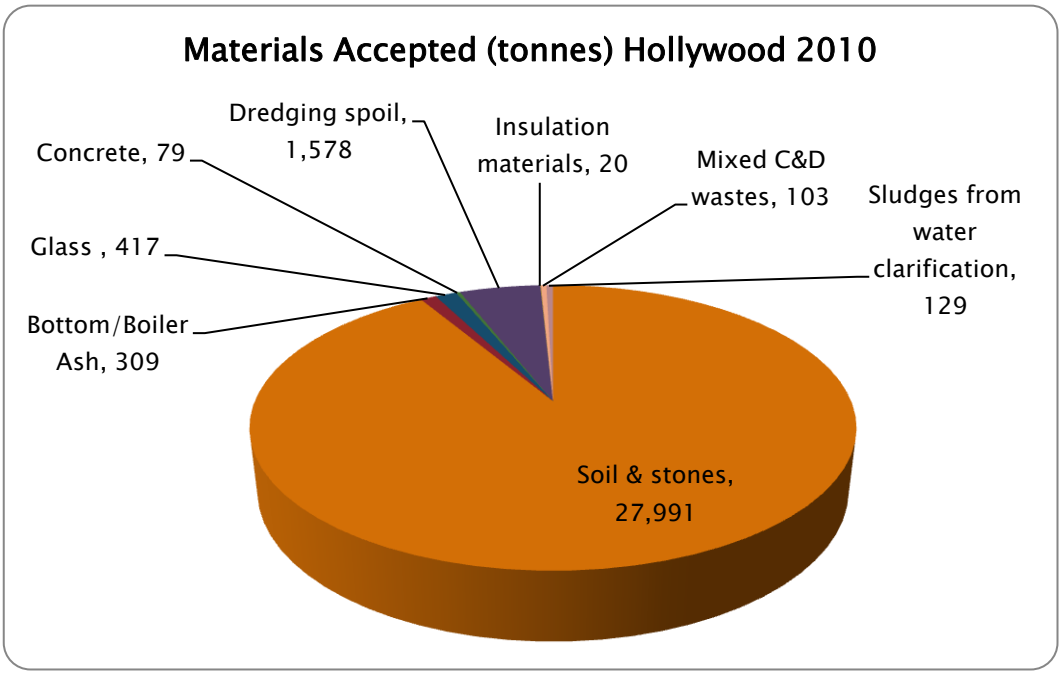
30,626 tonnes of inert waste was accepted at Hollywood in 2010. A summary of waste accepted, classified by EWC code, is presented in the table and chart overleaf. It can be seen that *Soils & Stones* were the largest contributor to the waste accepted at the facility.

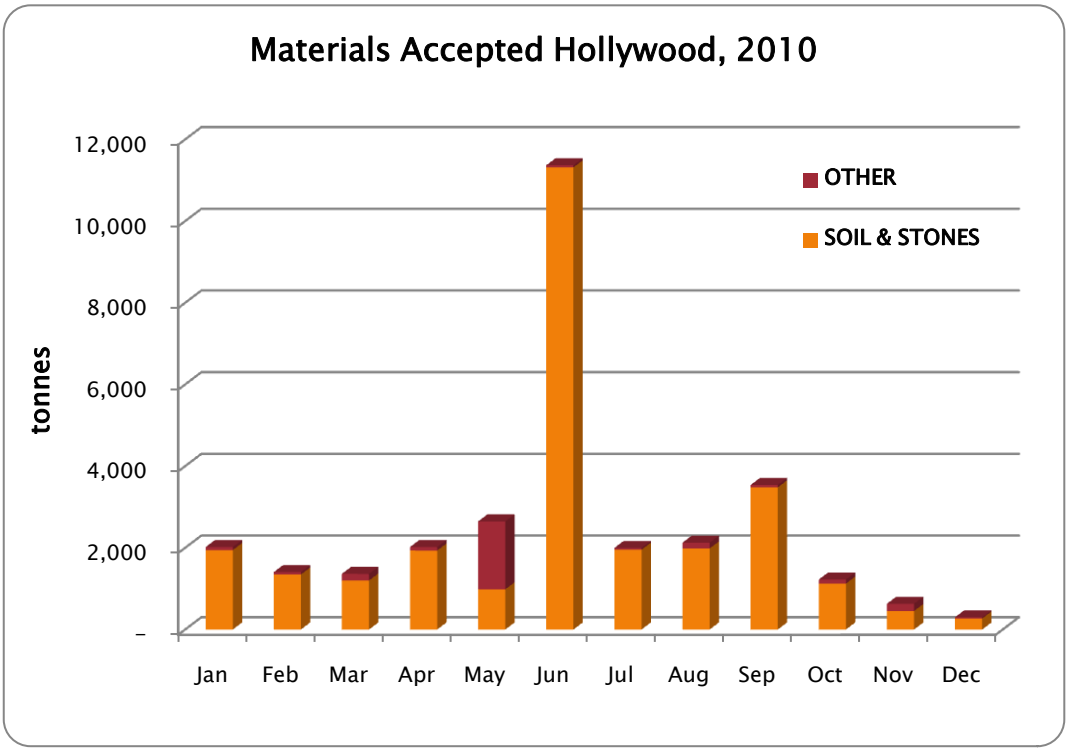
Materials accepted 2010

EWC Code	Description	Tonnage
10 01 01	Bottom/Boiler Ash	309
15 01 07	Glass packaging	22
17 01 01	Concrete	79
17 02 02	Glass	67
17 05 04	Soil & stones	27,991
17 05 06	Dredging spoil	1,578
17 06 04	Insulation materials	20
17 09 04	Mixed C&D wastes	103
19 09 02	Sludges from water clarification	129
19 12 05	Glass	329
	TOTAL:	**30,626**

Waste Acceptance 2003-2010

Since the commencement of operations at the facility in 2003, a total of 1,596,944 tonnes of inert material has been accepted (as at year-end 2010).


Materials Accepted (tonnes) Hollywood 2010
Dredging spoil, 1,578
Insulation materials, 20
Concrete, 79
Mixed C&D wastes, 103
Sludges from water clarification, 129
Glass , 417
Bottom/Boiler Ash, 309
Soil & stones, 27,991


Materials Accepted Hollywood, 2010
tonnes
12,000
10,000
8,000
6,000
4,000
2,000
-
OTHER
SOIL & STONES
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

Proposed Restoration of the Site

The restoration and aftercare of the facility will be carried out in accordance with EPA requirements and relevant planning permissions.

Financial Provision & Environmental Liabilities Risk Assessment

A Closure Plan and Environmental Liabilities Assessment, as required under Licence W0129-02, have been submitted to the Agency. There are no amendments to those plans since submission. MEHL has established a Liabilities and Restoration Fund for Hollywood, following consultation with the Agency. No amendments were made during the reporting period.

Restoration of Completed Phases

Five lined cells have been constructed at Hollywood to date, i.e. Cells 1 to 5.

- Cells 1 and 3 are approaching finished levels.
- Cell 2 (plus a small area of Cell 1) is undergoing capping and seeding (as at March 2011). The area of this restored surface is approximately 0.9 acres (ca. 3,600m^2).
- Cell 4 was constructed during 2008; no waste has been deposited in this cell to-date.
- Cell 5 was active during 2010 and is currently filled to less than 50% of its capacity.

Void Space Calculations

During 2007, an independent assessment was carried out to determine accurate and site-specific bulk density and compaction rates for soil and stones deposited at the Hollywood facility. It was determined that a compaction rate of 2 tonnes/m^3 was being achieved at the landfill cells. Based on W0129-02 annual maximum licensed tonnage of 500,000 tonnes, it would take approximately 16 years to fill the remaining void space.

Estimated Void Space Calculations, 2007-2010

	tonnes	m^3
Remaining Void, Nov. 2007		**4,220,000**
Materials Accepted Dec 2007 – Dec 2010 (inclusive)	331,324	165,662
Remaining Void, year-end 2010		**4,054,338**

Site Development Works 2010

A detailed Site Investigation was carried out in 2010 as part of the proposal for an Integrated Waste Management Facility at Hollywood, which included the following:

- Surface geological assessment and geophysical surveys
- Intrusive site investigations to include numerous cored wells, monitoring wells and pumping well
- Pumping test
- The development of a Conceptual Site Model (CSM), which allowed for the completion of detailed engineering design and site layout
- A Hydrogeological Quantitative Risk Assessment (QRA) was conducted to determine the suitability of the site for the Integrated Waste Management Facility – it was determined from the QRA that the residual impacts on groundwater are considered to be imperceptible with the proposed mitigation measures in place.

3.

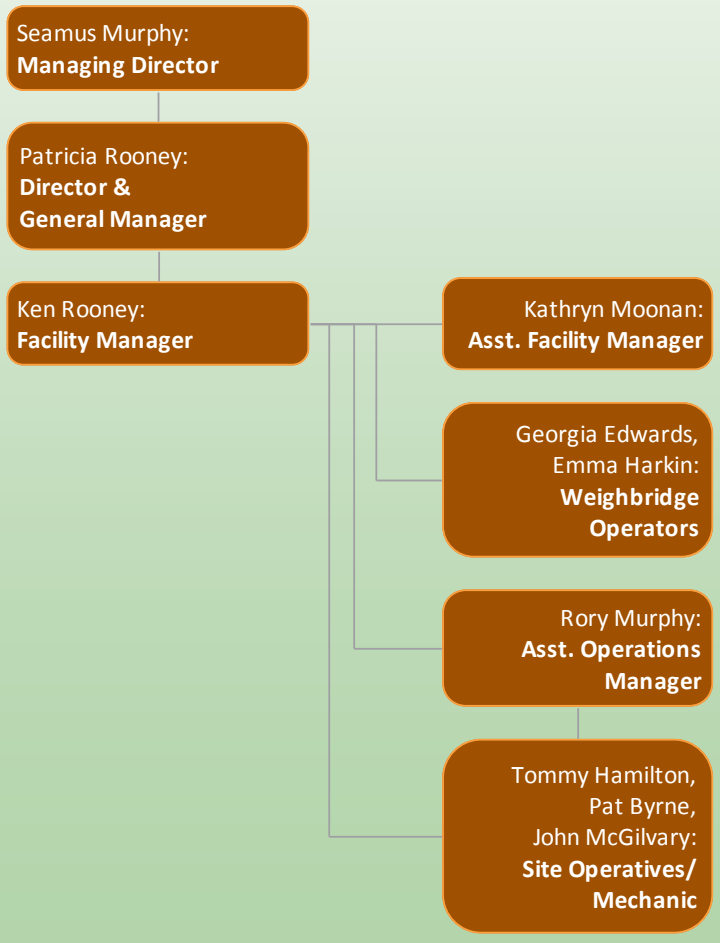
MANAGEMENT SYSTEMS

Management Team

MEHL has an appointed team for management of its operations. Patricia Rooney is the Director & General Manager of the company, and Seamus Murphy is the Managing Director.

The Facility Manager at Hollywood is Ken Rooney and the Assistant Facility Manager is Kathryn Moonan. They are supported by an office team, which has 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 company is further supported by consultant teams.



Environmental Management System

The Hollywood site was the first privately-operated landfill in Ireland to receive accreditation to ISO14001, the international standard for Environmental Management Systems (EMS), in 2004.


Certification Europe

This is to certify that the

Environmental Management System

Of

Murphy Environmental Hollywood Ltd.

At

Hollywood Great, The Nags Head, The Naul, Co. Dublin

Has been assessed by Certification Europe and deemed to comply with the requirements of

ISO 14001:2004

This certificate is valid for the activities specified below:

The management of the disposal of mildly contaminated inert waste materials into engineered lined cells in a monitored environment in the full restoration of a limestone and shale quarry. (NACE Code 37)

An independent ISO14001:2004 audit was completed in November 2010 and the facility was re-certified.

Procedures/EMS Documentation Developed, 2010

As the EMS is an advanced and well-established system at MEHL, no new procedures were developed during 2010. One new form was included within the scope of the EMS, 'F4.3.B Sponsorship', to record sponsorship initiatives (this form was used previously by MEHL but was not heretofore within the scope of the formal management system).

Environmental Objectives and Targets

A core requirement of ISO14001:2004 is the setting and reviewing of environmental Objectives and Targets (O&T), structured around the overall goal of continual environmental improvement. The MEHL O&T Register is used 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 2009 AER is presented overleaf. An indication of progress against targets is given.

Objectives & Targets 2010

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Submit AER to the Agency			◎										👍
Site security inspection						◎							👍
Oil interceptor alarm inspection & test			◎						◎				👍
Review tare weights		◎				◎					◎		👍
Carry out annual noise monitoring and Noise at Work monitoring						◎							👍
Carry out daily meteorological monitoring	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	👍
Carry out biannual dust monitoring				◎							◎		👍
Carry out quarterly leachate & groundwater monitoring		◎			◎			◎			◎		👍
Carry out bi-annual surface water monitoring					◎						◎		👍
Emergency Response Procedure drills								◎					👍
Cap and grass Cells 1-2							◎						👎
Topographical survey												◎	👍
Internal EMS Audits	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	👍
ISO14001:2004 external audit											◎		👍

Key:

◎ = Target

👍 = Achieved 2010

👎 = Not Achieved 2010

All 2010 targets were achieved with the exception of capping and grassing of Cells 1-2. This was due to a lack of availability of cover materials. These works have been completed in March 2011.

Objectives & Targets 2011

The table below outlines the targets set by MEHL for the Hollywood facility for 2011.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Submit AER to the Agency			◎									
Internal EMS Audits	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
Cap and grass Cell 1-2			◎	◎								
Site security inspection						◎						
Review tare weights		◎				◎					◎	
Calibrate weighbridge					◎							
Oil interceptor alarm inspection & test			◎						◎			
Bund integrity testing							◎					
Stability assessment								◎				
Carry out annual noise monitoring and Noise at Work monitoring						◎						
Carry out daily meteorological monitoring	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
Carry out biannual dust monitoring					◎						◎	
Carry out quarterly leachate & groundwater monitoring		◎			◎			◎			◎	
Carry out bi-annual surface water monitoring					◎						◎	
Topographical survey								◎				
ISO14001:2004 external audit											◎	

MEHL Certificate of Disposal

MEHL offers a Certificate of Disposal for waste disposed at our facility. The Certificate of Disposal is issued at the request of the customer upon the completion of a project.

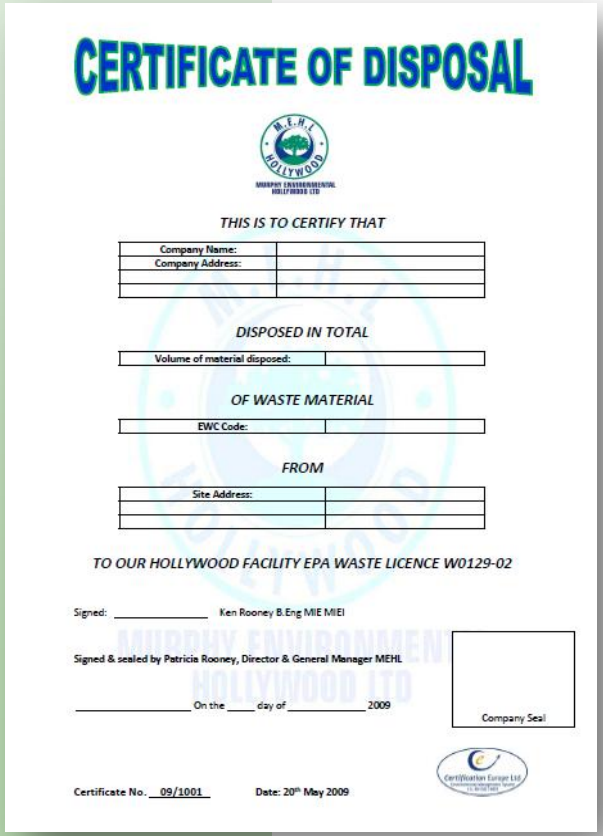
The document certifies the volume of material and the European Waste Catalogue (EWC) code of the material that we have accepted from a specific site.

This advanced reporting technique was developed by MEHL for our valued customers to allow them to have proof that the volumes and types of waste that they *required* to be disposed at MEHL *were* disposed at MEHL.

The Certificate of Disposal can, in turn, be issued by our customers to their clients, their regulatory authorities or used in other areas such as due diligence processes.

Each certificate of disposal is a unique document and cannot be e-mailed, photo-copied or otherwise replicated or amended, as each certificate must carry our company seal to be an approved and legitimate certificate.

We still offer our clients comprehensive and fully accurate 'tonnage reports' as before, but we recognise that this extra certified proof of disposal gives additional confidence to our customers and further underpins our commitment to continuously improving how waste is managed in Ireland.



CERTIFICATE OF DISPOSAL

THIS IS TO CERTIFY THAT

Company Name:	
Company Address:	

DISPOSED IN TOTAL

Volume of material disposed:	

OF WASTE MATERIAL

EWC Code:	

FROM

Site Address:	

TO OUR HOLLYWOOD FACILITY EPA WASTE LICENCE W0129-02

Signed: _____ Ken Rooney B.Eng MIE MIEI

Signed & sealed by Patricia Rooney, Director & General Manager MEHL

_____ On the ____ day of _____ 2009

Company Seal

Certificate No. 09/1001 Date: 20th May 2009

Health & Safety in the Workplace

First Aid Bags

First aid bags are installed at three strategic locations on 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 casualty within a very short period of time.

Defibrillator

A defibrillator machine is installed in both the Hollywood and Gormanston site offices. The defibrillator is normally used immediately following a cardiac arrest, to restart the heart rhythm. Designated staff have received accredited training in the use of the defibrillator.

Occupational Noise Monitoring

A Noise at Work survey was carried out at Hollywood during May 2010. The purpose of the noise assessment was to quantify existing noise levels and assess noise levels with regard to legislative standards.

The results of the survey indicate that noise levels within the cabs of all the vehicles tested were below the First Action Levels; however, as a precaution, it was recommended that MEHL retain their policy of issuing ear defenders to all operators of heavy machinery.

Staff training 2010

All Facility Managers and Assistant Facility Managers in the company have completed the Fás/FETAC National Waste Management Training Programme.

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.

The following staff training was completed during 2010.

Training 2010

Training Carried Out	Employees Trained
Safepass	1. Ken Rooney
4Projects collaboration software	2. Ken Rooney 3. Kathryn Moonan 4. Lisa Maguire
Elected to Chartered Engineer (CEng MIEI) with Engineers Ireland	5. Ken Rooney
IWMA/CIWM Waste Policy Forum	6. Ken Rooney
Site visits to UK and European waste management facilities	7. Patricia Rooney 8. Ken Rooney

4. MONITORING AND MEASUREMENT

Monitoring Requirements

MEHL 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.mehl.ie

Monitoring of noise, dust, surface water, groundwater, leachate and meteorology is conducted throughout the year. Monitoring locations are shown on the drawing overleaf.

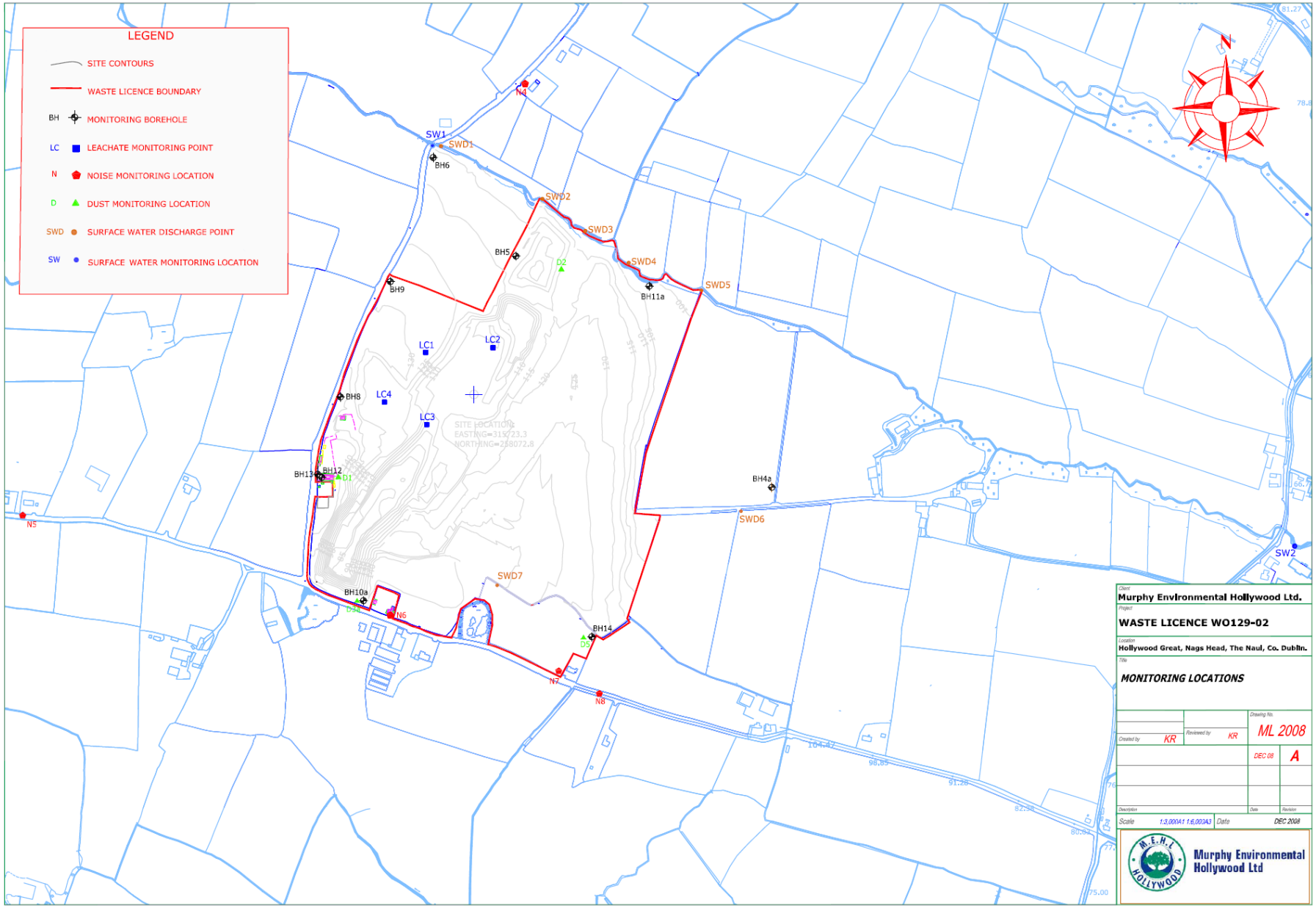
Bund Testing

A bund integrity test was completed in September 2007; a bund integrity test is scheduled for 2011.

It is noted that two bunds were tested during the 2007 survey, i.e. Bund#1 containing a 16,000-litre diesel tank and Bund#2 containing a 7,000-litre diesel tank. The 7,000-litre tank in Bund#2 is no longer in use.

Topographical Survey

The 2010 topographical survey for the site was submitted to the Agency in November 2010.

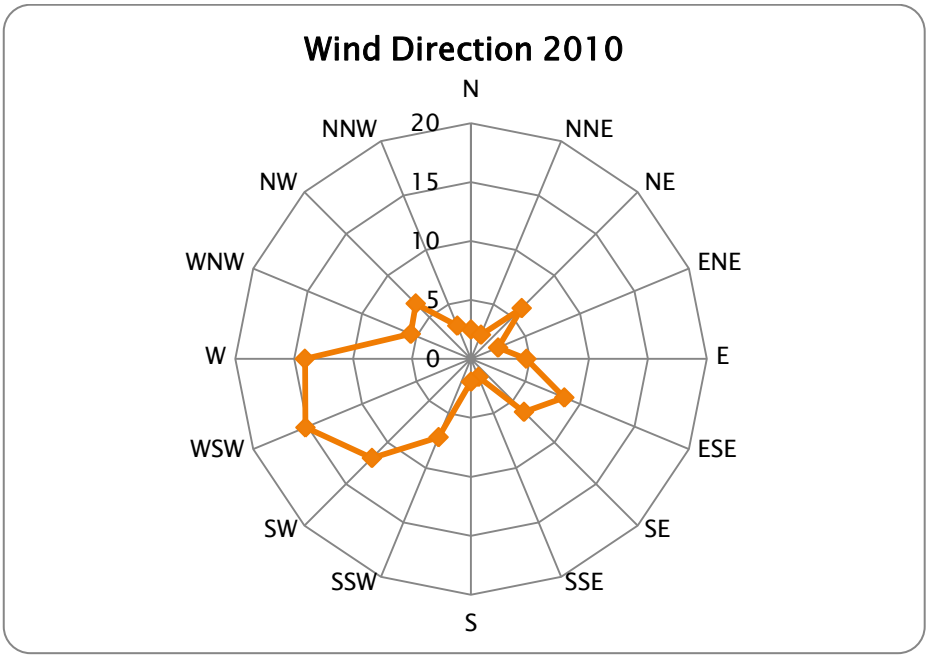

LEGEND
SITE CONTOURS
WASTE LICENCE BOUNDARY
BH MONITORING BOREHOLE
LC LEACHATE MONITORING POINT
N NOISE MONITORING LOCATION
D DUST MONITORING LOCATION
SWD SURFACE WATER DISCHARGE POINT
SW SURFACE WATER MONITORING LOCATION
N
SW1
SWD1
BH6
N4
SWD2
SWD3
SWD4
SWD5
BH5
D2
BH9
BH11a
LC1
LC2
LC4
LC3
BH8
SITE LOCATION
EASTING=315223.3
NORTHING=238072.8
BH13
BH12
D1
N5
BH4a
SWD6
SW2
SWD7
BH10a
N6
BH14
D5
N7
N8
Client
Murphy Environmental Hollywood Ltd.
Project
WASTE LICENCE WO129-02
Location
Hollywood Great, Nags Head, The Naul, Co. Dublin.
Title
MONITORING LOCATIONS
Drawing No.
ML 2008
Created by KR
Reviewed by KR
DEC 08
A
Description
Date
Revision
Scale 1:3,000A1 1:6,003A3
Date DEC 2008
Murphy Environmental Hollywood Ltd

Meteorological Data

Meteorological data was obtained from the meteorological station situated at Dublin Airport. The parameters obtained were: rainfall, temperature, sunshine, wind speed and direction, relative humidity, mean sea level pressure and evapo-transpiration.

Wind Direction

Daily wind data and all meteorological data required under the licence are retained on site. The wind rose for 2010 indicates that winds were mainly from a south-westerly/west-south-westerly direction.

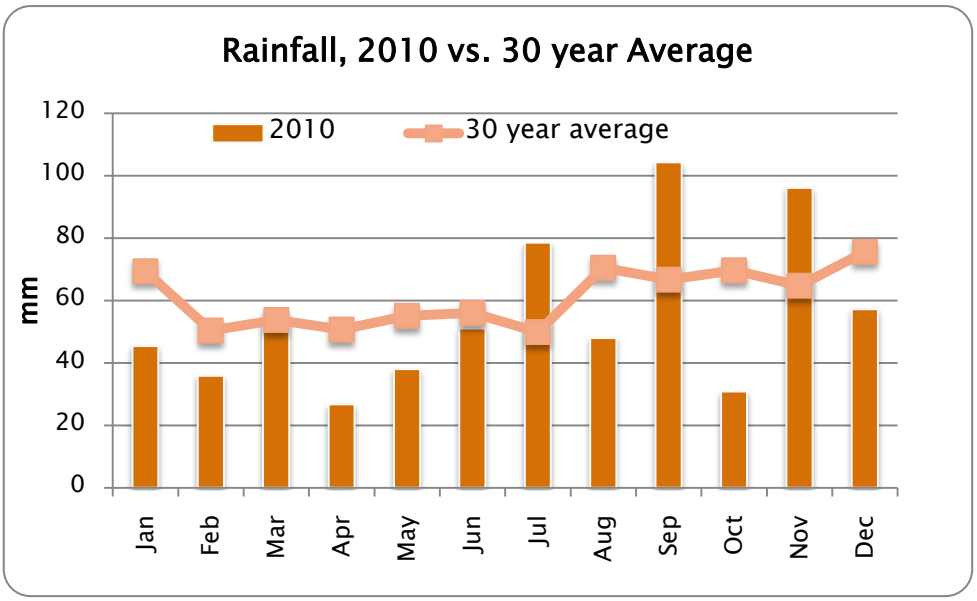


Rainfall

The total rainfall amount for 2010 was 667mm.

This is somewhat lower than the 30-year average (733mm) and significantly lower than the 2009 total of 918mm.

July, September and November 2010 were wet months (approximately 150% of the 30-year average), whilst April and October were markedly drier than the norm.



Water Balance Equation

The water balance equation is estimated as follows:

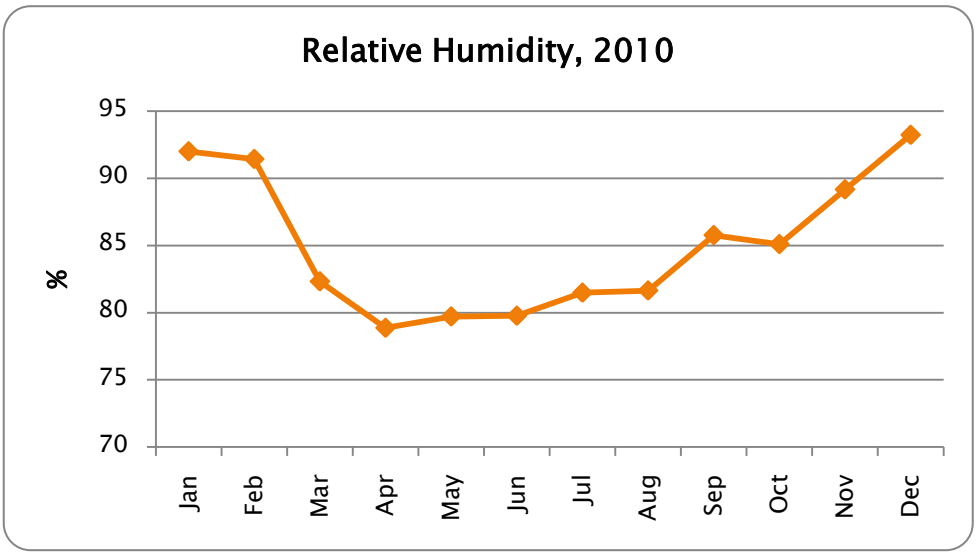
- Annual Rainfall, 2010 = 667mm
- Annual Evapo-transpiration, 2010 = 410mm

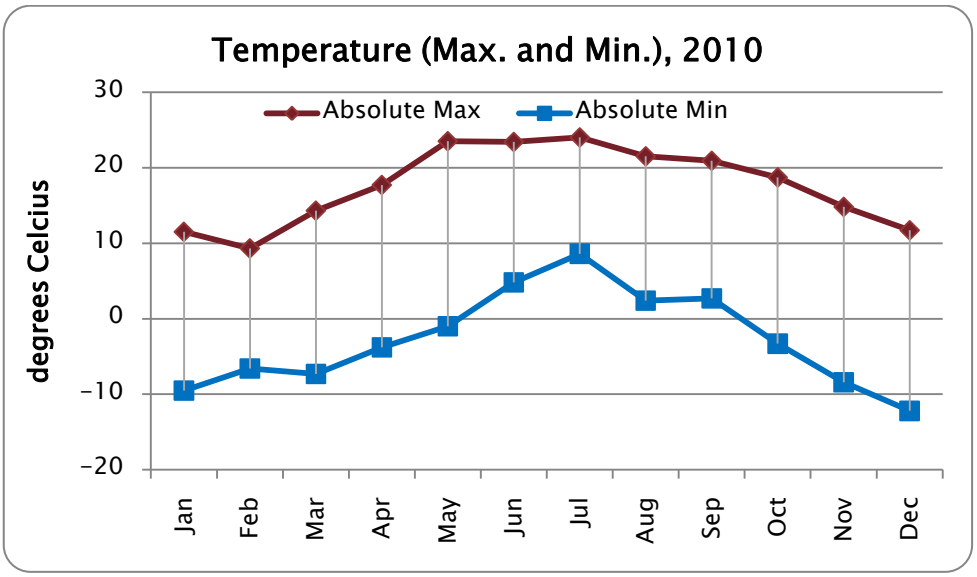
It is assumed that water losses during operations will be numerically approximately 50% of evapo-transpiration from vegetated surfaces, i.e. 205 mm/year.

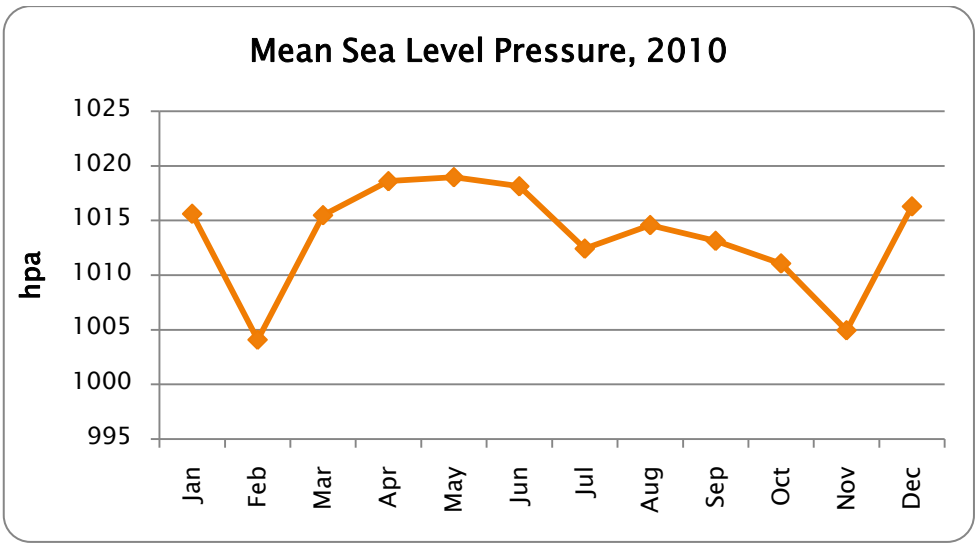
- Effective Rainfall = 667mm – 205mm = 462mm/year

The surface area of Cells 1 to 3 (including Cell 3 Extension) at the facility is 23,300m^2. Therefore the amount of recharge within Cells 1 to 3 is estimated as:

- 23,300m^2 x 0.462m/year = 10,764 m^3/year.


Relative Humidity, 2010
95
90
85
80
75
70
%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Temperature (Max. and Min.), 2010
30
20
10
0
-10
-20
degrees Celcius
Absolute Max
Absolute Min
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Mean Sea Level Pressure, 2010
1025
1020
1015
1010
1005
1000
995
hpa
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

Dust Monitoring

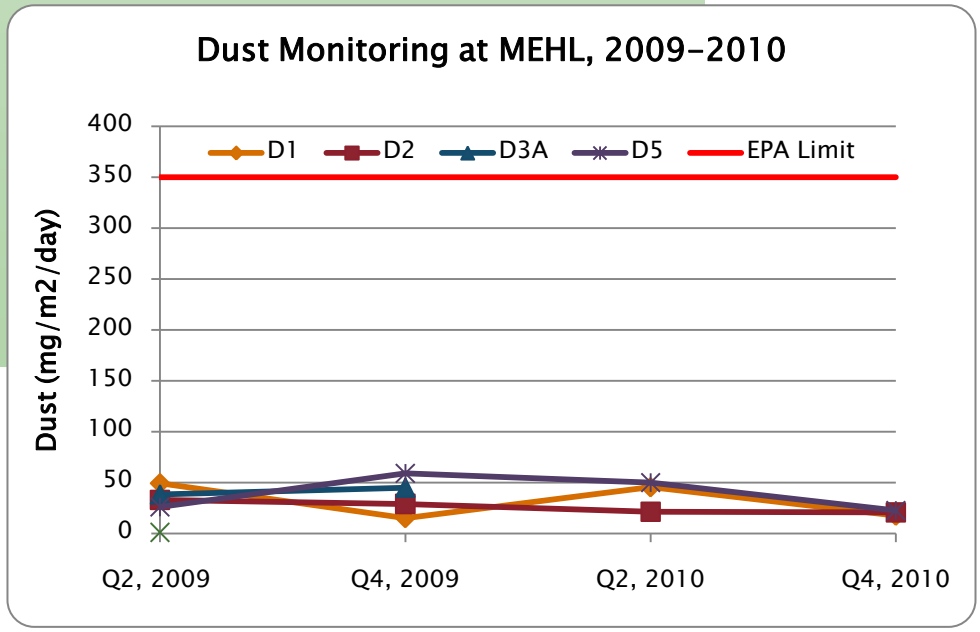
MEHL is required to monitor dust levels at four locations (D1, D2, D3a and D5) biannually under the terms of W0129-02. Dust emission limits are set in Schedule B.5 of the licence.

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, 2010

Two dust monitoring rounds were conducted at the Hollywood site during 2010. Dust management techniques such as dampening of roads and hardstand areas using the water bowser, sprinklers, wheelwash and roadsweeper are used by MEHL on an ongoing basis to manage and minimise dust levels.

Dust monitoring results were significantly below the licence limit for dust during both monitoring rounds in 2010, i.e. the **compliance rate for dust monitoring was 100% in 2010.**



Noise Monitoring

MEHL must monitor noise levels at 5 locations (N4, N5, N6, N7 and N8) once per annum. Noise emission limits are set in the licence (Schedule B.4). Noise is monitored using a specialist noise meter.

Noise Monitoring Results 2010

The annual noise survey was conducted on the 19th–20th May 2010. 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 the majority of monitoring points; however the dominant noise source at all locations was road traffic along the local road network.

The MEHL 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 MEHL facility is **in compliance with the noise limits** contained within Schedule B of its Waste Licence.

Noise Monitoring at Hollywood, 2010

		Daytime Noise LA_{EQ} dB(A)		Night-time Noise LA_{EQ} dB(A)	
Location		**Result**	**EPA Limit**	**Result**	**EPA Limit**
N4	located along road; north of the facility	52	**55**	45	**45**
N5	located along road; west of the facility	58	**55**	52	**45**
N6	located along road; south-east of the facility	55	**55**	43	**45**
N7	located along the local road; beyond southern boundary of the site	57	**55**	42	**45**
N8	located along the local road; beyond the southern boundary of the site	62	**55**	48	**45**

Surface Water Monitoring

Surface water monitoring was carried out during Quarters 2 and 4, 2010 at SW-1 (upstream) and SW-2 (downstream). In addition, surface water discharge was monitored at seven points (SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7), whenever these points were operational.

SW-1 and SW-2 were in full compliance relative to Salmonid Water Regulations for 2010 monitoring.

There was one exceedance of the relevant limit value for surface water discharge monitoring, i.e. sulphate exceeded the Surface Water Regulations limit (200 mg/l) in SWD-6 (289.19 mg/l) in Quarter 2, 2010. There has been no previous incident relating to Sulphate at SWD-6. Sulphates exist in nearly all natural waters.

Groundwater Monitoring

MEHL monitors groundwater at 10 locations (BH4, BH5, BH6, BH8, BH9, BH10A, BH11A, BH12, BH13 and BH14) on a quarterly basis, in accordance with the Waste Licence.

Groundwater monitoring includes measuring the depth of groundwater, plus taking a sample of water from the borehole for analysis of prescribed parameters. The water level in each borehole is recorded using a 'dip meter'. A water sample is extracted by using an inertial pump, which feeds a column of water upwards through a length of sampling tubing, or by using a water bailer.

Groundwater Monitoring Results, 2010

Groundwater monitoring was conducted during Quarters 1, 2, 3 and 4 of 2010. Results were compared against EU Drinking Water Regulations.

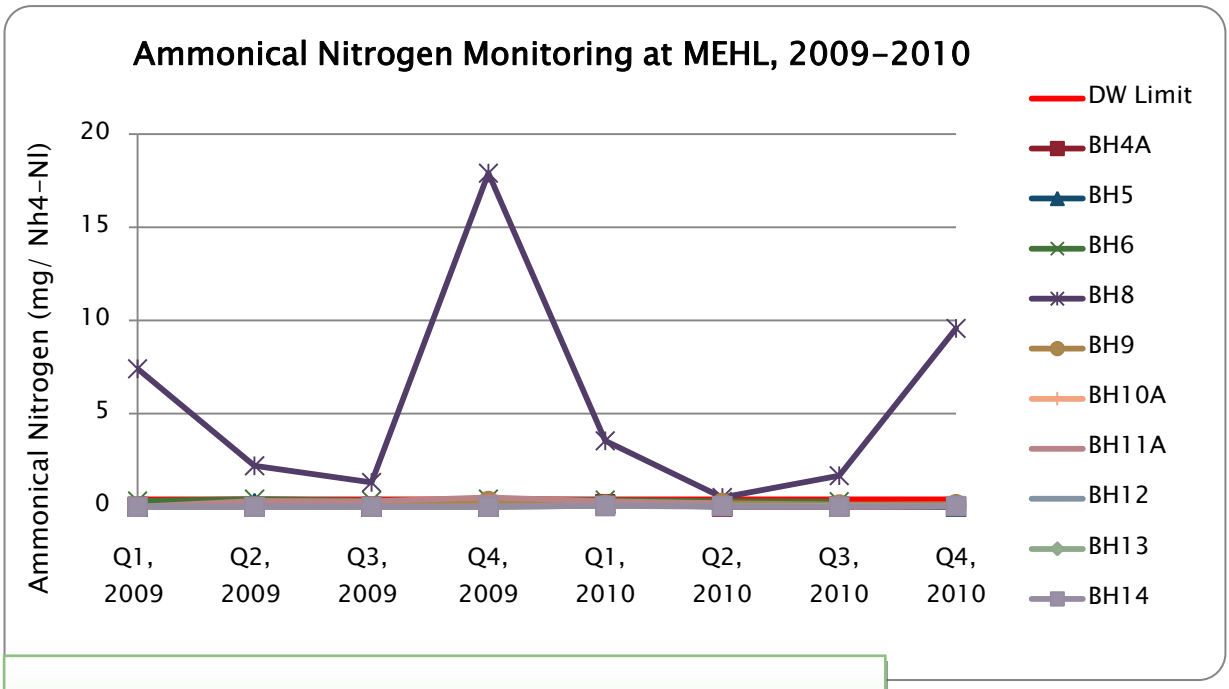
During 2010, a total of over 900 individual analytical tests were conducted on groundwater samples.

The following table provides an indication of the overall level of compliance for parameters measured quarterly during 2010, at all 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, MEHL must report this as an 'incident' to the EPA.

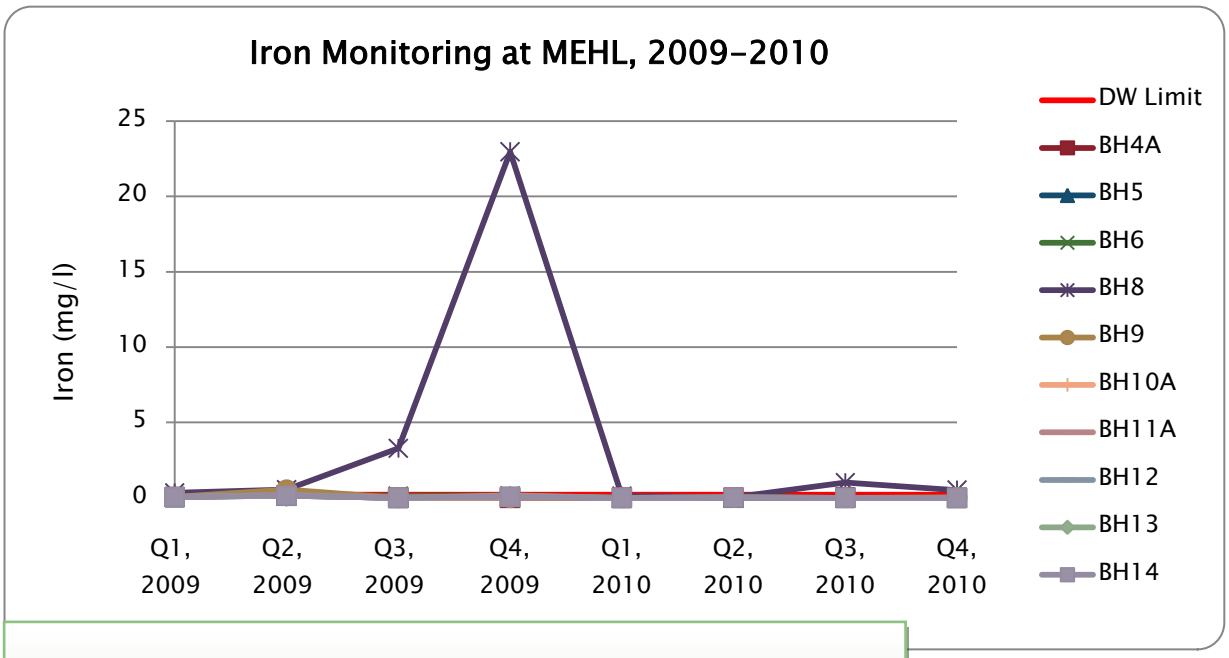
The overall 2010 compliance rate for quarterly monitoring parameters in groundwater boreholes was 98% (compared against limits prescribed in the Drinking Water Directive 98/83/EC).

Groundwater – Compliance with Quarterly Monitoring Requirements 2010

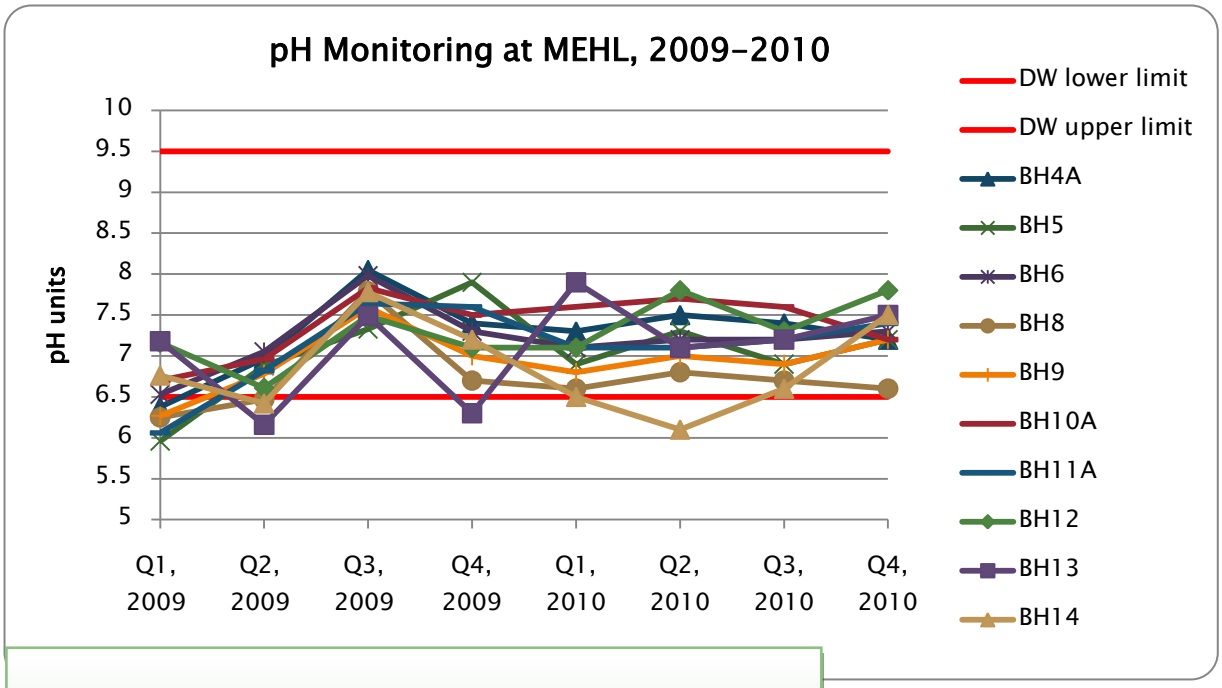
Quarterly Groundwater Parameter	Total No. of tests	2010 Results vs. Drinking Water Limit Values		% Compliance
		Compliant	Breached	
Ammoniacal Nitrogen	42	38	4	90%
Calcium	42	42	0	100%
Chloride	42	42	0	100%
Dissolved Oxygen	41	41	0	100%
Electrical Conductivity	41	41	0	100%
Iron	42	40	2	95%
pH	42	41	1	98%
Phenols	40	40	0	100%
Potassium	42	42	0	100%
Sodium	42	42	0	100%
Sulphate	42	38	4	90%
Temperature	39	39	0	100%
Total Organic Carbon	42	42	0	100%
Total Oxidised Nitrogen	42	42	0	100%



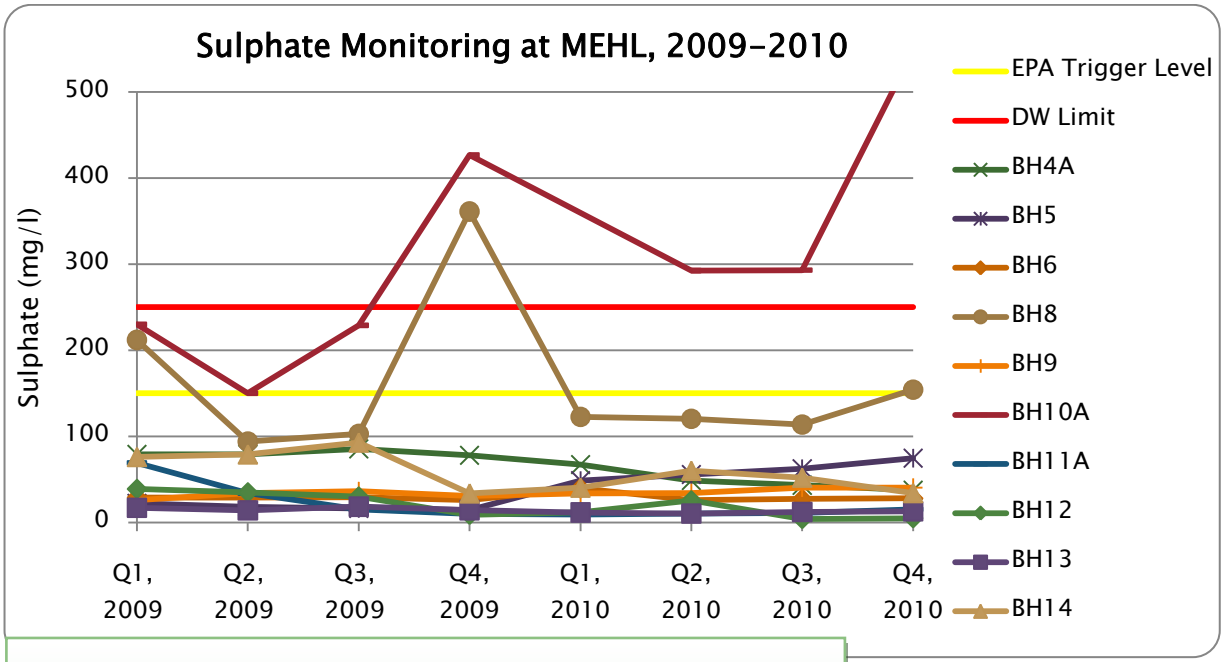
The 2010 compliance rate for Ammoniacal Nitrogen was **90%** (compared against Drinking Water Regulation limits)



The 2010 compliance rate for Iron was **95%** (compared against Drinking Water Regulation limits)



The 2010 compliance rate for ph was **98%** (compared against Drinking Water Regulation limits)



The 2010 compliance rate for Sulphate was **90%** (compared against Drinking Water Regulation limits)

Ammoniacal Nitrogen

Ammoniacal Nitrogen marginally exceeded guideline limits in BH-6 and BH-11A during 2010. BH-8 showed (periodically) levels significantly in excess of limit values during the year. BH-8 exhibited some anomalous results and the integrity of this borehole has been called into question. The presence of Ammoniacal Nitrogen is thought to have been associated with agricultural or sewage sources in the vicinity of the site. This trend was observed in monitoring results for previous years also. There is no indication that the operation of the facility is increasing the ammoniacal nitrogen concentration locally.

Iron

Iron is present in significant amounts in soil and rocks. High iron levels mean that water will be brown in colour, prone to black scale and will taste unpleasant. The bedrock geology of the area is thought to contribute to elevated levels of metals, such as iron and manganese. Iron levels were elevated in BH-8 and BH-11A during 2010. Sample results for BH-8 have routinely been inconsistent and incompatible when compared with other monitoring locations on site. Results from this borehole are not deemed to be representative of site conditions or groundwater characteristics.

pH

pH levels complied with Drinking Water Regulation values in all instances in 2010, with the exception of a relatively low pH reading in BH-14 in Quarter 2, 2010.

Sulphate

Sulphate was detected at levels above Drinking Water Regulation limits in BH-10A during 2010.

Total & Faecal Coliforms

Microbiological monitoring of the groundwater is required annually; this was carried out at the site during Q1, 2010. Faecal coliforms were found at levels above Drinking Water Regulation limits in BH-8 and BH-14. High faecal coliform results are thought to be associated with agricultural or sewage sources. Coliforms are not generally an indicator of landfill runoff.

Coliform Analysis in Groundwater Boreholes, 2009-2010

Bore-hole Ref.	Faecal Coliforms (cfus/100ml)			Total Coliforms (cfus/100ml)		
	Q1, 2009	Q1, 2010	DW Limit	Q1, 2009	Q1, 2010	DW Limit
BH-4A	<1	0	0	14	<1	0
BH-5	<1	0	0	2	20	0
BH-6	<1	0	0	4	6	0
BH-8	26	300	0	1600	630	0
BH-9	<1	0	0	100	12	0
BH-10A	<1	-	0	<1	-	0
BH-11A	<1	0	0	123	3	0
BH-12	<1	0	0	27	<1	0
BH-13	<1	0	0	3	<1	0
BH-14	2	1	0	26	50	0

Other Groundwater Monitoring Non-Compliances

There were non-compliances reported to the Agency for Total Chromium in BH-8 during Q1, 2010; the EPA trigger limit for Sulphate was exceeded in BH-8 during Q4, 2010, and for Conductivity in BH-10A during Q4, 2010.

Leachate Monitoring

Leachate is formed when water passes through waste in a landfill cell. Leachate monitoring is required biannually at the site. Leachate analytical results were consistent with previous sampling rounds showing levels of sulphate, chloride, conductivity, Chemical Oxygen Demand and ammoniacal nitrogen in exceedence of the Class 3 Surface Water Limits.

Estimated Indirect Emissions to Groundwater

Groundwater emissions during 2010 are estimated to be negligible due to the very low permeability of the landfill cell liner.

Energy & Resource Use

MEHL's energy provider is Airtricity, one of Ireland's green renewable energy providers – their power is sourced from wind-farms and from certified hydro-power stations.

Electricity Use 2010

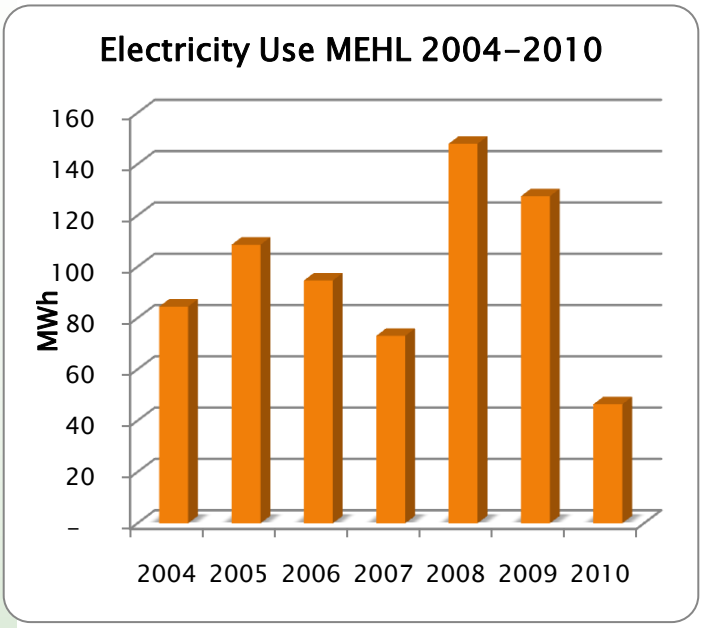
Based on electricity bills, the energy consumption at MEHL for 2010 was 46,400 kWh.

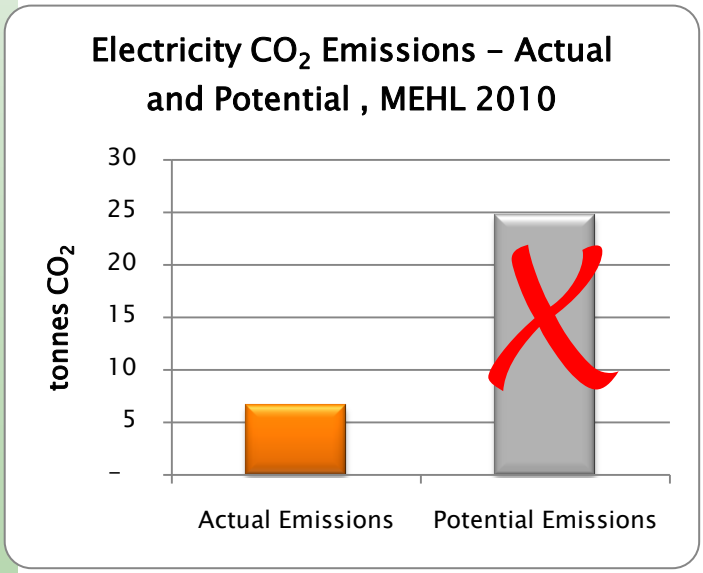
Electricity-related Carbon Emissions, 2010

Airtricity data from 2010 states that 69% of its energy is sourced from renewable sources, as opposed to 11% for other providers, on an all island basis. Electricity generated by Airtricity produces 142 kg CO_2 per MWh, as opposed to an average for Ireland of 533 kg (Source: Airtricity).

The chart shows the actual CO_2 emissions based on electricity use at Hollywood in 2010, and potential emissions, based on average CO_2 emissions from electricity generation in Ireland.

Based on 2010 consumption rates, CO_2 emissions associated with MEHL electricity usage was 7 tonnes.





In 2010, MEHL avoided the release of over 18 tonnes of CO_2 emissions to the atmosphere by using a renewable energy provider – this is the equivalent of taking approximately 7 cars off the road for a year[1].

Diesel

During 2010, a total of 3,509 litres of road diesel and 13,079 litres of green diesel were used by plant associated with activities at MEHL

Water

Water usage at MEHL during 2010 was 2,287m^3.

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 quantity of waste removed during 2010 is detailed in the table below.

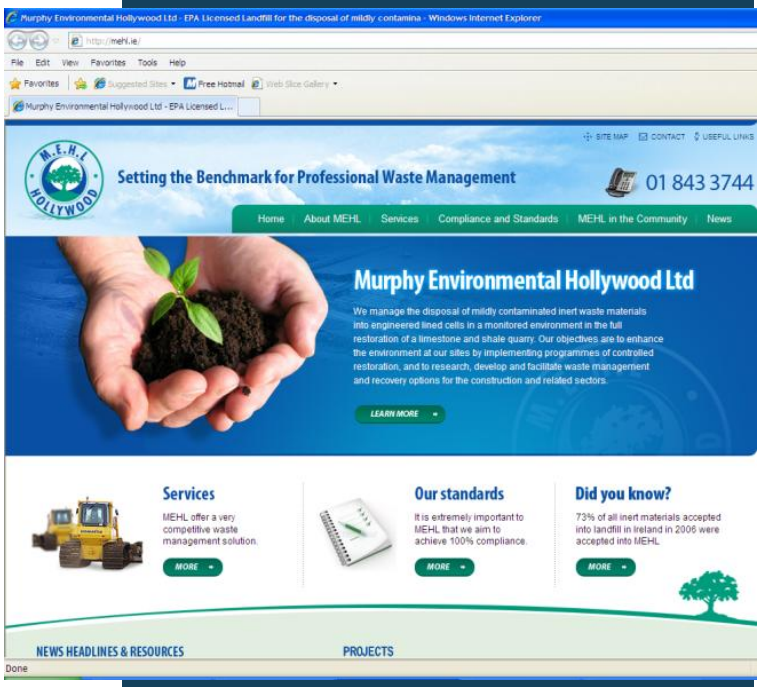
Off-site Waste Removal, 2010

Waste Removed Off Site	Approx. Weight (tonnes)
Mixed Waste (disposal)	0.71
Mixed Packaging (100% recycled)	0.34
Total	**1.05**

[1] Based on the average Irish car releasing 164g CO_2/km (SEI, July 2008) and an average mileage of 16,894 km/annum (SEI, August 2005), i.e. total annual CO_2 emissions of approximately 2.8 tonnes

5.

MEHL & The Community



Corporate Policies

MEHL has documented and published policies relating to Environment and Health & Safety, which are available to download from our website. The policies have also been translated into Russian and Polish.

www.mehl.ie

We make our monitoring results, annual reports, company news and licence information available at our website, www.mehl.ie.

Public Commitments

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

- The company website
- Annual Environmental Reports
- 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, all of which is on the public record.

Avoiding Nuisance

MEHL has invested in a number of pieces of equipment in order to better manage potential environmental issues associated with our facility. 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 as causing a nuisance to site neighbours.

Complaints

MEHL logs all complaints or comments relating to the site which may be received directly by them, by the EPA or other parties. During 2010, one complaint and one concern were raised by two of our neighbours – both related to a well survey at their homes conducted on behalf of MEHL as part of proposals for an integrated waste management facility. The Facility Manager addressed matters via direct communication with the complainants.

Environmental Incidents

Any incident that occurs on site must be reported to the EPA in accordance with the licence conditions. An incident is defined 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

Four incident reports were submitted to the EPA for 2010: all related to routine quarterly water monitoring (further discussed in the Monitoring & Measurement section).

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 MEHL/Murphy Environmental in relation to the promotion of environmental issues:

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

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

6. 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, including the waste management sector.

EPA Requirements

MEHL has completed the EPA PRTR 2010 template, which is attached to this AER. The PRTR is also transferred electronically via the EPA website.

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; 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)

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.12

REFERENCE YEAR	2010

1. FACILITY IDENTIFICATION

Parent Company Name	Murphy Environmental Hollywood Ltd.
Facility Name	Murphy Environmental Hollywood Limited
PRTR Identification Number	W0129
Licence Number	W0129-02

Waste or IPPC Classes of Activity

No.	class_name
3.5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.
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.
Address 1	Hollywood Great
Address 2	Nags Head
Address 3	The Naul
Address 4	County Dublin
Country	Ireland
Coordinates of Location	-9.09708 52.6126
River Basin District	IEGBNISH
NACE Code	3900
Main Economic Activity	Remediation activities and other waste management services
AER Returns Contact Name	Ken Rooney
AER Returns Contact Email Address	ken_rooney@murphyenvironmental.ie
AER Returns Contact Position	Facility Manager
AER Returns Contact Telephone Number	01-8433744
AER Returns Contact Mobile Phone Number	087-9824322
AER Returns Contact Fax Number	01-8433747
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(d)	Landfills
5(d) 50.1	Landfills General

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

Is it applicable?	No
Have you been granted an exemption ?	No
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

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

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

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Murphy Environmental Hollywood Limited

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

4.2 RELEASES TO WATERS

Link to previous years emissions data

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 onl

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

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

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

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

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

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

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

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

SECTION A : PRTR POLLUTANTS

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	10 01 01	No	309.0	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		
Within the Country	15 01 07	No	22.0	glass packaging	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		
Within the Country	17 01 01	No	78.66	concrete	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		
Within the Country	17 02 02	No	66.8	glass	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		
Within the Country	17 05 04	No	27990.77	soil and stones other than those mentioned in 17 05 03	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		
Within the Country	17 05 06	No	1577.92	dredging spoil other than those mentioned 17 05 05	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		
Within the Country	17 06 04	No	19.86	insulation materials other than those mentioned in 17 06 01 and 17 06 03	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		
Within the Country	17 09 04	No	103.28	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		
Within the Country	19 09 02	No	129.2	sludges from water clarification	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		
Within the Country	19 12 05	No	328.22	glass	D5	M	Weighed	Onsite in Ireland	MEHL,W0129-02	Hollywood Great,Nag's Head,Naul,Co. Dublin,Ireland		

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

Link to previous years waste data
Link to previous years waste summary data & percentage change

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FURTHER INFORMATION

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