APPENDIX 4-3

ANNUAL ENVIRONMENTAL REPORTS

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Annual Environmental Report

March 2001

Contents

1 Introduction

1.1 Company Details

Name:	**Bord na Mona Energy Limited.**
Address:	**Derrygreenagh Group** **Derrygreenagh Works** **Rochfortbridge** **Mullingar** **Co Westmeath.**
Telephone No:	**044 / 22181** Fax No: **044 / 22344**
Contact Name:	**Finn Campbell**
Position:	**General Manager.**
National Grid Reference:	**E249450 N238140**

1.2 Activities

The Derrygreenagh Group consists of the Derrygreenagh and Ballivor Groups and Rossan Bog.
The Derrygreenagh group of bogs is located in North Offaly and Southeast Westmeath. The Derrygreenagh group comprises of 3664 acquired hectares, of which there are 1300 nett production hectares. The main catchment of these areas is the River Boyne.

The Ballivor group is made up of the bogs in the Ballivor, Carranstown, Bracklin and Lisclogher areas. There is a total of 283 hectares in production and each of these areas are linked by peatland railway to the Bord na Mona horticultural factory, situated between Ballivor and Raharney villages. Drainage from these bogs is to the Deel and Stonyford rivers, tributaries of the Boyne.

Rossan bog is situated one mile from Kinnegad village. There are currently 142 hectares in milled moss production. This bog drains to the Kinnegad River, a tributary of the River Boyne.

The Derrygreenagh Group currently employs 96 permanent and 31 seasonal workers. Transport operations are carried out on a seven day cycle throughout the year. Production operations are typically carried out over a seven day week (weather permitting) for 12 to 15 hours per day.

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:

- Milling.
- Harrowing.
- Ridging.
- Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways to one of the following locations.

- Power station (ESB)
- Briquette Factory.
- Horticultural Factory.

1.3 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Irelands peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its buisness in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

- Discharges to water.
- Emissions to atmosphere.
- Waste disposal.
- Use of natural resources.
- Noise, vibration, odour, dust and visual effects.
- Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

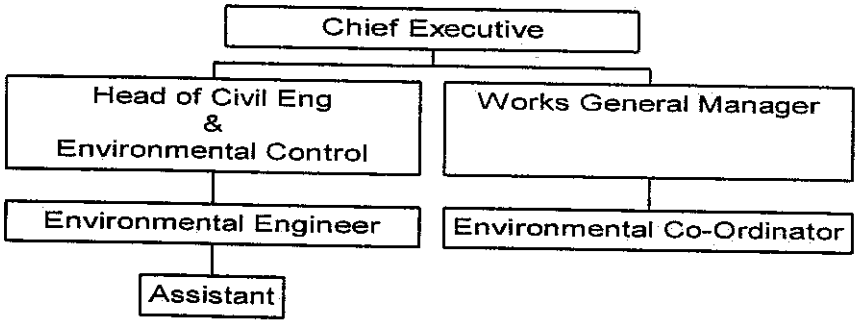
Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its contents are brought to the attention of all employees.

1.4 Environmental Management of the Company

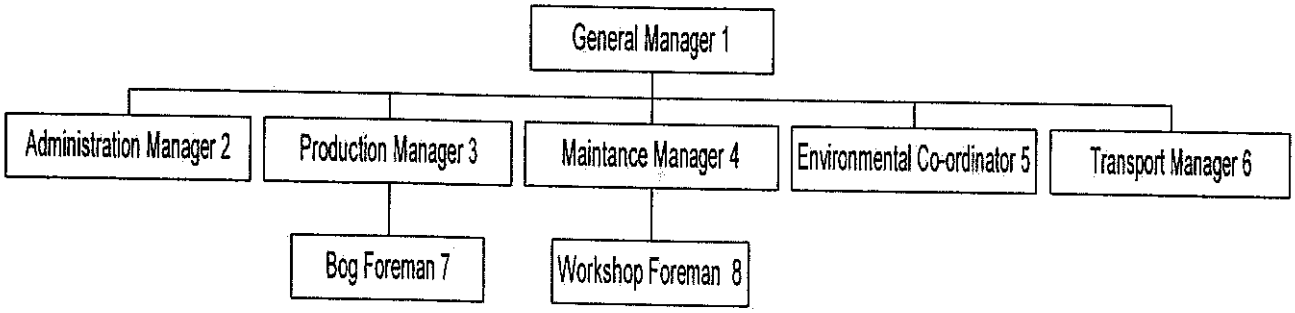
The organisational structure within Bord na Mona and the Derrygreenagh Group is presented in the flow charts below.

Environmental Responsibilities



Derrygreenagh Group

Environmental Responsibilities



(1) Overall environmental responsibilities
(2) Records of complaints and registers
(3) All production related issues
(4) Machine maintenance
(5) Co-ordinating environmental affairs
(6) All peat transportation matters
(7) Silt pond maintenance, tea centres codes of practice
(8) Fuel loading, oil traps, weekly workshop inspections.

2 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

The attached tables are a summary of the emissions to surface waters from within the Derrygreenagh Group. As the emission sampling point proposal, was not required to be submitted, until six months after our IPC licence was issued, only one round of sample results, covering Sep/Oct/Nov could be submitted with the AER. Therefore the results in the table are the actual results as opposed to an average.

As part of the silt pond upgrade programme a number of the sampling points have been improved over the past months. These improvements include the enlargement of ponds where required and the installation of piped outlets, to accommodate the measurement of flow. A copy of a silt pond inspection form is attached in **Appendix 4**

Bord na Mona Group : Derrygreenagh
IPC Licence No.: 501
Emissions to water summary

Location: SW1.
Sept/Oct/Nov (Final Quarter 2000)

Parameter	Average Emission (mg/l)	Emission Limit Value (ELV) (mg/l)
pH units	7.5	
Flow (L/sec)	0.4 (L/S)	
Suspended Solids (mg/l)	< 5	35mg/l
Total Solids (mg/l)		
Total Phosphorus (mg/l)	<0.05	
Ammonia (mg/l)	3.2	
Colour (Pt Co units)	88	
COD (mg/l)	56	

Location: SW6.
Sept/Oct/Nov (Final Quarter 2000)

Parameter	Average Emission (mg/l)	Emission Limit Value (ELV) (mg/l)
pH units	7.6	
Flow (L/sec)	31.1 (L/S)	
Suspended Solids (mg/l)	6	35mg/l
Total Solids (mg/l)		
Total Phosphorus (mg/l)	<0.05	
Ammonia (mg/l)	<0.2	
Colour (Pt Co units)	60	
COD (mg/l)	42	

Location : SW14.
Sept/Oct/Nov (Final Quarter 2000)

Parameter	Average Emission (mg/l)	Emission Limit Value (ELV) (mg/l)
pH units	7	
Flow (L/sec)	5.2 (L/S)	
Suspended Solids (mg/l)	<5	35mg/l
Total Solids (mg/l)		
Total Phosphorus (mg/l)	<0.05	
Ammonia (mg/l)	2.5	
Colour (Pt Co units)	249	
COD (mg/l)	66	

Location : SW30.
Sept/Oct/Nov (Final Quarter 2000)

Parameter	Average Emission (mg/l)	Emission Limit Value (ELV) (mg/l)
pH units	7.3	
Flow (L/sec)	No Flow	
Suspended Solids (mg/l)	<5	35mg/l
Total Solids (mg/l)		
Total Phosphorus (mg/l)	0.08	
Ammonia (mg/l)	2.1	
Colour (Pt Co units)	176	
COD (mg/l)	69	

Location : SW32.
Sept/Oct/Nov (Final Quarter 2000)

Parameter	Average Emission (mg/l)	Emission Limit Value (ELV) (mg/l)
pH units	7.1	
Flow (L/sec)	No Flow	
Suspended Solids (mg/l)	15	35mg/l
Total Solids (mg/l)		
Total Phosphorus (mg/l)	0.19	
Ammonia (mg/l)	2	
Colour (Pt Co units)	278	
COD (mg/l)	95	

Location : SW43.
Sept/Oct/Nov (Final Quarter 2000)

Parameter	Average Emission (mg/l)	Emission Limit Value (ELV) (mg/l)
pH units	7.3	
Flow (L/sec)	.7 (L/S)	
Suspended Solids (mg/l)	<5	35mg/l
Total Solids (mg/l)		
Total Phosphorus (mg/l)	<0.05	
Ammonia (mg/l)	2.6	
Colour (Pt Co units)	312	
COD (mg/l)	117	

* Total solids to be included in future results.

2.1.2 Surface Water Discharge Monitoring Location Programme Review

The surface water discharge monitoring location programme remains the same as was submitted and accepted by the Agency in June 2000.
Pipes have been fitted at each location in order to accommodate flow metres and the provision of safe access is also ongoing.
Emission point signs have been designed for these sampling points and are being put in place.

Monitoring May to December 2000

Emission Pt.	Parameter	Emission Mg/l	Emission Limit Value (ELV) Mg/l for 75% of grab samples.	% Compliance
Sw no.1	**Suspended Solids**	< 5	35mg/l	100%
Sw no.6	**Suspended Solids**	6	35mg/l	100%
Sw no.14	**Suspended Solids**	< 5	35mg/l	100%
Sw no.30	**Suspended Solids**	< 5	35mg/l	100%
Sw no.32	**Suspended Solids**	15	35mg/l	100%
Sw no.43	**Suspended Solids**	< 5	35mg/l	100%

2.1.3 Yard Run-off

The attached tables are a summary of the emissions to surface waters from yards and workshops within the Derrygreenagh Group. This summary is the average of the results submitted, covering the periods June/July/August and Sept/Oct/Nov 2000.

At present work is on going on the rationalisation of yard run off at the various workshops, in order to ensure that all run off be diverted through a properly designed oil trap as per condition 9.1.8.

Some of this work is being carried out in conjunction with the construction of adequate bunding at the various locations.

Emission point signs have been designed for these sampling points and are being put in place. A copy of workshop/yard inspection form has been attached in **Appendix 5**

Bord na Mona Group : Derrygreenagh
IPC Licence No.: 501
Emissions to water summary yards/workshops

Location:Derrygreenagh SWE-1.
June - December 2000

Parameter	Average Emission (mg/l)	Emission Limit Value (ELV) (mg/l)
COD (mg/l)	62	NA

Location:Derrygreenagh SWE-2.
June - December 2000

Parameter	Average Emission (mg/l)	Emission Limit Value (ELV) (mg/l)
COD (mg/l)	49	NA

2.1.4 Composite Sampler Programme

A composite sampler location proposal has been submitted to the Agency and accepted verbally. This acceptance occurred after december 2000 therefore no results are available for submission in this AER. However results will appear in next years AER in tabular form.
Work on the installation of the sampler is underway and monitoring will commence in the near future.

Selection of sampling programme.

Our proposal is based around the provision of equipment , which would require going to each site once a week rather than daily.

The equipment would have the following features:

a) Multi-bottled. We propose that the sampler would have 8 x 2 litre bottles. (This will allow for a full weeks sampling to be carried out, where upon each bottle would represent exactly 24 hours flow. These samples would be taken flow proportional over this 24 hour period.

b) **Portable and battery operated.**

No permanent power source available

c) **Built in data logger.**

This will store the flow and sampling data for each week, which could be downloaded when the samples are being collected.

Our proposal is as follows:

For sampling we propose the Isco 6700 8 x 2 litre composite sampler which is set up at the proposed site and would collect a full week of flow proportional 24 hour samples. The sampler is powered by a deep discharge marine lead acid battery.

For flow measurement, we propose that a concrete pipe be installed at the end of the silt pond. The flow would then be measured by the Isco 710 Ultrasonic Flow Module, which plugs into the sampler. Flow data is stored on the sampler and can be accessed using the Isco 581 Manual transfer device.

The operator would thus have a weekly requirement to arrive at each site with a 2nd newly charged battery which he would exchange, the 581 RTD to down load the flow data and 7 collection bottles to take the samples and restart the sampler.

The most recent 24hour sample of the 7 should be considered for any specific parameter that may be required to be analysed within 24 hrs.

The parameters to be analysed below are in accordance with Schedule 1(ii) Monitoring of Emissions to Water:

Parameter	Monitoring Frequency	Location of analysis
pH units	Weekly	On-site
Flow L/sec	Daily	On-site
Suspended Solids mg/l	Daily	Laboratory
Total Solids mg/l	Daily	Laboratory
Total Phosphorus mg/l	Weekly	Laboratory
Ammonia mg/l	Weekly	Laboratory
Colour Hazen units	Weekly	Laboratory
COD mg/l	Weekly	Laboratory

2.1.5 Bunding Programme

At present tenders are out for the provision of adequate bunding at our oil/diesel storage facilities. The successful contractor will be expected to commence the work by the beginning of March 2001.
A number of locations have been identified for the construction of bunds, some at existing storage/loading facilities and some at completely new locations.

A new bund will be constructed at Derrygreenagh.
Incorporated into this work will be the construction of a fill area, which will satisfy condition 9.1.7 of the Derrygreenagh Licence.
The bund size will satisfy condition 9.1.4

Testing of this bund will be carried out as per condition 9.1.6 and the results of this testing will be reported on as part of next years AER.

2.2Emissions to Air

2.2.1 Dust Monitoring Locations Programme
Approval for the dust sensitive locations was not received until after production finished in 2000 therefore no results can be reported on in this AER.

In order to comply with Condition 5.4 of the licence in relation to Dust Sensitive Locations the following sampling method are proposed to be adopted for the 2001 production season.

Methodology
Dust monitoring will be conducted using the Bergerhoff method as referred to in the TA-Luft guidelines (VDI-guidelines 2119/Part 2). The input of the atmospheric material will be determined over a planned period of measurement, probably one month, by exposing the collection pots. The sample is then evaporated down and the dry residue is determined gravimetrically, the result being reported in mg/m2/d.

In addition to this a control sampler will be set up in a location free from the influence of peat production in order to establish the background levels.

The apparatus consists of a plastic collecting pot and a post with a protective basket, set at 1500mm above the ground level in accordance with the guidelines set out in the VDI 2119/Part 2.

Measurement, collection and determination will be carried out in accordance with the guidelines in an ILAB accredited laboratory. The environmental co-ordinator will change the sample pots or an employee nominated by him/her. The samples will be sent to the laboratory under a strict chain of custody and the results will be reported on each year as part of the AER
In addition to this, Bord na Mona have adopted the following codes of practice in relation to dust.

Dust Control

- Identify and record sensitive areas.
- Plant shelter belts in sensitive areas.
- Avoid harvesting in sensitive areas during windy weather.
- Use grassed passways for machinery.
- Keep headlands clean-remove loose peat.
- Slow down when travelling along dusty headlands.
- When harvesting keep jib low on stockpile.
- Roll final harvest on uncovered stockpiles
- Plant shelter belts around outloading facilities.
- Clean road crossings after use.

2.2.2 Boiler Combustion Efficiency

The boiler at Derrygreenagh works was tested in April 1999 as part of the original application. Derrygreenagh didn't receive its licence until April 2000 therefore under condition 5.1 of the licence, testing will be required during 2001 and the results will be submitted in next years AER.

The results of the boiler efficiency test are attached in **Appendix 7.**

Boiler Details
Twin Danstoker solid fuel units each rated at 725KW, fuelled by loose briquettes. Operating from Oct-Mar approximately.

2.3Waste Arisings

2.3.1 Hazardous Waste

Derrygreenagh being a central location, is used as a collection point for all hazardous wastes eminating from all the areas in both the Allen and Derrygreenagh Groups. All waste oils, filters, spent batteries, etc are collected centrally at Derrygreenagh before being removed by a licenced waste contractor such as Atlas Waste Oil, Hammond Lane, Returnabatt, etc.

A system is in place where by every area has its own waste oil and filter barrel. These barrels are painted yellow to distinguish them from ordinary barrels and are clearly marked waste filters or waste oil.

When the barrels are getting near full, the area team leader informs our Derrygreenagh stores and a truck is dispatched to collect the full barrels and replace them with empties. Any spent batteries will also be collected if the need arises.
The following table is a record of all the hazardous wastes handled by the Derrygreenagh Group from May-December 2000

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Waste Management Record (Hazardous)

Group : Derrygreenagh IPC Licence no. : 501

Works : Derrygreenagh

WASTE DESCRIPTION	EWC CODE	TONNES	NAME OF CONTRACTOR	NAME OF PERSON ULTIMATELY RESPONSIBLE	DESTINATION	DATE
Waste Oil	130200	0.2	Atlas Waste Oil	Atlas Waste Oil	Portlaoise Co Laois	18/05/00
Waste Oil	130200	3	Atlas Waste Oil	Atlas Waste Oil	Portlaoise Co Laois	01/06/00
Waste Oil	130200	2.75	Atlas Waste Oil	Atlas Waste Oil	Portlaoise Co Laois	04/07/00
Fuel/Oil Filters	130601	1.3	Atlas Waste Oil	Atlas Waste Oil	Portlaoise Co Laois	18/05/00
Fuel/Oil Filters	130601	0.39	Atlas Waste Oil	Atlas Waste Oil	Portlaoise Co Laois	20/06/00
Contaminated Earth	050105	0.4	Atlas Waste Oil	Atlas Waste Oil	Portlaoise Co Laois	18/05/00
Empty Oil Barrels	130601	0.918	Dempsey Drums	Dempsey Drums	North Wall Dublin	17/05/00
Empty Oil Barrels	130601	0.9	Dempsey Drums	Dempsey Drums	North Wall Dublin	30/05/00

DETAILS OF ANY REJECTED CONSIGNMENTS						
None to date						

2.3.2 Non-Hazardous Waste

The following table is a summary of the Non-Hazardous wastes produced on site, from the period May-December 2000.

Of the total amount of waste produced and collected from the Derrygreenagh works, 92% was atributted to silt pond waste, 6% eminated from the Works itself and the remaining 2% came from the various tea centres.

Silt pond cleanings are anhydrous (2% solid matter) and their weight is calculated accordingly (tonnes dry weight). This will explain the great difference in the tonnage's between 1998 and May-Dec 2000 on the summary data tables. As the 98 figures were calculated on the actual pond volumes.

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Waste Management Record (Non-Hazardous)

Group : Derrygreenagh **IPC Licence no. : 501**

Works : Derrygreenagh

WASTE DESCRIPTION	*EWC CODE*	*TONNES*	*NAME OF CONTRACTOR*	*NAME OF PERSON ULTIMATELY RESPONSIBLE*	*DESTINATION*	*DATE*
Septic Tank Sludge	200304	6	Pat Hinch Plant Hire	Pat Hinch Plant Hire	Tullamore Landfill	29/06/00
Scrap Metal	16/01/04	25	Hammond Lane	Hammond Lane	Athlone, Westmeath	May-Dec
Canteen Waste	200301	4	Midland Refuse Ltd	Midland Refuse Ltd	Tullamore Landfill	May-Dec
General Waste	200301	6	Rentabin Tullamore	Rentabin Tullamore	Tullamore Landfill	May-Dec
Silt Pond Waste	010102	947*				May-Dec
Tea Centre Waste	200301	1	Midland Refuse Ltd	Midland Refuse Ltd	Tullamore Landfill	May-Dec

*: The figures for silt pond waste are tonnes dry weight

2.4 Energy and Water Consumption

The table below is a summary of the energy consumption for the Derrygreenagh Group, from the dates May – Decemder 2000.

Water is not included, as it is not used as part of the production process. It is only used in offices, canteens and workshops on a domestic scale.

Bord na Mona Group : Derrygreenagh
IPC Licence No.: 501
Energy Consumption Summary

Fuel May - Dec 2000	Volume	Tonnes	MW/Hours
Diesel	624m3	518	6117
Petrol	1.26m3	0.956	11.45
Electricity	NA	NA	636
Peat Briquettes	NA	79.4	397

2.5 Environmental Incidents and Complaints

There was one incident within the Derrygreenagh Group, which occurred in December 2000. Although only a minor incident, the Agency was informed.

Environmental Incidents	Number of Incidents
Incidents	1
Incidents requiring corrective action	1
Categories of Incident	
Odour	
Noise	
Water	1
Air	
Procedural	
Miscellaneous	

There were two complaints within the Derrygreenagh Group, both were received in July 2000. The Agency was informed.

Environmental Complaints	Number of complaints
Complaints received	2
Complaints requiring corrective action	2
Categories of complaint	
Odour	
Noise	
Water	
Air	2
Procedural	
Miscellaneous	

A copy of a complaint form is attached in **Appendix3**

2.6 De-Silting Report
Summary Data Table of Ponds De-Silted From May-December 2000

Bog	No Silt Ponds	Cleaned Once	Cleaned Twice	Cleaned Three Times	Notes
Ballivor	7	4			
Carranstown	5	3			
Bracklin West	6	2		4	
Lisclogher	7				*
Kinnegad	8	1	3	2	
D/Arkin	2				**
D/Hinch	4	4			
Drumman	5	2			
Ballybeg	6	5			
Toar	6	5			

*: Bog still under development, no production.
**: Bog cut out, no production at this Bog.

% Ponds Cleaned May-Dec 2000

% Ponds Not Cleaned	% Ponds Cleaned Once	% Ponds Cleaned Twice	% Ponds Cleaned Thrice
38%	46%	5.3%	10.7%

The reason why some of the silt ponds listed above have been cleaned up to four times, is that if the cleaning machine is passing a pond on its way to clean a full pond, the operative will clean it, no matter if it is only one quarter full.

Special long reach machines are primarily used in the cleaning of the ponds, although more conventional machines that have been working on the silt pond up-grade programme are also being used to clean ponds. This is another reason why some ponds have been cleaned more frequently between May-Dec 2000.

Fortnightly Silt Pond inspections are also on going and a cleaning roster is being established from these inspection records. A copy of a silt pond inspection form is attached in **Appendix 4**
All the inspections forms are on file at the Derrygreenagh office.

2.7 Silt pond Up-Grade Programme

A silt pond up-grade programme has been submitted and accepted by the Agency.
A copy of this programme is attached in **Appendix 2.**
This programme has been ongoing from receipt of licence and some ponds have been improved in order to meet condition 6.1 of the Derrygreenagh licence.

The work so far has included the construction of new ponds, the enlargement of ponds where necessary, the installation of controlled inlet and outlet pipes, and the construction of pond by-passes, to accommodate cleaning and flood conditions.
Approximately 5000 cubic metres of material have already been excavated in the progress of these works.
Further to this, operatives cleaning ponds have been instructed to deepen the ponds if possible in order to increase the volume.
The work began on Drumman and Derryhinch bog, which is almost complete, and is about to move to Toar bog in early March 2001.

The work completed so far has included programme one, and some of stages one and two of programme two, of the silt pond up-grade programme.

2.8 Bog Development and Operational Programme

The bogs in the Derrygreenagh Group are well into their productive lives, therefore there will be no development in the year 2001.
However in the Ballivor Group, Carranstown bog is currently under development, with approximately 120 acres to be developed.
It is proposed to develop initially part of this total for the 2002 production season, with no production planned at the site for 2001.
Expressed as a percentage this equates to 12% of the total number of bogs in the group.

2.9 AER Summary Data Table

Summary Of Emissions		
Company		Bord na Mona Energy Ltd
Address		Derrygreenagh Rochfortbridge Mullingar Co Westmeath.
Contact Name		Finn Campbell
Telephone		044/22181
E-mail		finn.campbell&bnm.ie
GPS Co-ordinates(4N,4E)		E249450 N238140
IPC Register Number		501
IPC Class		1
IPPC Class		
NOSE-P Code		
NACE CODES	Section	C
	Sub Section	A
	Division	
	Group	
	Class	1.4

Emissions to Waters

Indicate with "X" if emissions are to : Freshwater or Sewer or Sea

Parameter	Unit	Licensed emission	1998	1999	2000	2001
Volume	M^3	Not Applicable see 2.1.1				
Suspended Solids	Kg					
BOD	Kg					
COD	Kg					
Total Dissolved Solids	Kg					
Total Nitrogen	Kg					
Phosphate	Kg					
Toxicity	TU					
Hg	Kg					
Cd	Kg					
Pb	Kg					
Cr	Kg					
As	Kg					
Zn	Kg					
Cu	Kg					
Ni	Kg					
% Compliance	%					
Number of samples						

Emissions to air						
Parameter	Unit	Licensed emission	1998	1999	2000	2001
Particulates	Kg	Not Applicable see 2.2.1				
Sox	Kg					
Nox	Kg					
Co2	Kg					
TA Luft Class I	Kg					
TA Luft Class II	Kg					
TA Luft Class III	Kg					
Total Organic (as C)	Kg					
Non-Methane VOC	Kg					
Ammonia	Kg					
Total Heavy Metals	Kg					
% Compliance	%					
Number of samples						

Boiler Emissions to air						
Parameter	Unit	Licensed emission	1998	1999	2000	2001
Dust	Kg	Not Applicable see 2.2.2				
Sox	Kg					
Nox	Kg					
CO2	Kg					
CO	Kg					

Energy Consumption	Unit	Sulphur Content	1998	1999	May-Dec 2000	2001
Heavy Fuel Oil	M^3				NA	
Light Fuel Oil	M^3				625	
Natural Gas	M^3				NA	
Electricity	MW				636	
Coal	Kg				NA	

Environmental Complaints

	1998	1999	2000	2001
Complaints received			2	
Complaints requiring corrective action			2	

Categories of complaint

	1998	1999	2000	2001
Odour				
Noise				
Water				
Air			2	
Procedural				
Miscellaneous				

Water	Unit	1998	1999	2000	2001
On-site groundwater use	m^3			N/A	
On-site surface water use	m^3			N/A	
Municipal water use	m^3			N/A	

Accreditation	
EMAS (Yes/No)	NO
ISO 14000 (Yes/No)	NO
Certification Pending	NO

European Waste Catalogue Code	Hazardous (Yes/No)	Description of Waste	Quantity (Tonnes/year)	Method of Disposal Recovery	Location of Disposal/ Recovery	Name of Waste Disposal Recovery Contractor
160104	NO	Scrap Metal	25	R4	Athlone, Westmeath	Hammond Lane
200304	NO	Septic tank sludge	6	D1	Mullingar Landfill	Pat Hinch Plant
200301	NO	Canteen Waste	4	D1	Tullamore Landfill	Midland Refuse
200301	NO	General Waste	6	D1	Mullingar Landfill	Tullamore Plant Hire
010102	NO	Silt Pond Waste	947*	D4	On site	NA
200301	NO	Tea Centre	1	D1	Tullamore Landfill	Midland Refuse
020104	NO	Polyethelene	71	R13		
130200	Yes	Waste Oil	5.95	R9	Portlaoise Co Laois	Atlas Waste Oil
130601	Yes	Fuel/Oil Filters	1.69	R9,R4	Portlaoise Co Laois	Atlas Waste Oil
050105	Yes	Contaminated Earth	0.4	R3	Portlaoise Co Laois	Atlas Waste Oil
130601	Yes	Empty Oil Barrels	0.9	R4	North Wall Dublin	Dempsey Drums

** The figures for silt pond waste are tonnes dry weight.*

Waste	1998	1999	May-Dec 2000	2001
Total quantity of waste produced in calendar year(Tonnes)	1693		998	
total quantity of waste disposed of on-site	1339		947	
total quantity of waste disposed of off-site	15		17	
total quantity of waste recovered on-site	0		0	
total quantity of waste recovered off-site	339		34.858	
	1998	1999	May-Dec 2000	2001
Quantity of non-hazardous waste produced in calendar year	1668		989	
quantity of non-hazardous waste disposed of on-site	1335		947	
quantity of non-hazardous waste disposed of off-site	15		17	
quantity of non-hazardous waste recovered on-site			0	
quantity of non-hazardous waste recovered off-site	318		25	
	1998	1999	May-Dec 2000	2001
Quantity of hazardous waste produced in calendar year (Tonnes)	25.56		9.858	
quantity of hazardous waste disposed of on-site	4.14		0	
quantity of hazardous waste disposed of off-site	0		0	
quantity of hazardous waste recovered on-site	0		0	
quantity of hazardous waste recovered off-site	21.42		9.858	

3.0 Management of the Activity

3.1 Environmental Management Programme Report

The Derrygreenagh updated Environmental Management Programme was submitted after december 2000, but some of the works specified in that document are at present in progress.
Training has taken place for both management and operatives, as stated in project one and two of the EMP.
Codes of practice for all aspects of Bord na Mona's operations are at present in place.
Emergency Response Procedures have also been put in place.
Projects 6 & 7 of the EMP are currently under way. This was mentioned earlier under section 2.1.5 Bunding Programme.

3.2 Environmental Management Programme Proposal

As stated above an updated Environmental Management Programme has only recently been submitted in Feb 2001.
A copy of this is attached in **Appendix 1.**

3.3 Environmental Expenditure

The table below lists the environmental costs incurred by the Derrygreenagh Group between May-December 2000.

Expenditure Related to the Operation of the Derrygreenagh IPC Licence During the Period March 2000 – December 2000	
Description	**Cost (£)**
Capital Costs	5138
Plant	48000
Labour	20000
Materials	3000
Overheads (ESB, Phones, Consumables)	150
External Environmental Consultancy	1000
EPA Fees	2779
Total	80067

3.4 Bog Rehabilition Report

The above mentioned report is not due for submission until October 2001, therefore a summary will appear in next years AER based on that report.

4.0 Summary

As the reporting period only covered date of licence to December 2000 and the Quarterly results only cover Sept/Oct/Nov, an accurate assessment of the results cannot be made. However, the AER for 2002 will include a full set of quarterly results from the grab sampling and a full years composite sampling results allowing a more representative and accurate assessment of Bord na Mona Energy's impacts on the environment. The attached Environmental Management Programme has been implemented throughout the group, operating procedures have been put in place, and training has been provided for all personnel involved in compliance with the licence.

Bord na Mona Energy Ltd would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection measures.

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Annual Environmental Report
IPC LICENCE 501

March 2002

Contents

3.0 Management of the Activity

3.1 Environmental Management Programme Report

3.2 Environmental Expenditure

3.3 Bog Rehabilition Report

4.0 Summary

Appendix 1: Composite Sampler Report

Appendix 2: EMP Project 4

Appendix 3: EMP Project 8

Appendix 4: EMP Project 9

Appendix 5: EMP Project 10

Appendix 6: EMP Project 11

1 Introduction

1.1 Company Details

Name:	**Bord na Mona Energy Limited.**
Address:	**Derrygreenagh Group** **Derrygreenagh Works** **Rochfortbridge** **Mullingar** **Co Westmeath.**
Telephone No:	**044 / 22181** Fax No: **044 / 22344**
Contact Name:	**Finn Campbell**
Position:	**General Manager.**
National Grid Reference:	**E249450 N238140**

1.2 Activities

The Derrygreenagh Group consists of the Derrygreenagh and Ballivor Groups and Rossan Bog.
The Derrygreenagh group of bogs is located in North Offaly and Southeast Westmeath. The Derrygreenagh group comprises of 3664 acquired hectares, of which there are 1300 nett production hectares. The main catchment of these areas is the River Boyne.

The Ballivor group is made up of the bogs in the Ballivor, Carranstown, Bracklin and Lisclogher areas. There is a total of 283 hectares in production and each of these areas are linked by peatland railway to the Bord na Mona horticultural factory, situated between Ballivor and Raharney villages. Drainage from these bogs is to the Deel and Stonyford rivers, tributaries of the Boyne.

Rossan bog is situated one mile from Kinnegad village. There are currently 142 hectares in milled moss production. This bog drains to the Kinnegad River, a tributary of the River Boyne.

The Derrygreenagh Group currently employs 87 permanent and 24 seasonal workers. Transport operations are carried out on a seven day cycle throughout the year. Production operations are typically carried out over a seven day week (weather permitting) for 12 to 15 hours per day.

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:

- Milling.
- Harrowing.
- Ridging.
- Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways to one of the following locations.

- Power station (EPL)
- Horticultural Factory.

1.3 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Irelands peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its buisness in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

- Discharges to water.
- Emissions to atmosphere.
- Waste disposal.
- Use of natural resources.
- Noise, vibration, odour, dust and visual effects.
- Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

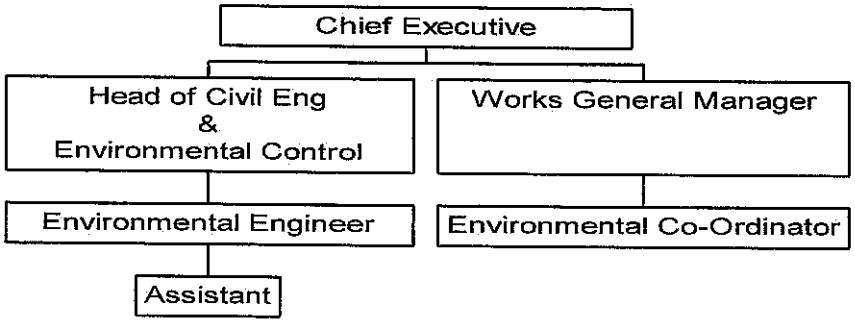
Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its contents are brought to the attention of all employees.

1.4 Environmental Management of the Company

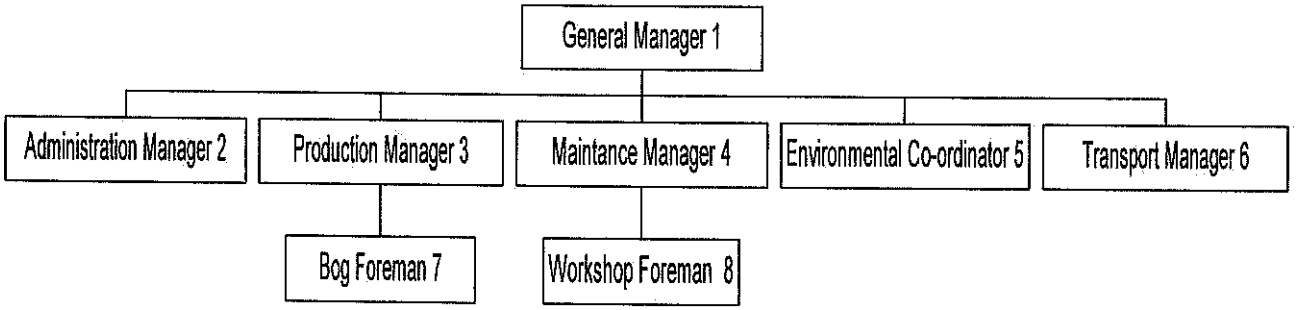
The organisational structure within Bord na Mona and the Derrygreenagh Group is presented in the flow charts below.

Environmental Responsibilities



Derrygreenagh Group

Environmental Responsibilities



(1) Overall environmental responsibilities
(2) Records of complaints and registers
(3) All production related issues
(4) Machine maintenance
(5) Co-ordinating environmental affairs
(6) All peat transportation matters
(7) Silt pond maintenance, tea centres, codes of practice
(8) Fuel loading, oil traps, weekly workshop inspections.

2 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

The following tables contain a summary of the emissions to surface waters from within the Derrygreenagh Group.

Silt Pond No: DH 1 Reporting Period (Jan-Dec 2001)	SW No. 1				
Parameter	Dec/Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	Emission Limit Value (mg/l)
pH units	7.6	7.7	6.8	7.5	~
Flow (L/sec)	36.2	3.1	24	1.3	~
Suspended Solids (mg/l)	32	<5	21	<5	35mg/l
Total Solids (mg/l)	280	250	116	276	~
Total Phosphorus (mg/l)	<0.05	<0.05	<0.05	<0.05	~
Ammonia (mg/l)	1.2	1.5	1.5	2.7	~
Colour (Pt Co units)	188	100	273	200	~
COD (mg/l)	32	38	113	74	~

Silt Pond No: DM 6 Reporting Period (Jan-Dec 2001)	SW No. 6				
Parameter	Dec/Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	Emission Limit Value (mg/l)
pH units	7.8	8.2	7.3	7.8	~
Flow (L/sec)	359.5	61.7	96.1	38.9	~
Suspended Solids (mg/l)	42	6	15	<5	35mg/l
Total Solids (mg/l)	452	412	240	204	~
Total Phosphorus (mg/l)	<0.05	<0.05	<0.05	<0.05	~
Ammonia (mg/l)	0.6	0.2	3.3	0.6	~
Colour (Pt Co units)	96	54	168	62	~
COD (mg/l)	23	20	75	44	~

Silt Pond No: TR 19 Reporting Period (Jan-Dec 2001)	SW No. 14				
Parameter	Dec/Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	Emission Limit Value (mg/l)
pH units	7.3	7.3	5.7	7	~
Flow (L/sec)	34.2	1.2	84	23.8	~
Suspended Solids (mg/l)	51	8	15	<5	35mg/l
Total Solids (mg/l)	196	96	84	24	~
Total Phosphorus (mg/l)	<0.05	<0.05	<0.05	<0.05	~
Ammonia (mg/l)	1.2	1.9	1.2	1.6	~
Colour (Pt Co units)	282	266	226	259	~
COD (mg/l)	72	54	97	73	~

Silt Pond No: BN 36 Reporting Period (Jan-Dec 2001)	SW No. 30				
Parameter	Dec/Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	Emission Limit Value (mg/l)
pH units	7.1	7.6	5.9	7.2	~
Flow (L/sec)	95.4	NA	24.5	15.5	~
Suspended Solids (mg/l)	31	6	20	<5	35mg/l
Total Solids (mg/l)	88	296	112	158	~
Total Phosphorus (mg/l)	<0.05	<0.05	<0.05	<0.05	~
Ammonia (mg/l)	<0.2	2	0.6	1.0	~
Colour (Pt Co units)	140	123	233	206	~
COD (mg/l)	28	46	106	58	~

Silt Pond No: CN 39 Reporting Period (Jan-Dec 2001)	SW No. 32				
Parameter	Dec/Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	Emission Limit Value (mg/l)
pH units	5.7	7.8	6.5	7.3	~
Flow (L/sec)	110.3	1.2	58.9	42.6	~
Suspended Solids (mg/l)	8	8	10	<5	35mg/l
Total Solids (mg/l)	86	270	144	204	~
Total Phosphorus (mg/l)	<0.05	0.08	<0.05	<0.05	~
Ammonia (mg/l)	<0.2	0.3	0.6	0.5	~
Colour (Pt Co units)	262	288	318	287	~
COD (mg/l)	46	103	104	88	~

Silt Pond No: KD 50 Reporting Period (Jan-Dec 2001)		**SW No. 43**			
Parameter	**Dec/Jan/Feb/Mar Emission (mg/l)**	**April/May/June Emission (mg/l)**	**July/Aug/Sept Emission (mg/l)**	**Oct/Nov/Dec Emission (mg/l)**	**Emission Limit Value (mg/l)**
pH units	7	7.4	5.3	7.2	~
Flow (L/sec)	141	2.8	181	18.9	~
Suspended Solids (mg/l)	31	10	52	<5	35mg/l
Total Solids (mg/l)	158	96	124	196	~
Total Phosphorus (mg/l)	<0.05	0.1	<0.05	0.09	~
Ammonia (mg/l)	1	2	1.9	2.4	~
Colour (Pt Co units)	268	306	146	307	~
COD (mg/l)	86	84	185	110	~

2.1.2 Surface Water Discharge Monitoring Location Programme Review

The surface water discharge monitoring location programme remains the same as was submitted and accepted by the Agency in June 2000.
Pipes have been fitted at each location in order to accommodate flow metres and the provision of safe access is also ongoing.
Emission point signs have been designed and are in place.
Additional work has also being carried out at these locations as part of the ongoing silt pond upgrade programme.
Monitoring will be carried out at these same locations in the forthcoming year and reported on in next years AER.

2.1.3 Yard Run-off

The table below is a summary of the emissions to surface waters from yards and workshops within the Derrygreenagh Group. This summary is the average of the results submitted, covering the period Jan – Dec 2001.
It should be noted that the amount of emission points at Derrygreenagh have been reduced from 2 to 1 as a result of work carried out to rationalise surface water emission points.

Jan - Dec 2001 **Derrygreenagh :SWE-1**		
Parameter	**Average Emission (mg/l)**	**Emission Limit Value (ELV) (mg/l)**
COD	32	~

2.1.4 Composite Sampler Programme

Attached in Appendix 1 are the results of the monitoring carried out using the composite sampler.
Sampling began on May 9th 2001 and has been continuous ever since.
In the attached Appendix, the results for each day of sampling are shown.
The days where there are no results can be attributed to, battery failure, pump tubing failure or no flow at the location.
A graph showing flow rates for the period is also contained in the Appendix.

2.1.5 Bunding Programme

New bunds were constructed at Derrygreenagh and Kinnegad.
Incorporated into this work was a fill area, which will satisfy condition 9.1.7 of the Derrygreenagh Licence.The bund size will satisfy condition 9.1.4.
A bund integrity test was carried out during the year and the results of this were submitted to the agency on 29th Nov in a letter Ref (DG501/Bund 001)
At present plans are in place to bund the oil store at Derrygreenagh.

2.2Emissions to Air

2.2.1 Dust Monitoring Locations Programme
The tables below contain the dust emissions for each dust monitoring location within the Derrygreenagh Group. Monitoring took place on three separate occasions during the periods, June – July, July – August, August – September 2001.

June - July

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value
DM 01	Dust	59	(350mg/m^2 /Day)
DM 02	Dust	160	(350mg/m^2 /Day)
DM 03	Dust	202	(350mg/m^2 /Day)

July - Aug

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value
DM 01	Dust	77	(350mg/m^2 /Day)
DM 02	Dust	83	(350mg/m^2 /Day)
DM 03	Dust	101	(350mg/m^2 /Day)

Aug - Sep

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value
DM 01	Dust	30	(350mg/m^2 /Day)
DM 02	Dust	184	(350mg/m^2 /Day)
DM 03	Dust	77	(350mg/m^2 /Day)

Note: DM 01= Toar Bog. DM 02 = Derryhinch Bog. DM 03 = Ballivor Bog.

2.2.2 Boiler Combustion Efficiency

Boiler Details
Twin Danstoker solid fuel units each rated at 725KW, fuelled by loose briquettes.
Operating from Oct-Mar approximately at Derrygreenagh Works.

A boiler efficiency test was carried out on the 01/11/01. The results of this test showed the boiler to be operating at an efficiency level of 84.2%.
A full breakdown of the test is retained on file at the Derrygreenagh office.

2.3Waste Arisings

2.3.1 Hazardous Waste

Derrygreenagh being a central location, is used as a collection point for all hazardous wastes eminating from all the areas in both the Allen and Derrygreenagh Groups. All waste oils, filters, spent batteries, etc are collected centrally at Derrygreenagh before being removed by a licenced waste contractor such as Atlas Waste Oil, Hammond Lane, Returnabatt, etc.
A system is in place where by every area has its own waste oil and filter barrel.
These barrels are painted yellow to distinguish them from ordinary barrels and are clearly marked waste filters or waste oil.
When the barrels are getting near full, the area team leader informs our Derrygreenagh stores and a truck is dispatched to collect the full barrels and replace them with empties. Any spent batteries will also be collected if the need arises.
The following table is a record of all the hazardous wastes handled by the Derrygreenagh Group from January - December 2001.

WASTE DESCRIPTION	EWC CODE	TONNES	NAME OF CONTRACTOR	DESTINATION	DATE	REJECTED CONSIGNMENTS
Empty Oil Drums	150104	88NR	Wallace Recycling	Mullingar	05/04/01	NA
Waste Oil	130202	6800L	Atlas Waste Oil	Portlaoise	17/04/01	NA
Empty Grease Drums	150104	356 kg	Shannon Environmental	Shannon	06/06/01	NA
Empty Oil Drums	150104	47NR	Wallace Recycling	Mullingar	12/06/01	NA
Waste Oil	130202	4150L	Atlas Waste Oil	Portlaoise	20/06/01	NA
Nickel Cadium Batteries	160602	33kg	Returnbatt LTD	Kildare Town	19/07/01	NA
Nickel Cadium Batteries	160602	173kg	Returnbatt LTD	Kildare Town	19/07/01	NA
Lead Acid Batteries	160601	160Nr	Returnbatt LTD	Kildare Town	19/07/01	NA
Waste Oil	130202	1200L	Atlas Waste Oil	Portlaoise	30/07/01	NA
Skip of Oil Filters	130601	2500kg *	Atlas Waste Oil	Portlaoise	13/11/01	NA
Asbestos Panels	170105	9	Willich Insulations	Fermoy Co Cork	15/11/01	NA
Empty Oil Drums	150104	18NR	Wallace Recycling	Mullingar	11/12/01	NA
Empty Oil Drums	150104	18NR	Wallace Recycling	Mullingar	14/12/01	NA
Empty Oil Drums	150104	10NR	Wallace Recycling	Mullingar	18/12/01	NA

Note: * Approximate weight.

2.3.2 Non-Hazardous Waste

The non-hazardous waste produced by the Derrygreenagh Group consists mainly of silt pond cleanings, mixed municipal waste and scrap metal. Midland Refuse and have a contract to collect the waste from the various tea centres across the region by way of a wheelie bin system. Rentabin Tullamore (Alina Waste) were used for skip hire although this has recently changed to a new contractor with a Local Authority Waste Permit.
In calculating the amounts of waste sent off site via wheelie bins a figure of 40kg, 110kg and 180kg was used for bin sizes 240 litre, 660 litre and 1100 litre respectively.
Silt pond cleanings are anhydrous (2% solid matter) and their weight is calculated accordingly (tonnes dry weight).

The whole waste system is at the moment being reviewed within the Derrygreenagh Group,with the option of recycling being examined to reduce the amount of waste going to landfill.

Of the total amount of non-hazardous waste produced by the Allen group, 71.5% came from silt pond cleanings, 26.5% came from scrap metal and 2 % was the result of municipal waste.
Of this municipal waste 79% came from the workshops and the remaining 21% came from the tea centres.

The following table lists the quantities of the wastes generated from January-December 2001 from all of the Derrygreenagh Group.

Waste Type	Quantity (Tonnes)
Silt Pond Waste	272
Scrap Metal	100.57
Mixed Municipal Waste	8.3
Total	380.87

2.4 Energy and Water Consumption

The table below is a summary of the energy consumption for the Derrygreenagh Group, from the dates January – Decemder 2001.

Water is not included, as it is not used as part of the production process. It is only used in offices, canteens and workshops on a domestic scale.

Bord na Mona Group : Derrygreenagh
IPC Licence No.: 501
Energy Consumption Summary

Fuel	Volume M^3	Tonnes	MW/Hours
Jan - Dec 2001			
Diesel	1172	972	11469
Petrol	1.311	0.989	11.84
Electricity	NA	NA	433
Peat Briquettes	NA	297	1485
Total MW/Hours			13398

2.5 Environmental Incidents, Complaints & Non-Compliances

There was one incident within the Derrygreenagh Group, which occurred in July 2001. This incident was very minor and the Agency was not informed.

Environmental Incidents	Number of Incidents
Incidents	1
Incidents requiring corrective action	1
Categories of Incident	
Odour	
Noise	
Water	
Air	1
Procedural	
Miscellaneous	

There were no complaints within the Derrygreenagh Group, in the period January - December 2001.

Environmental Complaints	Number of complaints
Complaints received	0
Complaints requiring corrective action	
Categories of complaint	
Odour	
Noise	
Water	
Air	
Procedural	
Miscellaneous	

There was two non-compliances within the Derrygreenagh Group, in the period January - December 2001.

Environmental Non-Compliance	Number of Non-Compliance
Issued by EPA	1
As a result of monitoring	1
Categories of Non-Compliance	
Odour	
Noise	
Water	1
Air	
Procedural	1
Miscellaneous	

2.6 De-Silting Report
Summary Data Table of Ponds De-Silted From Jan-December 2001

Bog	No Silt Ponds	Cleaned Once	Cleaned Twice	Cleaned >Three Times	Notes
Ballivor	10		7		
Carranstown	5	2	1		
Bracklin West	6		6		
Lisclogher	7	1			*
Kinnegad	8			8	
D/Arkin	2				**
D/Hinch	4	4			
Drumman	6	6			
Ballybeg	6	6			
Toar	6	6			

*: Bog still under development, no production.
**: Bog cut out, no production at this Bog.

% Ponds Cleaned Jan-Dec 2001

% Ponds Not Cleaned	% Ponds Cleaned Once	% Ponds Cleaned Twice	% Ponds Cleaned Thrice
22	41.6	23.3	13.1

Special long reach machines are primarily used in the cleaning of the ponds, although more conventional machines that have been working on the silt pond up-grade programme are also being used to clean ponds. However during the reporting period maintenance problems occurred with regard to the longreach machines, due to the fact of their age, parts were difficult to come by and as a result, servicing of these machines took longer than usual and this in turn to led to the cleaning frequency being affected.

A new improved fortnightly inspection and cleaning roster is currently being developed.

2.7 Silt pond Up-Grade Programme

The work so far has included the construction of new ponds, the enlargement of ponds where necessary, the installation of controlled inlet and outlet pipes, and the construction of pond by-passes, to accommodate cleaning and flood conditions.
Further to this, operatives cleaning ponds have been instructed to deepen the ponds if possible in order to increase the volume.
Progress so far has included programme one, and the majority of stage one of programme two.
Stage two of programme two is also ongoing. It is difficult to say exactly how long it will take to fully complete.

2.8 Bog Development and Operational Programme

The bogs in the Derrygreenagh Group are well into their productive lives, therefore there will be no development in the year 2002.
However in the Ballivor Group, Carranstown bog is currently under development, with approximately 120 acres to be developed.
It is proposed to develop initially part of this total for the 2003 production season, with no production planned at the site for 2002.

Due to the pre-mature closure of Rhode Power Station there will be no production on Drumman, Derryhinch and Toar bogs in the forthcomming production season (Summer 2002)

3.0 Management of the Activity

3.1 Environmental Management Programme Report

Project	Description	Status
Project 1 & Project 2	(1)The reduction of fugitive dust emissions. (2)The minimisation of suspended solids movement to surface waters. (3)The examination of production machine modification. (4)The results of dust monitoring.	1&3: Training complete, Codes of practice in place. 2: See appendix 2. 4: See appendix 2
Project 3	Rationalisation of surface water discharge points.	D/Hinch Bog – Under consideration Toar Bog – Not feasible Ballybeg Bog – Not feasible
Project 4	Investigation of reed bed systems for final polish of silt pond discharges.	Study complete See appendix: 3
Project 5	The separation of flood water and external runoff from production runoff.	Ballybeg Bog – Not feasible Drumman Bog – Not feasible Toar Bog – Not Feasible
Project 6	The effective spill/leak management of mobile fueling units by implementing a programme of training and adopting Codes of Practice.	1: Survey complete. 2: Procedures in place. 3: Training complete 4: ERP in place.
Project 7	Programme of bunding at all bulk diesel storage facilities	Bunding complete.
Project 8	Investigation into the reuse of silt pond waste	Study about to begin See appendix: 4
Project 9	Study into the collection storage and reuse of polyethelene covering	Project in progress See appendix: 5
Project 10	Examination of the use of reusable materials in the protection of stockpiles	Study in progress See appendix: 6
Project 11	Examination of wind power technology for pumped drainage.	Study ongoing See appendix: 7

3.2 Environmental Expenditure

The table below lists the environmental costs incurred by the Derrygreenagh Group between May-December 2000.

In calculating the environmental costs 70% of the total costs were attributed to Licence 503 and 30% to Licence 501.The Ballivor Group costs were then added to the Derrygreenagh totals.

Expenditure Related to the Operation of the Derrygreenagh IPC Licence During the Period January – December 2001	
Description	**Cost (€)**
Capital Costs	42,690
Plant @ €40/hour	215,300
Labour	53,820
Materials	7,514
Overheads (ESB, Phones, Consumables)	5,800
Laboratory Analysis	10,000
EPA Fees	7,403
Total	€ 342,527

3.3 Bog Rehabilition Report

Management guidelines for the planning and implementation of cutaway bog rehabilitation have been adopted and the document is currently available for inspection on file at the Derrygreenagh office.

4.0 Summary

With regard to environmental compliance at the Derrygreenagh Group of Bogs, there were no exceedences in the quarterly grab sampling of the ponds in the Surface Water Discharge Monitoring Location Programme.
There was one non-compliances in relation to the Composite Sampler during the operation period May to the end of December. Dust monitoring results at the dust sensitive locations were also below the Emission Limit Value and there were no complaints of an environmental nature received during the reporting period.

The staff awareness through training and involvement in the operation of the licence has also improved immensely. A full programme of training and awareness has been conducted at the works and has targeted all personnel ie. office, workshop, transport and production.

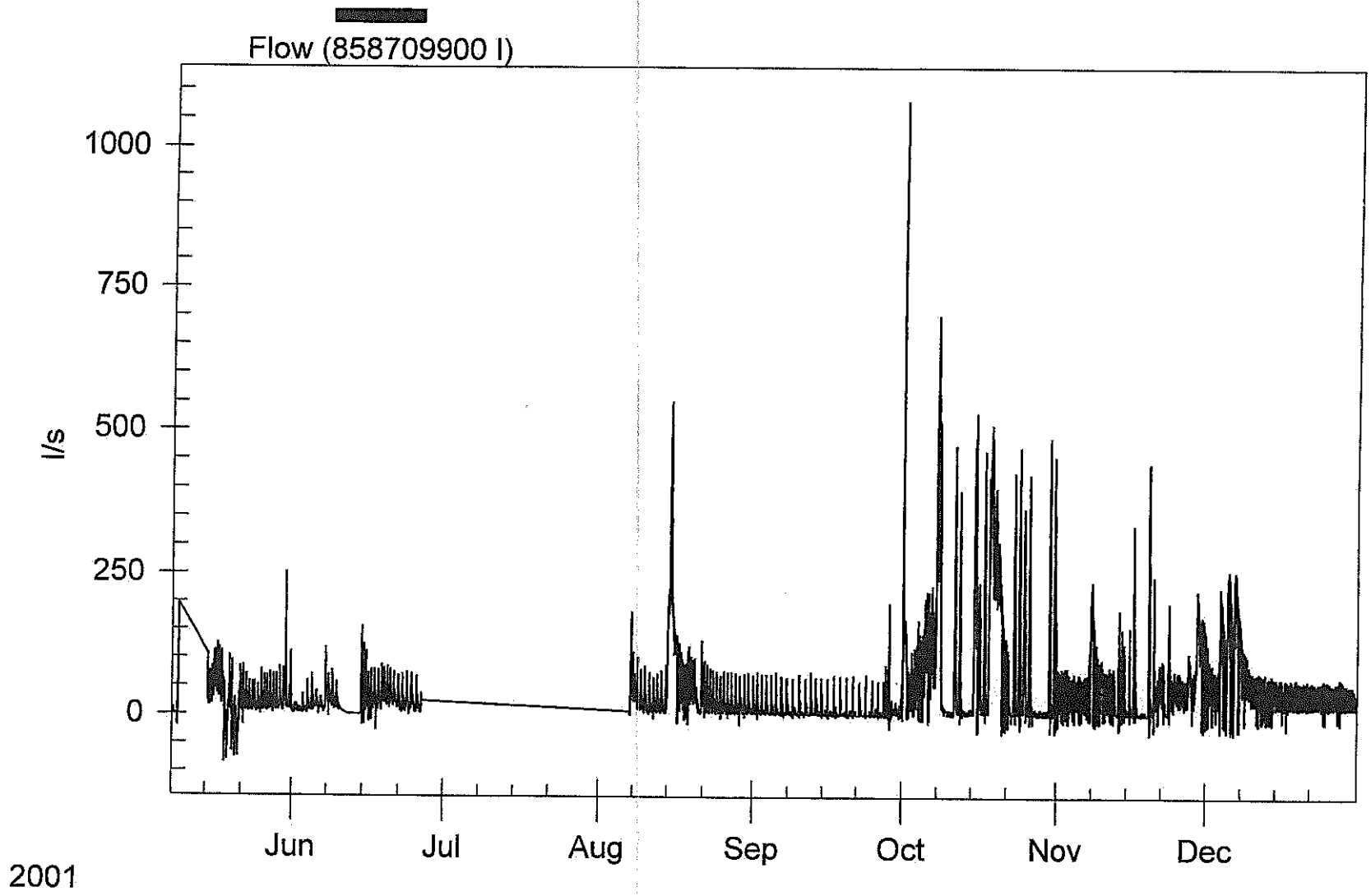
Bord na Mona are participating on the three Rivers project, (Boyne, Liffey and Suir) water quality, monitoring and management.
Bord na Mona are also involved in catchment management on the River Barrow.

Bord na Mona Energy Ltd would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection measures.

APPENDIX 1

Derrygreenagh Flow Rates

From May 8/091 to Dec.31/01



Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Mullingar Co Westmeath.

Composite Sampler Results

Month				Parameters							Daily Totals		
May	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2001		mg/l	N mg/l	Phosphoru	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1													
2													
3													
4													
5													
6													
7													
8													
9								329370					
10								7623477					
11								9338112					
12								9338112					
13								9338112					
14								9338112					
15					21	410		9338112				196.10	3828.63
16					27	410		3561203				96.15	1460.09
17					22	364		5859278				128.90	2132.78
18					5	326		5763613				28.82	1878.94
19					26	102		114849				2.99	11.71
20								1306812					
21	8.2	68	1.2	0.05	34	480		-1431617	-97.35	-1.72	-0.07	-48.67	-687.18
22					[illegible]	464		928125				62.18	430.65
23					[illegible]	486	94	2301294				230.13	1118.43
24								1618716					
25					[illegible]	498		1870496				108.49	931.51
26					29	492		1755410				50.91	863.66
27					29	416		2257230				65.46	939.01
28	8.4	64	1	0.05	25	474		1909902	122.23	1.91	0.10	47.75	905.29
29					6	214		2268529				13.61	485.47
30					[illegible]	582	75	2115511				188.28	1231.23
31					28	490		3517178				98.48	1723.42

A minus figure usually means the pond was flooded or backflowing

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Mullingar Co Westmeath.

Composite Sampler Results

Month				Parameters							Daily Totals		
June	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2001		mg/l	N mg/l	Phosphoru	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					22	514		1799015				39.58	924.69
2					25	490		839568				20.99	411.39
3					8	532		786146				6.29	418.23
4	8.3	58	1	0.05	6	568	73	1386033	80.39	1.39	0.07	8.32	787.27
5					26	500		1969142				51.20	984.57
6					30	456		1732472				51.97	790.01
7					22	460		1405486				30.92	646.52
8					5	454		2890984				14.45	1312.51
9					9	472		2759718				24.84	1302.59
10					12	460		2085601				25.03	959.38
11	7.8	54	0.8	0.05	6	488	86	805046	43.47	0.64	0.04	4.83	392.86
12					52	456		275237				17.06	125.51
13								137605					
14					39	524		77808				4.20	40.77
15					11	248		2738742				30.13	679.21
16					10	362		3003235				30.03	1087.17
17					6	330		2400243				14.40	792.08
18	8.1	57	1.4	0.05	6	224	82	2857967	162.90	4.00	0.14	17.15	640.18
19					5	468		2967938				14.84	1388.99
20					12	396		2956563				35.48	1170.80
21					10	438		2904737				29.05	1272.27
22					13	440		2348008				30.52	1033.12
23					11	444		1873888				20.61	832.01
24					10	468		1968810				19.69	921.40
25	8.4	65	1.1	0.05	12	436	86	1924502	125.09	2.12	0.10	23.09	839.08
26					52	470		1616276				84.05	759.65
27					36	462		812967				29.27	375.59
28					54	428		607081				32.18	259.83
29								607081					
30								607081					

A minus figure usually means the pond was flooded or backflowing

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Mullingar Co Westmeath.

Composite Sampler Results

August 2001	pH	COD mg/l	Ammonia as N mg/l	Total Phosphoru mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1								607081					
2								607081					
3								607081					
4								607081					
5								607081					
6	7.6	56	1.1	0.07	9	440	111	607081	34.00	0.67	0.04	5.46	267.12
7					8	410		545490				4.36	223.65
8					5	386		6193691				30.97	2390.76
9					6	412		3322533				19.94	1368.88
10					6	434		1964966				11.79	852.80
11					5	450		2156978				10.78	970.64
12					5	448		1961030				9.81	878.54
13	8.2	59	2.7	0.25	7	418	90	1926921	113.69	5.20	0.48	13.49	805.45
14					5	438		1609170				8.05	704.82
15					10	222		7908786				79.09	1755.75
16					7	274		22809900				159.67	6249.91
17					5	342		8392378				41.96	2870.19
18					5	398		3756532				18.78	1495.10
19					5	370		2988439				14.94	1105.72
20	8	67	2	0.05	5	386	170	4268899	286.02	8.54	0.21	21.34	1647.80
21					5	434		1950336				9.75	846.45
22					5	438		2910411				14.55	1274.76
23					5	460		2319306				11.60	1066.88
24					5	604		2552861				12.76	1541.93
25					13	456		1561298				20.30	711.95
26					5	508		2236700				11.18	1136.24
27	8.3	58	1.6	0.05	6	516	106	1662949	96.45	2.66	0.08	9.98	858.08
28					8	400		1335402				10.68	534.16
29					7	436		1407372				9.85	613.61
30					10	404		1794764				17.95	725.08
31					8	396		1498757				11.99	593.51

A minus figure usually means the pond was flooded or backflowing

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Mullingar Co Westmeath.

Composite Sampler Results

September 2001	pH	COD mg/l	Ammonia as N mg/l	Total Phosphoru mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	444		1157500				5.79	513.93
2					7	422		1260885				8.83	532.09
3	8.2	51	1.2	IS	5	440	82	1134871	57.88	1.36		5.67	499.34
4					24	398		1194251				28.66	475.31
5					5	424		1221137				6.11	517.76
6					14	428		1053025				14.74	450.69
7					10	452		919176				9.19	415.47
8					NA			955316					
9					NA			716214					
10	7.7	40	1.1	0.05	5	464	78	854328	34.17	0.94	0.04	4.27	396.41
11					18	442		489119				8.80	216.19
12					15	470		941862				14.13	442.68
13					13	484		1063738				13.83	514.85
14					7	476		1243499				8.70	591.91
15					12	460		955662				11.47	439.60
16	8.1	46	1.4	0.05	9	464	64	614803	28.28	0.86	0.03	5.53	285.27
17					NA			502364					
18					NA			411005					
19					NA			729170					
20					NA			592217					
21					NA			666123					
22					NA			191026					
23					NA			1011456					
24	8	39	1.7	0.05	5	468	74	593855	23.16	1.01	0.03	2.97	277.92
25					NA			546132					
26					NA			363024					
27					8	434		315784				2.53	137.05
28					12	484		2298250				96.53	1112.35
29					NA			1256877					
30					33	306		539601				17.81	165.12

A minus figure usually means the pond was flooded or backflowing

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Mullingar Co Westmeath.

Composite Sampler Results

November 2001	pH	COD mg/l	Ammonia as N mg/l	Total Phosphoru mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	390		8659302				43.30	3377.13
2					6	412		4020629				24.12	1656.50
3					5	422		4059637				20.30	1713.17
4					5	458		3408766				17.04	1561.21
5	8.2	52	2.1	0.05	7	404	114	3003877	156.20	6.31	0.15	21.03	1213.57
6					5	402		3484998				17.42	1400.97
7					5	254		3201347				16.01	813.14
8					5	310		10883490				54.42	3373.88
9					8	326		6926824				55.41	2258.14
10					5	272		5306752				26.53	1443.44
11					5	84		4297295				21.49	360.97
12	8.2	65	1.9	0.05	8	128	160	4604395	299.29	8.75	0.23	36.84	589.36
13					7	346		1667897				11.68	577.09
14					7	404		4267856				29.87	1724.21
15					20	416		2393259				47.87	995.60
16					8	356		1431889				11.46	509.75
17					NA	NA		4396882					
18					NA	NA		249570					
19	7.9	60	2.2	0.05	12	358	130	311510	18.69	0.69	0.02	3.74	111.52
20					5	416		5573800				27.87	2318.70
21					5	452		3983426				19.92	1800.51
22					6	352		4615916				27.70	1624.80
23					5	358		1820315				9.10	651.67
24					5	420		5242528				26.21	2201.86
25	8.1	68	1.9	0.05	5	346	195	4895712	332.91	9.30	0.24	24.48	1693.92
26					5	414		4816267				24.08	1993.93
27					5	358		4406860				22.03	1577.66
28					5	348		6044126				30.22	2103.36
29					6	226		7701463				46.21	1740.53
30					5	258		12893480				64.47	3326.52

A minus figure usually means the pond was flooded or backflowing

APPENDIX 2

Environmental Management Programme Report

Project 1.

Condition 5.4 of the Derrygreenagh licence calls for an emission limit of 350mg/m2/day in accordance with the Batneec guidelines, with regard to dust emissions from milled peat production bogs. Condition 2.2.2 (iv) of the Environmental Management Programme calls for the reduction of fugitive dust emissions during loading and transfer operations on the bog and during unloading operations at the tippler and works yard areas. Also Condition (v) calls for the provision of measures to protect dust sensitive areas.

Project Summary:

The Environmental code of Practice for Bord na Mona Works which is included in Attachment no.10 of the Attachments Folder, under the Derrygreenagh application documents, cover the control of fugitive dust emissions.

1. Training for operatives at the various production cycles will be carried out to cover all locations and the existing dust sensitive locations in the Derrygreenagh group (Toar, Ballivor & Derryhinch). This will also incorporate a system of Cleaner Production Methods training, so as to implement the Codes of Practice in relation to dust and increase the awareness of Bord na Mona's production personnel to fugitive dust emissions and waste minimisation.
2. The programme will also include examining production machines, regarding process modifications and improved process control with the objective of increasing production efficiency, while reducing emissions. This will be carried out, with technical assistance from the Research & Development dept.
3. Procedures will be prepared so as to ensure compliance with condition 5.5 of the licence, in relation to dust control.
4. The results from the monitoring of the dust sensitive locations in accordance with condition 5.3 of the licence, will also be examined and used in improving process control

Project Report:

(3) With regard to examining production machines, in relation to process modifications and improved process control, it is proposed to examine three elements of the peat harvester in relation to dust control. Once a production field has been milled, harrowed, ridged it is ready for lifting on the belt of a peat harvester and deposited into a central stockpile for storage or sale. During this process, dust can be generated at various points on the harvester, ie the belt transfer points, the potato chain elevator and while discharging onto the stockpile.

It is proposed to asses these dust sensitive points on the machine by investigating methods of covering or dust proofing these locations on the lift of the harvester and on the jib. Trials on the suitability and benefits of this dust suppression system will be assessed in Monettia bog, in the Boora group of bogs. Here its performance and environmental benefits will be assessed along side existing harvesters and a report will be submitted on its feasability in the Annual Environmental Report 2003.

It is proposed to start the pilot project by March 31st.

(4) There were no non-compliances or complaints in relation to dust during the production year past. This would indicate that the training given to operatives and the codes of practice adopted were a success. See dust monitoring results section 2.2.1 in the body of the report.

Environmental Management Programme Report

Project 2.

Schedule 1 (i) of the Derrygreenagh licence calls for an emission limit of 35mg/litre in accordance with the Batneec guidelines, with regard to silt emissions from milled peat production bogs. Condition 2.2.2 (i) of the Environmental Management Programme calls for the minimisation of suspended solids movement to surface water systems via peatland surface water drainage channels during development and operation of boglands, to be addressed.

Project Summary:

1. The program will look at improving process control and will involve a programme of cleaner production methods being implemented in the various stages of the production cycle, as waste minimisation measures.
2. A large part of the programme will involve training for management and operatives involved at the various stages of a production cycle i.e. milling, harrowing, ridging, harvesting, loading, ditching etc.
3. Procedures will be prepared, which will highlight the best practice in milled peat production. These procedures will be used to implement the Codes of Practice in peat production and will assist in waste minimisation.
4. Process modification will also be examined with the assistance of the Research & Development Dept, which may improve the efficiency of the production machines, reducing the amount of milled peat lost as silt.

Project Report:

With regard to process modifications, to reduce peat loss on the bog, inspections will be carried out during the next production season, to see what improvements can be effected to reduce losses and leakages of peat from Millers, Harrows, Ridgers & Harvestors. These machines will be tested at Monnettia in the Boora Group and will involve looking at belt seals, hydraulic harrows, ridger blades, offset millers etc.

These modifications will be examined along side existing machines to quantify any benefits that me be achieved. A report on this project will be submitted as part of the 2002 AER.

Environmental Management Programme Report

Project 4.

Condition 2.2.2 (iii) calls for the Investigation of reed-bed systems for final polish of silt pond discharges to be addressed. Condition 9.1.7.

Project Summary:

This project will be a desk-based study to examine the different types of reed-beds in use and the different types of wastewater's that are suitable for final polishing.

1. An Engineer will be appointed to examine and research existing systems that may be in use, and assess
   their suitability, advantaged/disadvantages etc to the Bord na Mona situation. He/She will liaise with 3rd level Institutions who may be carrying out research into reed-bed systems and their applications for final polishing of wastewater.
2. If the above research shows that demonstrating the effectiveness or not of the system, warrants a pilot area to be selected and a reed-bed constructed, then a test area will be selected
3. If the research shows that the system is not suitable for final polishing of silt pond discharges, the rationale for this will be included in the AER.

Project Report:

The potential for using reedbed systems for the final polishing of silt pond discharges.

The installation of reedbed treatment systems for the final polishing of silt pond waste is not, in most respects, a feasible option for Bord na Mona. The results collected from composite samplers at two sites (Allen and Blackwater) and also from grab samples at these sites (see report on silt pond efficiency) indicate that BOD, suspended solids, phosphorus and ammonia values are below environmental quality standards given by the EPA. The Lough Ree, Lough Derg study found similar results except that ammonia levels emanating from the worked bog were high. This meant that ammonia levels in the little Cloghan River were elevated downstream of the operational site. If reedbeds could be proven to significantly reduce ammonia from silt pond discharges their installation would be justified, however for the greater part, discharges from worked bogs into catchments satisfy environmental quality standards and literature shows that ammonia removal efficiency is unreliable and unpredictable (Jing *et. al.*, 2001, Steer *et. al.*,2002, Luederitz *et. al.*, 2001). TMER results (Leuderitz *et. al.*, 2001) would indicate that reedbed treatment systems would not be a desirable option for the final polishing of silt pond waste. Practical problems would also arise in terms of site accessibility and the difficulty of working with peat.

Silt removal efficiency trial of Bord na Mona settlement ponds.

The results of efficiency tests from this study indicate that the Barnaran and Creggan ponds were not very efficient but as explained, water entering the ponds in most cases had low suspended solid concentrations. As the amount of silt entering the pond increased, the representative efficiency of the ponds was revealed. Despite this, the requirements of the license were still fulfilled in terms of concentrations of suspended solids in the outflow from the pond.

The results achieved in this test are not typical as previous tests by Hannon and Coffey (1980) and Harkins (1991) have shown silt ponds to be highly efficient at removing peat silt. This is due to the fact that the majority of the silt is retained on the bog in the old sod trenches in the case of Barnaran, while Creggen bog is pumped drainage with the silt being retained in the pump sump. It is proposed to sample another pond, which is a more representative example of a gravity drained system, in the coming year. Operational practices and improved maintenance of the ponds would also ensure greater silt removal efficiency.

APPENDIX 4

Environmental Management Programme Report

Project 8.

Condition 2.2.2 (vii) of the EMP calls for an investigation into the reuse of silt pond waste.

Project Summary:

The difficulty with reusing peat silt is the contamination of the peat by subsoil, because of the location of the silt ponds. This results in high ash content.

1. The project will select 1 to 2 ponds in the Bord na Mona Energy Ltd group, with a view to examining the possibilities of silt containment in intermediate settlement ponds.
2. Examine the methods used for extracting the silt and the physical make-up of the silt once it has been mechanically taken from the silt pond with regard to contamination.
3. Methods for incorporating the silt back into the stockpiles will be examined for feasibility, effectiveness etc.
4. Alternative uses for the silt will also be explored, either for further use within Bord na Mona Energy Ltd, or for public use.

Two suitable ponds will be introduced to the project on a phased basis, to conduct trials. The results from the first pond will determine whether a second test site worth exploring.

Project Report:

Suitable locations for examining the possibility of reusing silt pond waste will be selected prior to the 2002 production season and monitored in the second half of the year.

APPENDIX 5

Environmental Management Programme Report

Project 9.

Condition 2.2.2 (viii) of the EMP calls for the collection, storage, and reuse of polythene covering to be explored.

Project Summary:

1. The project will initially be in the form of desk based study, to examine the methods available for the removal, collection and the storage of the stockpile covering.
2. It will also cover research into the development of a Bord na Mona specific machine/method for the effectiveness and economical removal of the covering
3. Polythene reuse will be examined in relation to reuse in Bord na Mona Energy Ltd, other divisions in Bord na Mona Ltd, or other industry.

The collection and reuse of the material will also be examined in conjunction with the licensed waste contractor, engaged to recycle the used polythene covering. The company is actively pursuing these objectives with Shabra Plastics and is also exploring other outlets for the waste polythene.

Project Report:

Trials were carried out by a private company (Banner Re-cycling) on the baling of used polythene for removal to a recycling depot. The loose polythene is brought to the nearest hard stand on site and is baled into approx. 400 kg square bales. It is then in a suitable form for transportation for recycling. The company will soon have a dedicated machine for Bord Na Mona use.

Baling took place at Boora and Coolnamona and this will be extended to all Works.

Bord Na Mona have an agreement with Shabra Plastics Ltd. (Monaghan) to re-cycle this polythene and during the year 2001, 185 Tonnes was delivered to them .
Shabra use this high grade material to manufacture a raw material in bead form for use in other industries.

We are at present in discussions with two companies regarding re-cycling our used polythene into Bio-Bead for use by Bord Na Mona Environmental Ltd in its products.

APPENDIX 6

Environmental Management Programme Report

Project 10.

Condition 2.2.2 (ix) of the EMP calls for an examination of the use of reusable material for stockpile protection.

Project Summary:

1. This project will be initially in the form of a desk-based study, to examine the various materials on the market, which may suit stockpile protection.
2. It will re-examine previous Bord na Mona research into alternative stockpile protection measures and assess any advances in technology.
   It will take into account, the methods of application, life of the product, methods of removal, recyclebility, and economics etc and its suitability to Bord na Mona's requirements

This will be reported, on a quarterly basis, to the Head of Civil Engineering & Environmental Control and the results of the research documented.

Project Report:

Currently Bord na Mona use 350 gauge, 89 micron, low density black polythene for stockpile protection for a variety of reasons.

1. Weight per roll of polythene, is suitable for transport on the bog, where low bearing pressures are important.

2. It is also suitable for handling and covering of the stockpile on the bog and when removing during peat sales.

3. The polythene is also suitable for baling for recycling (see project 9).

Bord na Mona have also commissioned a study on biodegradable polymers used in the manufacture of film. The objectives of the study are to compare biodegradable films to polyethylene film for use as peat protective cover. The comparison will be based on product performance, end of life, degradation processes, product shelf life and cost.

The report will detail the current state of the art in commercially available biodegradable polymers. Polymer converters manufacturing biodegradable film will also be detailed. The comparison of biodegradable polymers to polyethylene will also be reported with particular emphasis on the performance requirements of Bord na Mona

The project, which is being carried out by the Polymer Development Centre, in The Athlone Business & Technology Park, has commenced since 11/02/02, and a report is due by 11/03/02

Environmental Management Programme Report

Project 11.

Condition 2.2.2 (x) of the EMP calls for the examination of wind power technology for pumped drainage.

Project Summary:

1 It will also involve examining previous research carried out by Bord na Mona and assessing changes in technology.
The project will initially be in the form of desk based study, to examine the technology availability, the pumping requirements of the various licensed activities, wind regimes, and the suitability of bogs for the installation of wind powered pumps.

Project Report:

Previous studies into utilising wind power technology for pumped drainage in Bord na Mona have show it to be unfeasible, for a number of reasons.

1. In order for a wind powered pump to operate when required ie. after periods of rainfall, wind is required. As rainfall is not always accompanied with high winds, a separate electrical pump would be required , therefore installation costs would be higher as both systems would be required on site. The requirement for a reliable and responsive pumping system is very important when operating in a production bog as it provides for the drainage of the catchment in situations where gravity drainage is no longer possible. The drainage is important in order to maintain the production fields for production operations and for the protection of existing stock on the bog.

2. Typical Bord na Mona pumping capacity is approx 2.47 l/sec/hectare. Wind pumping capacity of one wind pump investigated was found to be 20,000 to 40,000 litres depending on water head, which converts to 0.46l/sec, which is less than one fifth of the Bord na Mona requirements.

3. Wind regimes on BNM bogs at low heights are not suitable for wind power due to low wind speeds and obstacles on the bog surface and surrounding land such a forestry plantations which create "wind shade".

4. Due to the lack of wind data availability for the majority of Ireland, a wind test mast would have to be installed at each site to assess the potential wind regime. This would have to remain on site for 12mths to establish reliable wind speed data. These test masts would also require planning permission.

5. All wind turbines, regardless of hub height require planning permission from the local authority, and may require some environmental monitoring, or even an EIS.

However, regardless of the above, Bord na Mona is advances advances in technology regarding wind energy, and will continue to monitor and examine any possible uses in pumped drainage.

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath

Annual Environmental Report
IPC LICENCE 501

March 2003

Contents

1 Introduction

1.1 Company Details

Name:	**Bord na Mona Energy Limited.**
Address:	**Derrygreenagh Group** **Derrygreenagh Works** **Rochfortbridge** **Mullingar** **Co Westmeath.**
Telephone No:	**044 / 22181** Fax No: **044 / 22344**
Contact Name:	**Paul Riordan**
Position:	**Regional Manager.**
National Grid Reference:	**E249450 N238140**

1.2 Activities

The Derrygreenagh Group consists of the Derrygreenagh and Ballivor Groups and Rossan Bog.
The Derrygreenagh group of bogs is located in North Offaly and Southeast Westmeath. The Derrygreenagh group comprises of 3664 acquired hectares, of which there was 285 nett hectares in production in the 2002 season. The main catchment of these areas is the River Boyne.

The Ballivor group is made up of the bogs in the Ballivor, Carranstown, Bracklin and Lisclogher areas. There is a total of 275 hectares in production and each of these areas are linked by peatland railway to the Bord na Mona horticultural factory, situated between Ballivor and Raharney villages. Drainage from these bogs is to the Deel and Stonyford rivers, tributaries of the Boyne.

Rossan bog is situated one mile from Kinnegad village. There are currently 142 hectares in milled moss production. This bog drains to the Kinnegad River, a tributary of the River Boyne.

The Derrygreenagh Group currently employs 48 permanent and 5 seasonal workers. The Ballivor bogs employing 11 permanant and 3 seasonals, with 3 premanent and 3 seasonals employed in Rossan. Giving a total of 62 permanent and 11 seasonal employees across the licence area.

Transport operations are carried out on a seven day cycle throughout the year. Production operations are typically carried out over a seven day week (weather permitting) for 12 to 15 hours per day.

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:

- Milling.
- Harrowing.
- Ridging.
- Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways to one of the following locations.

- Power station (EPL)
- Horticultural Factory.

1.3 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Irelands peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its buisness in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

- Discharges to water.
- Emissions to atmosphere.
- Waste disposal.
- Use of natural resources.
- Noise, vibration, odour, dust and visual effects.
- Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

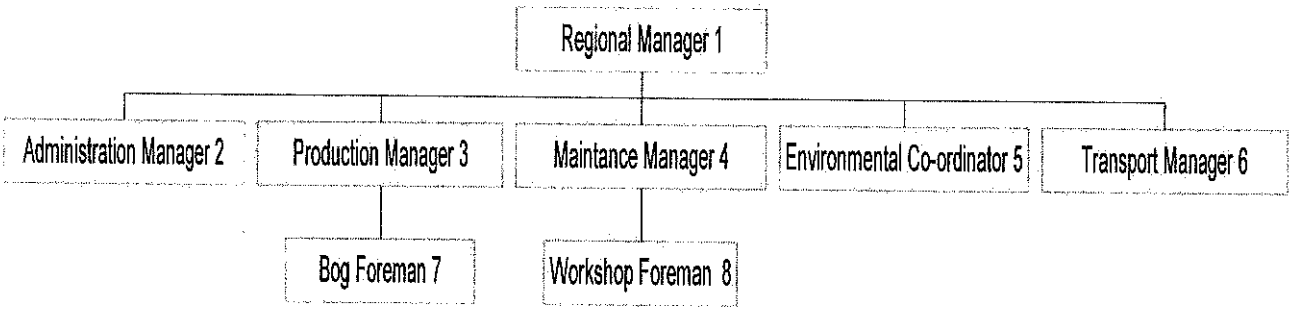
This statement is published and is available at all locations within the division and its contents are brought to the attention of all employees.

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.

Derrygreenagh Group

Environmental Responsibilities



(1) Overall environmental responsibilities
(2) Records of complaints and registers
(3) All production related issues
(4) Machine maintenance
(5) Co-ordinating environmental affairs
(6) All peat transportation matters
(7) Silt pond maintenance, tea centres, codes of practice
(8) Fuel loading, oil traps, weekly workshop inspections.

2 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

The following tables contain a summary of the emissions to surface waters from within the Derrygreenagh Group.

Silt Pond No: DH 1 Reporting Period (Jan-Dec 2002)	SW No. 1					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	7.8	7.7	7.5	6.9	~	
Flow (L/sec)	3.1	2.5	0.5	18.2	~	
Suspended Solids (mg/l)	<5	<5	<5	10	35mg/l	YES
Total Solids (mg/l)	388	346	400	172	~	
Total Phosphorus (mg/l)	<0.05	<0.05	<0.05	<0.05	~	
Ammonia (mg/l)	1.6	1.8	2.3	1.0	~	
Colour (Pt Co units)	99	150	55	258	~	
COD (mg/l)	48	62	38	69	~	

Silt Pond No: DM 6 Reporting Period (Jan-Dec 2002)	SW No. 6					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	8.2	8.0	8.0	7.4	~	
Flow (L/sec)	156	117	81.2	400.7	~	
Suspended Solids (mg/l)	<5	<5	15	6	35mg/l	YES
Total Solids (mg/l)	550	512	548	124	~	
Total Phosphorus (mg/l)	0.06	<0.05	0.07	0.05	~	
Ammonia (mg/l)	0.6	0.4	0.4	0.8	~	
Colour (Pt Co units)	50	75	32	125	~	
COD (mg/l)	32	33	20	53	~	

Silt Pond No: TR 19 Reporting Period (Jan-Dec 2002)	SW No. 14					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	7.5	7.3	7.7	6.7	~	
Flow (L/sec)	13.8	35	6.1	46.3	~	
Suspended Solids (mg/l)	35	<5	14	8	35mg/l	YES
Total Solids (mg/l)	278	176	408	230	~	
Total Phosphorus (mg/l)	0.09	0.05	0.07	<0.05	~	
Ammonia (mg/l)	2.0	1.1	2.1	0.9	~	
Colour (Pt Co units)	203	286	94	348	~	
COD (mg/l)	90	70	43	77	~	

Silt Pond No: BN 36 Reporting Period (Jan-Dec 2002)	SW No. 30					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	7.7	7.3	7.8	7.0	~	
Flow (L/sec)	1.25	5.3	1.56	16.5	~	
Suspended Solids (mg/l)	5	6	6	7	35mg/l	YES
Total Solids (mg/l)	218	98	340	250	~	
Total Phosphorus (mg/l)	<0.05	0.08	<0.05	<0.05	~	
Ammonia (mg/l)	0.5	0.4	0.3	0.4	~	
Colour (Pt Co units)	325	232	146	412	~	
COD (mg/l)	92	66	87	113	~	

Silt Pond No: CN 39 Reporting Period (Jan-Dec 2002)	SW No. 32					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	7.5	7.5	7.3	7.5	~	
Flow (L/sec)	39.6	106	0.02	114	~	
Suspended Solids (mg/l)	<5	10	8	6	35mg/l	YES
Total Solids (mg/l)	164	196	376	478	~	
Total Phosphorus (mg/l)	<0.05	0.05	0.09	0.11	~	
Ammonia (mg/l)	1.0	0.4	2.1	0.5	~	
Colour (Pt Co units)	206	434	103	89	~	
COD (mg/l)	46	114	62	36	~	

Silt Pond No: KD 50 Reporting Period (Jan-Dec 2002)	SW No. 43					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	7.6	7.5	7.7	6.6	~	
Flow (L/sec)	30	66	38	47.5	~	
Suspended Solids (mg/l)	<5	<5	<5	317	35mg/l	NO
Total Solids (mg/l)	184	184	270	288	~	
Total Phosphorus (mg/l)	0.09	0.08	<0.05	0.04	~	
Ammonia (mg/l)	2.0	1.9	2.8	1.0	~	
Colour (Pt Co units)	244	275	204	320	~	
COD (mg/l)	73	87	62	434	~	

2.2 Emissions to Air

2.2.1 Dust Monitoring

The tables below contain the dust emissions for each dust monitoring location within the Derrygreenagh Group. Monitoring took place on three separate occasions during the periods, June – July, July – August, August – September 2002.

June - July

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value	Compliant
DM 01	Dust	49	(350mg/m^2 /Day)	YES
DM 02	Dust	31	(350mg/m^2 /Day)	YES
DM 03	Dust	12	(350mg/m^2 /Day)	YES

July - Aug

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value	Compliant
DM 01	Dust	18	(350mg/m^2 /Day)	YES
DM 02	Dust	25	(350mg/m^2 /Day)	YES
DM 03	Dust	18	(350mg/m^2 /Day)	YES

Aug - Sep

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value	Compliant
DM 01	Dust	18	(350mg/m^2 /Day)	YES
DM 02	Dust	18	(350mg/m^2 /Day)	YES
DM 03	Dust	37	(350mg/m^2 /Day)	YES

Note: DM 01= Toar Bog. DM 02 = Derryhinch Bog. DM 03 = Ballivor Bog.

2.2.2 Non-compliance's

There was no non-compliance, in relation to air in the reporting period.

2.3Waste Arisings

2.3.1 Hazardous Waste

The following table is a record of all the hazardous wastes handled by the Derrygreenagh Group from January - December 2002.

WASTE DESCRIPTION	EWC CODE	TONNES / LITRES	NAME OF CONTRACTOR	DESTINATION	DATE	REJECTED CONSIGNMENTS
Waste Oil	130202	6300L	Atlas Waste Oil	Portlaoise	07/03/02	NA
Lead Acid Batteries	160601	56Nr	Returnbatt LTD	Kildare Town	14/05/02	NA
Lead Acid Batteries	160601	40Nr	Returnbatt LTD	Kildare Town	01/07/02	NA
Waste Oil	130202	7200L	Atlas Waste Oil	Portlaoise	31/07/02	NA
Lead Acid Batteries	160601	80NR	Returnbatt LTD	Kildare Town	26/08/02	NA
Waste Oil	130202	4000L	Atlas Waste Oil	Portlaoise	19/09/02	NA
Waste Oil	130202	1500L	Atlas Waste Oil	Portlaoise	07/10/02	NA
Oil Filters		* 2.5	Atlas Waste Oil	Portlaoise	07/10/02	NA
Waste Oil	130202	18000L	Atlas Waste Oil	Portlaoise	17/10/02	NA
Fluorescent Tube	200121	0.049	Irish Lamp Recycling	Athy Co Kildare	26/11/02	NA
Waste Oil	130202	7800L	Atlas Waste Oil	Portlaoise	05/12/02	NA

Note: * Approximate weight.

2.3.2 Non-Hazardous Waste

The following table lists the quantities of the wastes generated from January-December 2002 from all of the Derrygreenagh Group.

Waste Type	Quantity (Tonnes)
Silt Pond Waste	631.22
Scrap Metal	64.01
Mixed Municipal Waste	15.4
Total	**710.63**

2.4 Energy Consumption

The table below is a summary of the energy consumption for the Derrygreenagh Group, from the dates January – December 2002.

Water is not included, as it is not used as part of the production process. It is only used in offices, canteens and workshops on a domestic scale.

Fuel	Volume M^3	Tonnes	MW/Hours
Jan - Dec 2002			
Diesel	992	823	9711
Petrol	Nil	Nil	0
Electricity	NA	NA	41.33
Peat Briquettes	NA	210	1050
Total	**992**	**1033**	**10802.33**

2.5 Environmental Incidents & Complaints

There were no incidents within the Derrygreenagh Group, in the period January - December 2002.

Environmental Incidents	Number of Incidents
Incidents	0
Incidents requiring corrective action	0
Categories of Incident	
Odour	
Noise	
Water	
Air	
Procedural	
Miscellaneous	

There was one complaint within the Ballivor Group, in the period January - December 2002.

Environmental Complaints	Number of complaints
Complaints received	1
Complaints requiring corrective action	1
Categories of complaint	
Odour	
Noise	
Water	√
Air	
Procedural	
Miscellaneous	

3 Management of the Activity

3.1 Environmental Management Programme Report

Project	Description	Status
Project 1 & Project 2	(1)The reduction of fugitive dust emissions. (2)The minimisation of suspended solids movement to surface waters. (3)The examination of production machine modification. (4)The results of dust monitoring.	Projects ongoing, with production methods and training continuously being assessed for improvement, although production machine modification is behind schedule due to the inclement weather experienced during the 02 season. All personnel have been trained.
Project 3	Rationalisation of surface water discharge points.	Project Complete where feasible.
Project 4	Investigation of reed bed systems for final polish of silt pond discharges.	Project complete and retained on file. Report concludes that reed beds are not suitable for Bord na Mona's silt treatment systems.
Project 5	The separation of flood water and external runoff from production runoff.	Project Complete where feasible.
Project 6	The effective spill/leak management of mobile fueling units by implementing a programme of training and adopting Codes of Practice.	1: Procedures in place. 2: Training complete 3: ERP in place. 4: Upgrading of fueling units ongoing.
Project 7	Programme of bunding at all bulk diesel storage facilities	Project complete and works certified.
Project 8	Investigation into the reuse of silt pond waste	A silt pond has be constructed, in the Kilberry Group of Bogs, where trials will be carried out to examine the potential for re-using the silt waste from the silt pond as the main product, or as a by-product. This project was due to commence in 2002, but failed to do so, due to the weather conditions during the 2002 production season.
Project 9	Study into the collection storage and reuse of polyethelene covering	Project Completed by Polymer Institute, Athlone I. T, report on file.
Project 10	Examination of the use of reusable materials in the protection of stockpiles	Project complete, report on file. Concludes that wind power pumping not suitable to Bord na Mona's requirements
Project 11	Examination of wind power technology for pumped drainage.	Project complete, report on file. Concludes that wind power pumping not suitable to Bord na Mona's requirements

3.2 Environmental Expenditure

The table below lists the environmental costs incurred by the Derrygreenagh Group between January – December 2002.
In calculating the environmental costs 70% of the total costs were attributed to Licence 503 and 30% to Licence 501.The Ballivor Group costs were then added to the Derrygreenagh totals.

Expenditure Related to the Operation of the Derrygreenagh IPC Licence During the Period January – December 2002			
Description	**Ballivor Cost**	**D/Green Cost**	**Total Cost (€)**
Plant @ €40/hour	21,600	173,280	194,880
Labour	6,480	54,769	61,249
Materials	NA	31,728	31,728
Overheads (ESB, Phones, Consumables)	2,000	6,000	8,000
Laboratory Analysis	NA	17,500	17,500
EPA Fees	NA	7,920	7,920
Total	**€ 30,080**	**€ 291,197**	**€ 321,277**

4 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

The surface water discharge monitoring location programme remains the same as was submitted and accepted by the Agency in June 2000.
Pipes have been fitted at each location in order to accommodate flow metres and the provision of safe access is also ongoing.
Emission point signs have been designed and are in place.
Additional work has also being carried out at these locations as part of the ongoing silt pond upgrade programme.
Monitoring will be carried out at these same locations in the forthcoming year and reported on in next years AER.

4.2 Bunding Programme

The bunding programme for large scale oil storage facilities is complete and the works certified.

4.3 Boiler Combustion Efficiency

Boiler Details
Twin Danstoker solid fuel units each rated at 725KW, fuelled by loose briquettes.
Operating from Oct-Mar approximately at Derrygreenagh Works.

A boiler efficiency test was carried out on the 09/12/02. The results of this test showed the boiler to be operating at an efficiency level of 82.1%.
A full breakdown of the test is retained on file at the Derrygreenagh office.

4.4 Resource consumption Summary

There was a total of 142,168 tonnes of milled peat produced across the licence area in the production season 2002.
There was also a total of 121,877 tonnes of stock peat sold during the reporting period. Of this total 42,916 tonnes were sold to Edenderry Power Limited, 1,061 tonnes to Derrinlough Briquette Factory, 51,500 tonnes to Ballivor Moss Factory and 26,400 tonnes direct to Dublin Port for export.

4.5 De-silting programme report

Summary Data Table of Ponds De-Silted From Jan-December 2002

Bog	No Silt Ponds	Cleaned Once	Cleaned Twice	Cleaned >Three Times	Notes
Ballivor	10	6	4		
Carranstown	5		5		
Bracklin West	6			6	
Lisclogher	7				*
Kinnegad	6	4	2		
D/Hinch	4	4			**
Drumman	6	2			**
Ballybeg	6	4	2		
Toar	6	4	2		**

*: Bog still under development, no production.
**: No production at this Bog.
It should be noted that the unusually inclement weather experienced during the year, greatly hampered the silt pond cleaning programme.

4.6 Bog Development and Operational Programme

The bogs in the Derrygreenagh Group are well into their productive lives, therefore there will be no development in the year 2003.
However in the Ballivor Group, Carranstown bog is currently under development, this work is ongoing during summer months on a part time basis.

There will be 658.74 nett hectares in production in the 2003 season, yeilding 127,359 tonnes @ 55% moisture content.

Derrygreenagh will account for 49,279tonnes and 243.41 hectares.
Ballivor will account for 51,480 tonnes and 274.33 hectares and Rossan will account for 26,600 tonnes and 141 hectares.

4.7 Bog Rehabilition Report

Management guidelines for the planning and implementation of cutaway bog rehabilitation have been adopted and the document is currently available for inspection on file at the Derrygreenagh office.

5 Summary

With regard to environmental compliance at the Derrygreenagh Group of Bogs, there was one exceedence in the quarterly grab sampling of the ponds in the Surface Water Discharge Monitoring Location Programme.
There were Five non-compliances in relation to the Composite Sampler during the period January to December 2002. Dust monitoring results at the dust sensitive locations were below the Emission Limit Value and there was one complaint of an environmental nature received during the reporting period.

The staff awareness through training and involvement in the operation of the licence has also improved immensely. A full programme of training and awareness has been conducted at the works and has targeted all personnel ie. Office, Workshop, Transport and Production.

Bord na Mona are project partners of the Southeastern River Basin District Management, as set up under the Water Framework Directive.
Bord na Mona are also involved in catchment management on the River Barrow.

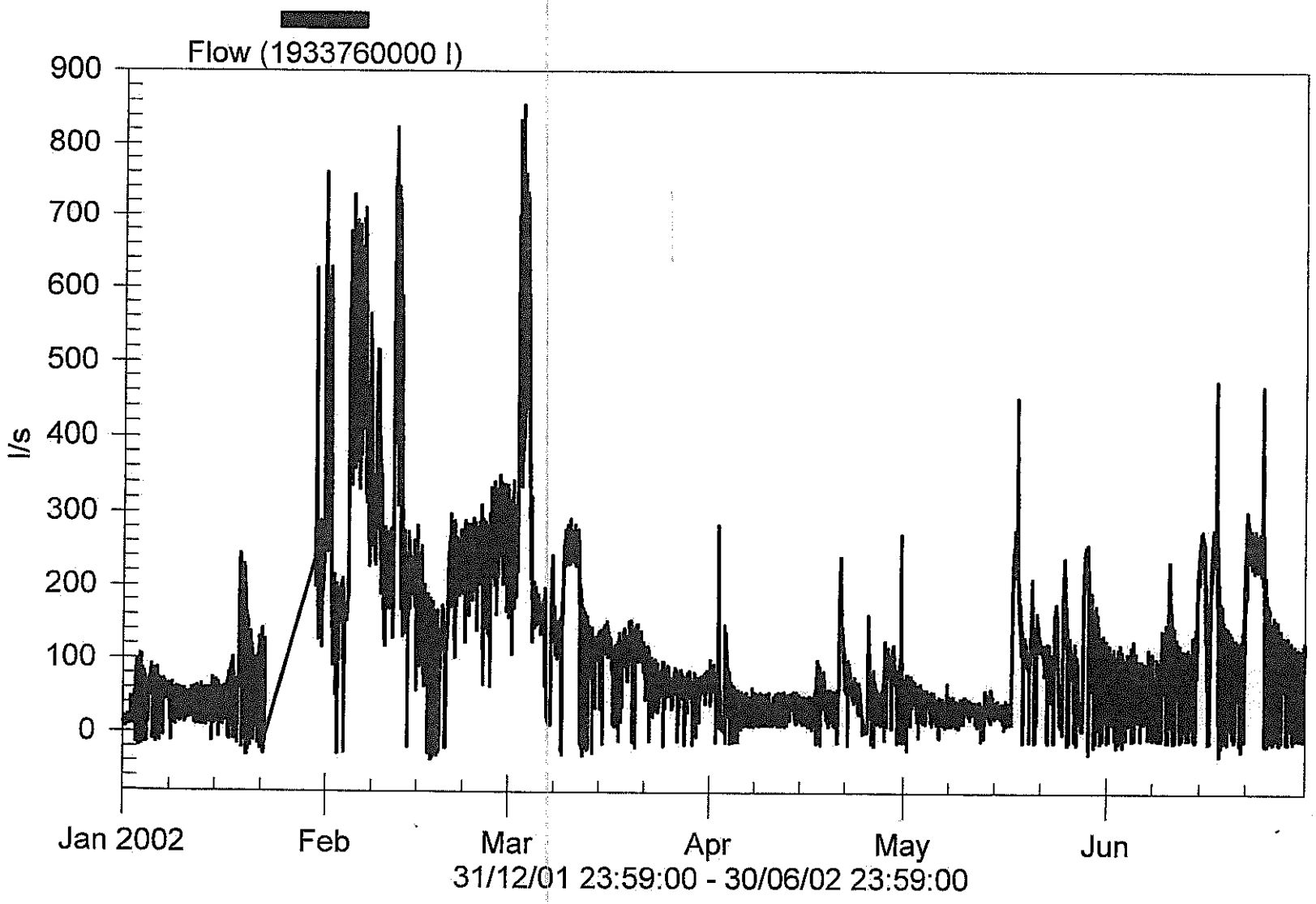
Bord na Mona Energy Ltd would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection measures.

APPENDIX 1

Composite Sampler Results

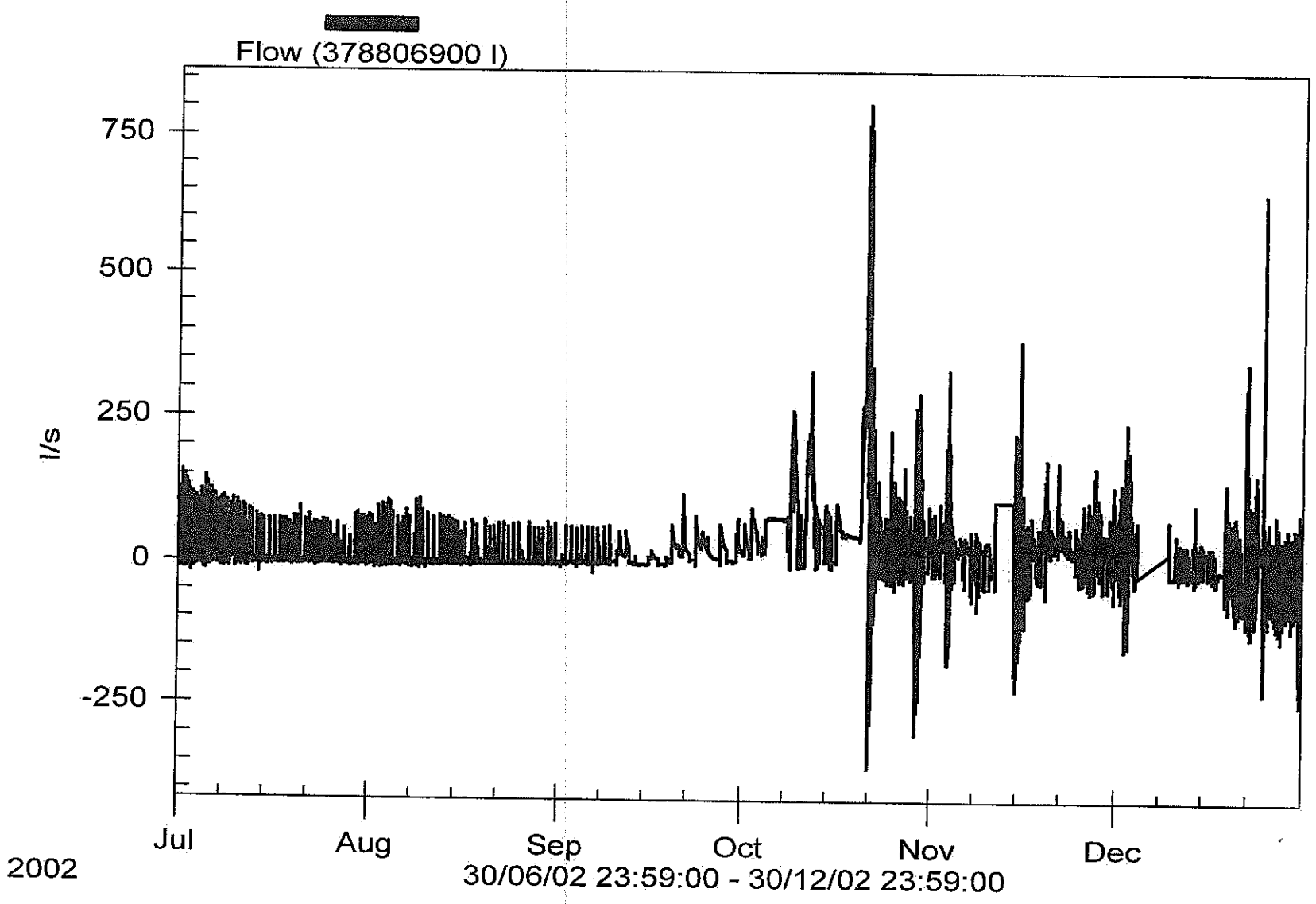
Derrygreenagh Composite Sampler

Jan - June 02



Derrygreenagh Composite Sampler

July - Dec 02



Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
January	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2002		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS		1373671	0.00	0.00	0.00	#VALUE!	#VALUE!
2					IS	IS		1924262	0.00	0.00	0.00	#VALUE!	#VALUE!
3	7.7	68	2.2	0.05	6	128	208	4885898	332.24	10.75	0.24	29.32	625.39
4					5	330		3717102	0.00	0.00	0.00	18.59	1226.64
5					5	304		5737152	0.00	0.00	0.00	28.69	1744.09
6					5	332		5133392	0.00	0.00	0.00	25.67	1704.29
7					5	340		4820438	0.00	0.00	0.00	24.10	1638.95
8					5	372		4090144	0.00	0.00	0.00	20.45	1521.53
9					5	146		4049188	0.00	0.00	0.00	20.25	591.18
10	8	57	0.7	0.06	6	378	144	3650476	208.08	2.56	0.22	21.90	1379.88
11					5	310		4070429	0.00	0.00	0.00	20.35	1261.83
12					9	376		3285525	0.00	0.00	0.00	29.57	1235.36
13					6	336		4056539	0.00	0.00	0.00	24.34	1363.00
14					IS	IS		3868676	0.00	0.00	0.00	#VALUE!	#VALUE!
15					8	338		4067333	0.00	0.00	0.00	32.54	1374.76
16					5	328		4343261	0.00	0.00	0.00	21.72	1424.59
17	8.3	76	1.9	0.16	5	268	265	5834252	443.40	11.09	0.93	29.17	1563.58
18					5	314		8461173	0.00	0.00	0.00	42.31	2656.81
19					5	210		12065440	0.00	0.00	0.00	60.33	2533.74
20					6	248		7233897	0.00	0.00	0.00	43.40	1794.01
21					5	320		6144772	0.00	0.00	0.00	30.72	1966.33
22					5	218		9825067	0.00	0.00	0.00	49.13	2141.86
23					20	198		20380030	0.00	0.00	407.60	407.60	4035.25
24	7.5	69	1.9	0.05	26	214	220	20380030	1406.22	38.72	1.02	529.88	4361.33
25					5	216		20380030	0.00	0.00	0.00	101.90	4402.09
26					6	220		20380030	0.00	0.00	0.00	122.28	4483.61
27					5	244		20380030	0.00	0.00	0.00	101.90	4972.73
28					10	266		20380030	0.00	0.00	0.00	203.80	5421.09
29					5	246		20380030	0.00	0.00	0.00	101.90	5013.49
30					6	232		22986260	0.00	0.00	0.00	137.92	5332.81
31	8.1	54	1.3	0.05	5	312	163	27523870	1486.29	35.78	1.38	137.62	8587.45

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
February 2002	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					10	300		30803950	0.00	0.00	0.00	308.04	9241.19
2					10	122		14542360	0.00	0.00	0.00	145.42	1774.17
3					5	140		14583170	0.00	0.00	0.00	72.92	2041.64
4	7.9	66	0.5	0.05	12	286	176	32370490	2136.45	16.19	1.62	388.45	9257.96
5					6	218		43948120	0.00	0.00	0.00	263.69	9580.69
6					5	246		47957830	0.00	0.00	0.00	239.79	11797.63
7					6	278		33326550	0.00	0.00	0.00	199.96	9264.78
8					5	312		29711610	0.00	0.00	0.00	148.56	9270.02
9					5	314		25741340	0.00	0.00	0.00	128.71	8082.78
10					5	332		20012160	0.00	0.00	0.00	100.06	6644.04
11	8	62	0.8	0.05	12	230	200	38401970	2380.92	30.72	1.92	460.82	8832.45
12					6	124		36490710	0.00	0.00	0.00	218.94	4524.85
13					5	246		17284290	0.00	0.00	0.00	86.42	4251.94
14					5	252		18345120	0.00	0.00	0.00	91.73	4622.97
15					5	304		16990360	0.00	0.00	0.00	84.95	5165.07
16					5	418		13770990	0.00	0.00	0.00	68.85	5756.27
17					10	122		8068980	0.00	0.00	0.00	80.69	984.42
18					5	278		5978991	0.00	0.00	0.00	29.89	1662.16
19	8.4	42	0.8	0.05	5	358	86	12857140	540.00	10.29	0.64	64.29	4602.86
20					11	186		20818180	0.00	0.00	0.00	229.00	3872.18
21					9	116		20358220	0.00	0.00	0.00	183.22	2361.55
22					10	242		21191480	0.00	0.00	211.91	211.91	5128.34
23					8	276		20727650	0.00	0.00	165.82	165.82	5720.83
24					5	286		21008280	0.00	0.00	0.00	105.04	6008.37
25					5	254		20895830	0.00	0.00	0.00	104.48	5307.54
26	8.1	56	0.7	0.05	6	212	165	23737200	1329.28	16.62	1.19	142.42	5032.29
27					5	282		24578460	0.00	0.00	0.00	122.89	6931.13
28					5	252		23981510	0.00	0.00	0.00	119.91	6043.34
29													
30													
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
March 2002	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					6	256		21413250	0.00	0.00	0.00	128.48	5481.79
2					5	242		33116550	0.00	0.00	0.00	165.58	8014.21
3					5	274		49078810	0.00	0.00	0.00	245.39	13447.59
4	8.5	50	1.1	0.05	6	330	80	26508180	1325.41	29.16	1.33	159.05	8747.70
5					5	434		15083470	0.00	0.00	0.00	75.42	6546.23
6					5	172		11485200	0.00	0.00	0.00	57.43	1975.45
7					6	410		8235851	0.00	0.00	0.00	49.42	3376.70
8					5	386		11427790	0.00	0.00	0.00	57.14	4411.13
9					5	394		17241370	0.00	0.00	0.00	86.21	6793.10
10					5	278		22445510	0.00	0.00	0.00	112.23	6239.85
11	8.4	54	1	0.05	8	288	160	21492770	1160.61	21.49	1.07	171.94	6189.92
12					12	406		11509700	0.00	0.00	0.00	138.12	4672.94
13					11	410		9158142	0.00	0.00	0.00	100.74	3754.84
14					13	414		8362460	0.00	0.00	0.00	108.71	3462.06
15					9	438		9965805	0.00	0.00	0.00	89.69	4365.02
16					5	374		10650260	0.00	0.00	0.00	53.25	3983.20
17					7	390		6501623	0.00	0.00	0.00	45.51	2535.63
18					5	396		7599758	0.00	0.00	0.00	38.00	3009.50
19	8.4	42	0.2	0.05	5	346	102	10183490	427.71	2.04	0.51	50.92	3523.49
20					IS	IS		10184200	0.00	0.00	0.00	#VALUE!	#VALUE!
21					5	376		10045740	0.00	0.00	0.00	50.23	3777.20
22					5	388		7833826	0.00	0.00	0.00	39.17	3039.52
23					6	398		5468129	0.00	0.00	0.00	32.81	2176.32
24					5	396		5644058	0.00	0.00	0.00	28.22	2235.05
25					5	406		5753254	0.00	0.00	0.00	28.77	2335.82
26	8.5	42	0.8	0.05	5	434	94	5840192	245.29	4.67	0.29	29.20	2534.64
27					5	442		5555475	0.00	0.00	0.00	27.78	2455.52
28					5	458		5159035	0.00	0.00	0.00	25.80	2362.84
29					5	476		4809714	0.00	0.00	0.00	24.05	2289.42
30					5	460		5295284	0.00	0.00	0.00	26.48	2435.83
31					5	440		6142406	0.00	0.00	0.00	30.71	2702.66

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
April 2002	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	326		6045528	0.00	0.00	0.00	30.23	1970.84
2	8.4	71	0.7	0.1	5	290	172	4772579	338.85	3.34	0.48	23.86	1384.05
3					5	418		5045961	0.00	0.00	0.00	25.23	2109.21
4					5	356		3844577	0.00	0.00	0.00	19.22	1368.67
5					5	424		2274568	0.00	0.00	0.00	11.37	964.42
6					5	412		2055583	0.00	0.00	0.00	10.28	846.90
7					5	412		2382841	0.00	0.00	0.00	11.91	981.73
8					16	420		2813592	0.00	0.00	0.00	45.02	1181.71
9	8.4	51	0.9	0.05	5	456	83	2384195	121.59	2.15	0.12	11.92	1087.19
10					5	436		2162734	0.00	0.00	0.00	10.81	942.95
11					5	444		3075893	0.00	0.00	0.00	15.38	1365.70
12					5	456		2498646	0.00	0.00	0.00	12.49	1139.38
13					6	446		3503696	0.00	0.00	0.00	21.02	1562.65
14					5	382		3321978	0.00	0.00	0.00	16.61	1269.00
15					5	454		3170347	0.00	0.00	0.00	15.85	1439.34
16	8.6	44	0.6	0.1	5	438	70	2474893	108.90	1.48	0.25	12.37	1084.00
17					5	414		4419141	0.00	0.00	0.00	22.10	1829.52
18					5	330		5336712	0.00	0.00	0.00	26.68	1761.11
19					5	336		3755097	0.00	0.00	0.00	18.78	1261.71
20					5	426		2908602	0.00	0.00	0.00	14.54	1239.06
21					5	430		12272180	0.00	0.00	0.00	61.36	5277.04
22					5	206		6513135	0.00	0.00	0.00	32.57	1341.71
23	8.1	90	0.2	0.05	5	228	250	5067288	456.06	1.01	0.25	25.34	1155.34
24					5	460		2834024	0.00	0.00	0.00	14.17	1303.65
25					5	444		4012386	0.00	0.00	0.00	20.06	1781.50
26					5	422		4529500	0.00	0.00	0.00	22.65	1911.45
27					5	326		3991374	0.00	0.00	0.00	19.96	1301.19
28					5	386		7659929	0.00	0.00	0.00	38.30	2956.73
29					5	318		6497580	0.00	0.00	0.00	32.49	2066.23
30	8.4	58	1	0.05	5	366	150	6909327	400.74	6.91	0.35	34.55	2528.81
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
May	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2002		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	390		5052108	0.00	0.00	0.00	25.26	1970.32
2					5	430		4769555	0.00	0.00	0.00	23.85	2050.91
3					5	478		4125723	0.00	0.00	0.00	20.63	1972.10
4					5	448		3785800	0.00	0.00	0.00	18.93	1696.04
5					5	520		3599088	0.00	0.00	0.00	18.00	1871.53
6					5	454		2305355	0.00	0.00	0.00	11.53	1046.63
7	8.4	61	0.4	0.05	5	454	98	2245395	136.97	0.90	0.11	11.23	1019.41
8					5	418		2058126	0.00	0.00	0.00	10.29	860.30
9					11	480		2029439	0.00	0.00	0.00	22.32	974.13
10					5	444		3084443	0.00	0.00	0.00	15.42	1369.49
11					5	478		2983885	0.00	0.00	0.00	14.92	1426.30
12					5	454		2553823	0.00	0.00	0.00	12.77	1159.44
13					5	334		2716685	0.00	0.00	0.00	13.58	907.37
14	8.8	72	0.2	0.07	5	320	142	3412407	245.69	0.68	0.24	17.06	1091.97
15					5	412		2795524	0.00	0.00	0.00	13.98	1151.76
16					6	390		2662682	0.00	0.00	0.00	15.98	1038.45
17					5	376		8163281	0.00	0.00	0.00	40.82	3069.39
18					5	142		21136560	0.00	0.00	0.00	105.68	3001.39
19					5	286		9270142	0.00	0.00	0.00	46.35	2651.26
20					5	322		10932280	0.00	0.00	0.00	54.66	3520.19
21	8.2	62	1.7	0.05	5	388	122	8774911	544.04	14.92	0.44	43.87	3404.67
22					5	436		9679893	0.00	0.00	0.00	48.40	4220.43
23					5	306		8028518	0.00	0.00	0.00	40.14	2456.73
24					5	296		9085522	0.00	0.00	0.00	45.43	2689.31
25					5	372		10588770	0.00	0.00	0.00	52.94	3939.02
26					5	364		8319564	0.00	0.00	0.00	41.60	3028.32
27					5	404		4970332	0.00	0.00	0.00	24.85	2008.01
28	8.3	63	1.2	0.06	5	380	146	11362980	715.87	13.64	0.68	56.81	4317.93
29					5	342		13598080	0.00	0.00	0.00	67.99	4650.54
30					5	392		8185101	0.00	0.00	0.00	40.93	3208.56
31					5	178		4892403	0.00	0.00	0.00	24.46	870.85

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
June	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2002		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	384		4304582	0.00	0.00	0.00	21.52	1652.96
2					5	436		3468706	0.00	0.00	0.00	17.34	1512.36
3					5	384		4729174	0.00	0.00	0.00	23.65	1816.00
4	8.6	47	0.9	0.05	5	458	89	4656917	218.88	4.19	0.23	23.28	2132.87
5					5	370		4436988	0.00	0.00	0.00	22.18	1641.69
6					5	416		4599031	0.00	0.00	0.00	23.00	1913.20
7					5	348		4388420	0.00	0.00	0.00	21.94	1527.17
8					5	404		2225853	0.00	0.00	0.00	11.13	899.24
9					5	402		5868940	0.00	0.00	0.00	29.34	2359.31
10					5	314		9649843	0.00	0.00	0.00	48.25	3030.05
11	8.2	61	0.7	0.07	5	278	239	6085864	371.24	4.26	0.43	30.43	1691.87
12					11	414		4495947	0.00	0.00	0.00	49.46	1861.32
13					5	414		4183408	0.00	0.00	0.00	20.92	1731.93
14					5	340		9293656	0.00	0.00	0.00	46.47	3159.84
15					14	210		20184010	0.00	0.00	0.00	282.58	4238.64
16					6	284		12368480	0.00	0.00	0.00	74.21	3512.65
17					6	240		21651540	0.00	0.00	0.00	129.91	5196.37
18	8.2	69	0.7	0.05	5	373	120	7380098	509.23	5.17	0.37	36.90	2752.78
19					5	418		5539314	0.00	0.00	0.00	27.70	2315.43
20					5	466		4673188	0.00	0.00	0.00	23.37	2177.71
21					5	442		6495130	0.00	0.00	0.00	32.48	2870.85
22					7	204		22406680	0.00	0.00	0.00	156.85	4570.96
23					5	290		21990660	0.00	0.00	0.00	109.95	6377.29
24					5	300		22265240	0.00	0.00	0.00	111.33	6679.57
25	8.4	51	0.7	0.05	5	416	140	10259890	523.25	7.18	0.51	51.30	4268.11
26					5	490		7435733	0.00	0.00	0.00	37.18	3643.51
27					5	497		5511237	0.00	0.00	0.00	27.56	2739.08
28					5	520		5160226	0.00	0.00	0.00	25.80	2683.32
29					5	460		4810536	0.00	0.00	0.00	24.05	2212.85
30					5	438		4061482	0.00	0.00	0.00	20.31	1778.93
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
August 2002	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	456		1282676	0.00	0.00	0.00	6.41	584.90
2					10	436		1416876	0.00	0.00	0.00	14.17	617.76
3					5	390		631382	0.00	0.00	0.00	3.16	246.24
4					5	358		2125391	0.00	0.00	0.00	10.63	760.89
5					7	426		373019	0.00	0.00	0.00	2.61	158.91
6	8.4	64	0.9	0.05	5	436	162	1431059	91.59	1.29	0.07	7.16	623.94
7					8	450		365555	0.00	0.00	0.00	2.92	164.50
8					12	440		191324	0.00	0.00	0.00	2.30	84.18
9					10	336		1202265	0.00	0.00	0.00	12.02	403.96
10					12	378		217650	0.00	0.00	0.00	2.61	82.27
11					10	452		671030	0.00	0.00	0.00	6.71	303.31
12					10	448		200724	0.00	0.00	0.00	2.01	89.92
13	8.4	54	0.5	0.05	18	438	89	1086139	58.65	0.54	0.05	19.55	475.73
14					26	396		1111533	0.00	0.00	0.00	28.90	440.17
15					12	412		481462	0.00	0.00	0.00	5.78	198.36
16					34	230		327698	0.00	0.00	0.00	11.14	75.37
17					35	546		166946	0.00	0.00	0.00	5.84	91.15
18					21	462		612716	0.00	0.00	0.00	12.87	283.07
19					35	IS		47230	0.00	0.00	0.00	1.65	#VALUE!
20	8.3	55	1.6	0.05	5	314	84	891502	49.03	1.43	0.04	4.46	279.93
21					10	468		645588	0.00	0.00	0.00	6.46	302.14
22					54	514		308676	0.00	0.00	0.00	16.67	158.66
23					14	350		870880	0.00	0.00	0.00	12.19	304.81
24					28	506		410266	0.00	0.00	0.00	11.49	207.59
25					39	394		604323	0.00	0.00	0.00	23.57	238.10
26					23	454		76737	0.00	0.00	0.00	1.76	34.84
27	8	50	0.7	0.05	7	480	81	609232	30.46	0.43	0.03	4.26	292.43
28					5	458		583270	0.00	0.00	0.00	2.92	267.14
29					63	506		163049	0.00	0.00	0.00	10.27	82.50
30					17	474		939722	0.00	0.00	0.00	15.98	445.43
31					36	428		201697	0.00	0.00	0.00	7.26	86.33

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
September 2002	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					41	490		29614	0.00	0.00	0.00	1.21	14.51
2					IS	IS		423928	0.00	0.00	0.00	#VALUE!	#VALUE!
3	8	52	1.3	0.05	5	489	66	276978	14.40	0.36	0.01	1.38	135.44
4					8	496		494015	0.00	0.00	0.00	3.95	245.03
5					12	502		419672	0.00	0.00	0.00	5.04	210.68
6					6	434		503079	0.00	0.00	0.00	3.02	218.34
7					8	488		997022	0.00	0.00	0.00	7.98	486.55
8					5	414		579179	0.00	0.00	0.00	2.90	239.78
9					13	454		405016	0.00	0.00	0.00	5.27	183.88
10	8.2	54	1.1	0.1	14	424	70	745606	40.26	0.82	0.07	10.44	316.14
11					IS	IS		1862682	0.00	0.00	0.00	#VALUE!	#VALUE!
12					IS	IS		1935663	0.00	0.00	0.00	#VALUE!	#VALUE!
13					IS	IS		-24918	0.00	0.00	0.00	#VALUE!	#VALUE!
14					IS	IS		-184399	0.00	0.00	0.00	#VALUE!	#VALUE!
15					IS	IS		69286	0.00	0.00	0.00	#VALUE!	#VALUE!
16					IS	IS		1076029	0.00	0.00	0.00	#VALUE!	#VALUE!
17	7.8	48	0.9	0.05	5	470	96	149546	7.18	0.13	0.01	0.75	70.29
18					IS	IS		133831	0.00	0.00	0.00	#VALUE!	#VALUE!
19					IS	IS		2136519	0.00	0.00	0.00	#VALUE!	#VALUE!
20					IS	IS		2467397	0.00	0.00	0.00	#VALUE!	#VALUE!
21					IS	IS		3401380	0.00	0.00	0.00	#VALUE!	#VALUE!
22					IS	IS		1213150	0.00	0.00	0.00	#VALUE!	#VALUE!
23					IS	IS		3021391	0.00	0.00	0.00	#VALUE!	#VALUE!
24	7.8	44	0.8	0.05	5	508	84	3300383	145.22	2.64	0.17	16.50	1676.59
25					IS	IS		2166074	0.00	0.00	0.00	#VALUE!	#VALUE!
26					IS	IS		946348	0.00	0.00	0.00	#VALUE!	#VALUE!
27					IS	IS		2746009	0.00	0.00	0.00	#VALUE!	#VALUE!
28					IS	IS		1721952	0.00	0.00	0.00	#VALUE!	#VALUE!
29					IS	IS		477817	0.00	0.00	0.00	#VALUE!	#VALUE!
30					IS	IS		2307910	0.00	0.00	0.00	#VALUE!	#VALUE!
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
October	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2002		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	7.8	43	0.8	0.05	5	466	90	2871286	123.47	2.30	0.14	14.36	1338.02
2					5	60		3698870	0.00	0.00	0.00	18.49	221.93
3					30	450		4587627	0.00	0.00	0.00	137.63	2064.43
4					11	462		2752557	0.00	0.00	0.00	30.28	1271.68
5					14	334		6897010	0.00	0.00	0.00	96.56	2303.60
6					IS	IS		6969913	0.00	0.00	0.00	#VALUE!	#VALUE!
7					IS	IS		6926518	0.00	0.00	0.00	#VALUE!	#VALUE!
8	8.2	122	3.5	0.14	33	322	202	5524656	674.01	19.34	0.77	182.31	1778.94
9					14	258		15611960	0.00	0.00	0.00	218.57	4027.89
10					8	366		3496425	0.00	0.00	0.00	27.97	1279.69
11					11	336		6604664	0.00	0.00	0.00	72.65	2219.17
12					14	218		15408270	0.00	0.00	0.00	215.72	3359.00
13					14	182		4853050	0.00	0.00	0.00	67.94	883.26
14					8	300		5800895	0.00	0.00	0.00	46.41	1740.27
15	7.9	78	1.8	0.06	18	408	144	1861128	145.17	3.35	0.11	33.50	759.34
16					12	432		3224321	0.00	0.00	0.00	38.69	1392.91
17					8	434		5111300	0.00	0.00	0.00	40.89	2218.30
18					11	424		4496910	0.00	0.00	0.00	49.47	1906.69
19					30	148		4321898	0.00	0.00	0.00	129.66	639.64
20					45	202		9250424	0.00	0.00	0.00	416.27	1868.59
21					122	261		36053430	0.00	0.00	0.00	4398.52	9409.95
22	7.8	100	1.3	0.11	24	250	164	4806866	480.69	6.25	0.53	115.36	1201.72
23					12	276		4708351	0.00	0.00	0.00	56.50	1299.50
24					5	352		1376895	0.00	0.00	0.00	6.88	484.67
25					17	256		4043449	0.00	0.00	0.00	68.74	1035.12
26					20	269		4197452	0.00	0.00	0.00	83.95	1129.11
27					19	242		4933355	0.00	0.00	0.00	93.73	1193.87
28					12	344		2680688	0.00	0.00	0.00	32.17	922.16
29	7.7	104	1.2	0.07	42	210	130	404690	42.09	0.49	0.03	17.00	84.98
30					28	216		4333607	0.00	0.00	0.00	121.34	936.06
31					29	360		3424794	0.00	0.00	0.00	99.32	1232.93

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Dec 2002	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					30	130		4065842	0.00	0.00	0.00	121.98	528.56
2					17	212		6334524	0.00	0.00	0.00	107.69	1342.92
3	7.5	74	0.2	0.07	23	116	157	3680492	272.36	0.74	0.26	84.65	426.94
4					IS	IS		1389035	0.00	0.00	0.00	#VALUE!	#VALUE!
5					IS	IS		1701907	0.00	0.00	0.00	#VALUE!	#VALUE!
6					IS	IS		1701907	0.00	0.00	0.00	#VALUE!	#VALUE!
7					IS	IS		1701907	0.00	0.00	0.00	#VALUE!	#VALUE!
8					IS	IS		1701907	0.00	0.00	0.00	#VALUE!	#VALUE!
9					IS	IS		645586	0.00	0.00	0.00	#VALUE!	#VALUE!
10					IS	IS		-125866	0.00	0.00	0.00	#VALUE!	#VALUE!
11					IS	IS		-699138	0.00	0.00	0.00	#VALUE!	#VALUE!
12					IS	IS		608702	0.00	0.00	0.00	#VALUE!	#VALUE!
13					IS	IS		-785802	0.00	0.00	0.00	#VALUE!	#VALUE!
14					IS	IS		964778	0.00	0.00	0.00	#VALUE!	#VALUE!
15	7.4	56	1.5	0.05	5	446	80	727426	40.74	1.09	0.04	3.64	324.43
16					IS	IS		-43083	0.00	0.00	0.00	#VALUE!	#VALUE!
17					IS	IS		-1391525	0.00	0.00	0.00	#VALUE!	#VALUE!
18					IS	IS		999604	0.00	0.00	0.00	#VALUE!	#VALUE!
19					IS	IS		-817085	0.00	0.00	0.00	#VALUE!	#VALUE!
20					6	134		-2609276	0.00	0.00	0.00	-15.66	-349.64
21					11	288		-4101425	0.00	0.00	0.00	-45.12	-1181.21
22	8.1	74	1.4	0.1	6	248	128	-3292648	-243.66	-4.61	-0.33	-19.76	-816.58
23					IS	IS		-802314	0.00	0.00	0.00	#VALUE!	#VALUE!
24					IS	IS		-1515837	0.00	0.00	0.00	#VALUE!	#VALUE!
25					IS	IS		-3411269	0.00	0.00	0.00	#VALUE!	#VALUE!
26					IS	IS		-4012205	0.00	0.00	0.00	#VALUE!	#VALUE!
27					IS	IS		-4860392	0.00	0.00	0.00	#VALUE!	#VALUE!
28					IS	IS		-3397107	0.00	0.00	0.00	#VALUE!	#VALUE!
29	8	111	0.6	0.16	52	234	216	-4212404	-467.58	-2.53	-0.67	-219.05	-985.70
30					IS	IS		-7485171	-830.85	-4.49	-1.20	#VALUE!	#VALUE!
31					IS	IS			0.00	0.00	0.00	#VALUE!	#VALUE!

IS: Insufficient amount of sample due to low flow or sampler malfunction.

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Annual Environmental Report
IPC LICENCE 501

March 2004

Contents

3.0 Management of the Activity

3.1 Environmental Management Programme Report

3.2 Environmental Management Programme Proposal

3.3 Environmental Expenditure

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

4.2 Bunding Programme

4.3 Boiler Combustion Efficiency

4.4 Resource Consumption Summary

4.5 Report on de-silting Programme

4.6 Bog Development and Operational Programme

4.7 Bog Rehabilitation Report

5.0 Summary

Appendix 1: Composite Sampler Results

1 Introduction

1.1 IPC Licence Register No **501**

1.2 Name & Location of Site

Name:	**Bord na Mona Energy Limited.**
Address:	**Derrygreenagh Group** **Derrygreenagh Works** **Rochfortbridge** **Mullingar** **Co Westmeath.**
Telephone No:	**044 / 22181** Fax No: **044 / 22344**
Contact Name:	**Paul Riordan**
Position:	**Regional Manager.**
National Grid Reference:	**E249450 N238140**

1.3 Description of Activities

The Derrygreenagh Group consists of the Derrygreenagh and Ballivor Groups and Rossan Bog.
The Derrygreenagh group of bogs is located in North Offaly and Southeast Westmeath. The Derrygreenagh group comprises of 3664 acquired hectares, of which there was 244 nett hectares in production in the 2003 season. The main catchment of these areas is the River Boyne.

The Ballivor group is made up of the bogs in the Ballivor, Carranstown, Bracklin and Lisclogher areas. There is a total of 278 hectares in production and each of these areas are linked by peatland railway to the Bord na Mona horticultural factory, situated between Ballivor and Raharney villages. Drainage from these bogs is to the Deel and Stonyford rivers, tributaries of the Boyne.

Rossan bog is situated one mile from Kinnegad village. There are currently 148 hectares in milled moss production. This bog drains to the Kinnegad River, a tributary of the River Boyne.

The Derrygreenagh Group currently employs 48 permanent and 5 seasonal workers. The Ballivor bogs employing 11 permanant and 3 seasonals, with 3 premanent and 3 seasonals employed in Rossan. Giving a total of 62 permanent and 11 seasonal employees across the licence area.

Transport operations are carried out on a seven day cycle throughout the year. Production operations are typically carried out over a seven day week (weather permitting) for 12 to 15 hours per day.

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:

- Milling.
- Harrowing.
- Ridging.
- Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways to one of the following locations.

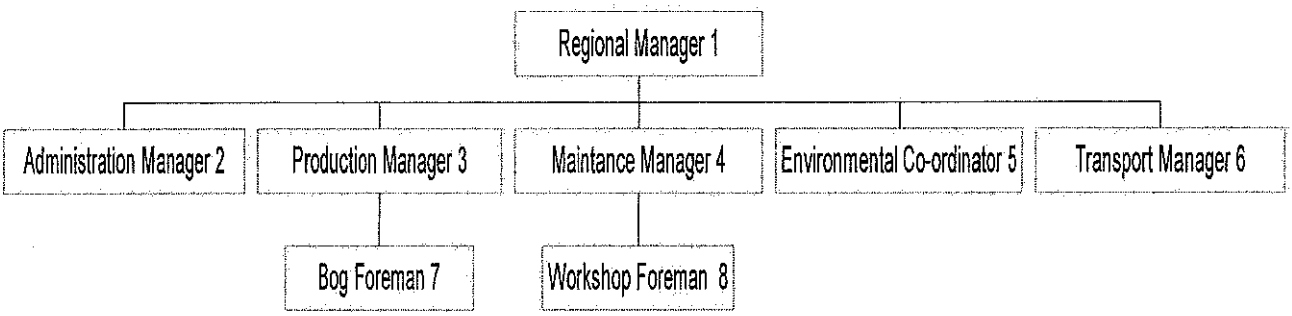
- Power station (EPL)
- Horticultural Factory.

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.

Derrygreenagh Group

Environmental Responsibilities



(1) Overall environmental responsibilities
(2) Records of complaints and registers
(3) All production related issues
(4) Machine maintenance
(5) Co-ordinating environmental affairs
(6) All peat transportation matters
(7) Silt pond maintenance, tea centres, codes of practice
(8) Fuel loading, oil traps, weekly workshop inspections.

1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Irelands peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its buisness in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

- Discharges to water.
- Emissions to atmosphere.
- Waste disposal.
- Use of natural resources.
- Noise, vibration, odour, dust and visual effects.
- Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its contents are brought to the attention of all employees.

2 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

The following tables contain a summary of the emissions to surface waters from within the Derrygreenagh Group.

Silt Pond No: DH 1 Reporting Period (Jan-Dec 2003)	**SW No. 1**					
Parameter	**Jan/Feb/Mar Emission (mg/l)**	**April/May/June Emission (mg/l)**	**July/Aug/Sept Emission (mg/l)**	**Oct/Nov/Dec Emission (mg/l)**	**E L V (mg/l)**	**Compliant**
pH units	7.4	7.6	7.5	7.5	~	
Flow (L/sec)	2	0.2	0.15	12.5	~	
Suspended Solids (mg/l)	<5	<5	<5	<5	35mg/l	YES
Total Solids (mg/l)	246	344	428	214	~	
Total Phosphorus (mg/l)	0.08	<0.05	<0.05	<0.05	~	
Ammonia (mg/l)	2.2	2.1	3.04	2.35	~	
Colour (Pt Co units)	110	110	85	132	~	
COD (mg/l)	44	61	63	56	~	

Silt Pond No: DM 6 Reporting Period (Jan-Dec 2003)	SW No. 6					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	7.6	8.1	7.7	7.7	~	
Flow (L/sec)	53.8	48.1	80.2	67.5	~	
Suspended Solids (mg/l)	<5	<5	<5	<5	35mg/l	YES
Total Solids (mg/l)	390	514	555	322	~	
Total Phosphorus (mg/l)	<0.05	<0.05	<0.05	<0.05	~	
Ammonia (mg/l)	0.9	<0.2	0.04	0.16	~	
Colour (Pt Co units)	48	52	51	70	~	
COD (mg/l)	28	38	42	31	~	

Silt Pond No: TR 19 Reporting Period (Jan-Dec 2003)	SW No. 14					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	7.4	7.7	7.4	7.3	~	
Flow (L/sec)	9	11	2.0	6.1	~	
Suspended Solids (mg/l)	6	<5	<5	<5	35mg/l	YES
Total Solids (mg/l)	210	250	404	248	~	
Total Phosphorus (mg/l)	<0.05	<0.05	0.07	<0.05	~	
Ammonia (mg/l)	2.0	1.5	2.41	1.97	~	
Colour (Pt Co units)	240	311	73	211	~	
COD (mg/l)	47	77	56	56	~	

Silt Pond No: BN 36 Reporting Period (Jan-Dec 2003)	SW No. 30					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	7.6	7.4	7.1	7.2	~	
Flow (L/sec)	3.2	7.2	0.26	2.43	~	
Suspended Solids (mg/l)	8	<5	10	<5	35mg/l	YES
Total Solids (mg/l)	256	428	206	216	~	
Total Phosphorus (mg/l)	0.07	0.15	<0.05	<0.05	~	
Ammonia (mg/l)	0.7	0.9	1.72	1.54	~	
Colour (Pt Co units)	322	144	139	161	~	
COD (mg/l)	79	41	58	57	~	

Silt Pond No: CN 39 Reporting Period (Jan-Dec 2003)	SW No. 32					
Parameter	Jan/Feb/Mar Emission (mg/l)	April/May/June Emission (mg/l)	July/Aug/Sept Emission (mg/l)	Oct/Nov/Dec Emission (mg/l)	E L V (mg/l)	Compliant
pH units	7.4	7.3	7.5	7.3	~	
Flow (L/sec)	6.76	21	2.7	14.65	~	
Suspended Solids (mg/l)	12	6	31	<5	35mg/l	YES
Total Solids (mg/l)	290	196	352	212	~	
Total Phosphorus (mg/l)	0.13	0.05	0.12	<0.05	~	
Ammonia (mg/l)	0.8	0.3	0.07	0.47	~	
Colour (Pt Co units)	316	404	214	231	~	
COD (mg/l)	81	121	103	83	~	

Silt Pond No: KD 50 Reporting Period (Jan-Dec 2003)	**SW No. 43**					
Parameter	**Jan/Feb/Mar Emission (mg/l)**	**April/May/June Emission (mg/l)**	**July/Aug/Sept Emission (mg/l)**	**Oct/Nov/Dec Emission (mg/l)**	**E L V (mg/l)**	**Compliant**
pH units	7.2	7.5	7.4	7.4	~	
Flow (L/sec)	18.7	8.6	6.8	42.7	~	
Suspended Solids (mg/l)	<5	<5	<5	<5	35mg/l	YES
Total Solids (mg/l)	230	210	264	172	~	
Total Phosphorus (mg/l)	0.09	0.05	0.12	<0.05	~	
Ammonia (mg/l)	2.6	2.1	2.26	2.82	~	
Colour (Pt Co units)	250	302	189	241	~	
COD (mg/l)	61	92	102	76	~	

2.1.2 Yard Discharge

The tables below are a summary of the emissions to surface waters from the yard and workshop at the Derrygreenagh Works.

Derrygreenagh SWE-2

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
COD mg/l	32	33		63	29	40	25			48		

Note: Due to the unusually dry year, fewer samples were available. In fact no samples were available on the day of sampling in the months March, August, September, November & December.

2.1.3 Composite Sampler Report

The composite sampler was relocated during the reporting period. It is now located at Derryhinch Bog at SW 3 on the outlet of silt pond DH 3. The sampler appears to be operating quite well at this location, although a programme of servicing is due to commence in the forthcoming year during which time the sampler will be out of commission to facilitate service works.
Attached in Appendix 1 are the results of the monitoring carried out using the composite sampler. There were no non-compliance's recorded by the sampler during the reporting period.

2.1.4 Non-compliance's

There were no non-compliance's, in relation to silt pond sampling during the reporting period.

2.2Emissions to Air

2.2.1 Dust Monitoring

The tables below contain the dust emissions for each dust monitoring location within the Derrygreenagh Group. Monitoring took place on three separate occasions during the periods, June – July, July – August, August – September 2003.

June - July

Emission Point	Parameter	Emission (mg/m^2/day)	Emission Limit Value	Compliant
DM 01	Dust	128	(350mg/m^2/Day)	YES
DM 02	Dust	83	(350mg/m^2/Day)	YES
DM 03	Dust	139	(350mg/m^2/Day)	YES

July - Aug

Emission Point	Parameter	Emission (mg/m^2/day)	Emission Limit Value	Compliant
DM 01	Dust	17	(350mg/m^2/Day)	YES
DM 02	Dust	89	(350mg/m^2/Day)	YES
DM 03	Dust	89	(350mg/m^2/Day)	YES

Aug - Sep

Emission Point	Parameter	Emission (mg/m^2/day)	Emission Limit Value	Compliant
DM 01	Dust	24	(350mg/m^2/Day)	YES
DM 02	Dust	42	(350mg/m^2/Day)	YES
DM 03	Dust	136	(350mg/m^2/Day)	YES

Note: DM 01= Toar Bog. DM 02 = Derryhinch Bog. DM 03 = Ballivor Bog.

2.2.2 Non-compliance's

There was no non-compliance, in relation to air in the reporting period.

2.3Waste Arisings

2.3.1 Non-Hazardous Waste

The following table lists the quantities of the wastes generated from January-December 2003 from all of the Derrygreenagh Group.

Waste Type	Quantity (Tonnes)
Silt Pond Waste	387.2
Scrap Metal	39.190
Mixed Municipal Waste	4.950
Total	**431.34**

2.3.2 Hazardous Waste

The following table is a record of all the hazardous wastes handled by the Derrygreenagh Group from January - December 2003.

WASTE DESCRIPTION	EWC CODE	TONNES	NAME OF CONTRACTOR	DESTINATION	DATE	REJECTED CONSIGNMENTS
Waste Oil	130202	6300L	Atlas Waste Oil	Portlaoise	04/03/03	NA
Lead Acid Batteries	160601	80NR	Returnbatt LTD	Kildare Town	15/04/03	NA
Waste Oil	130202	7850L	Atlas Waste Oil	Portlaoise	16/04/03	NA
Lead Acid Batteries	160601	1.5	Returnbatt LTD	Kildare Town	04/07/03	NA
Oily rags	150201	240L	Atlas Waste Oil	Portlaoise	17/07/03	NA
Waste Oil	130202	4750L	Atlas Waste Oil	Portlaoise	19/09/03	NA
Skip of Oil Filters	160107	2500kg	Atlas Waste Oil	Portlaoise	13/11/03	NA
Waste Oil	130202	6800L	Atlas Waste Oil	Portlaoise	25/11/03	NA
Waste Grease	130899	1 Barrell	Atlas Waste Oil	Portlaoise	28/11/03	NA
Oily rags	150201	240L	Atlas Waste Oil	Portlaoise	15/12/03	NA
Oil Filters	160107	660L	Atlas Waste Oil	Portlaoise	15/12/03	NA

Note: * Approximate weight.

2.4 Energy and Water Consumption

2.4.1 Energy Consumption

The table below is a summary of the energy consumption for the Derrygreenagh Group, from the dates January – December 2003.

Water is not included, as it is not used as part of the production process. It is only used in offices, canteens and workshops on a domestic scale.

Fuel	Volume M^3	Tonnes	MW/Hours
Jan - Dec 2003			
Diesel	99.6	82.6	974.6
Electricity	NA	NA	44.12
Peat Briquettes	NA	338	1690
Total	**99.6**	**420.6**	**2708.72**

2.5 Environmental Incidents & Complaints

2.5.1 Incidents

There were no incidents within the Derrygreenagh Group during the reporting period.

Environmental Incidents	Number of Incidents
Incidents	0
Incidents requiring corrective action	0
Categories of Incident	
Odour	
Noise	
Water	
Air	
Procedural	
Miscellaneous	

2.5.2 Complaints

There were no complaints within the Derrygreenagh Group, in the period January - December 2003.

Environmental Complaints	Number of complaints
Complaints received	0
Complaints requiring corrective action	0
Categories of complaint	
Odour	
Noise	
Water	
Air	
Procedural	
Miscellaneous	

3.0 Management of the Activity

3.1 Environmental Management Programme Report 2003

Environmental Management Programme Report 2003	
Project	
Project 1. Reduction of fugitive dust emissions.	**Training** Training was provided for all personnel during 2002, and will be repeated in 2004. This will be in the form of a Cleaner Production Video, which is currently in production. This video deals with all dust related production issues and identifies good practice and codes of practice for peat production in Dust Sensitive Locations (DSL's). **Headland Peat** Headland peat is another potential source of dust generation from bog production traffic. This was address by the introduction of a pilot production unit, involving a dedicated unit for the collection of headland peat in the Boora Group of Bogs (IPC 500). This unit, made up of one same field harvester and 4/5 tractor and haku trailers units was in operation in the Boora group during 2003. Its main function was to gather all headland peat from the different units as often as possible, so as to reduce the volumes of loose peat dry peat that can cause dust problems. It has proved successful, and it is proposed to extend this programme in 2004. **Hydraulic harrows** Plans for the fabrication of hydraulically operated harrows were completed in 2003, and an order was placed for 8 harrows for the 2004 production season.

Project 2. Minimisation of Suspended Solids	Various projects are currently underway to address these issues. As already discussed the Cleaner Production Video examines bad production methods that can lead to waste peat entering the drainage system and subsequently the silt pond network. These can occur during bog maintenance, milling, harrowing, ridging, harvesting and loading. The video highlights these practices and demonstrates improvements that can be achieved through better driving and operation. Other projects such as the hydraulic harrows and the collection of the headland peat are also related to cleaner production which will have a positive impact on waste minimisation and the reduction of waste peat that can potentially find its way into drainage network.
Project 3. Effective spill/leak management of mobile fuelling tanks	Mobile fuelling locations identified, and posted at each tea centre. The upgrading and overhaul of all mobile fuelling units is ongoing, with each unit being brought to the workshop for repairs / improvements. Codes of practice adopted and standard operating procedures in place as well as an emergency response procedure in the event of an oil spillage.
Project 4. Re-use of silt pond waste	No work has been carried out on this project to-date. It was proposed to monitor a silt pond constructed on the headland at Gilltown, in the Kilberry group of Bogs. Its close proximity to the production fields and stockpiles made it suitable for potentially reusing the waste peat excavated from the silt pond. This project will be examined again in 2004.
Project 5. Collection, storage and re-use of polythene.	Polythene for recycling has been collected from around the production areas, and stockpiled at a hard surface for baling/collection. A new mechanical method of stripping piles and rolling the polythene on a spool was developed and contracts for fabrication of 20 units externally, was agreed. This will produce a more compact and cleaner method of removing and transporting the polythene to a storage area. Polythene baled and loose has sent for recycling to various contractors and records of these are kept on file at the associated works. (see 2.3 Waste Arising). In total, approximately 1500 tonnes have been baled & collected, 700-800 tonnes of this recycled into pellets.

3.2 Environmental Management Programme Proposal for 2004

Environmental Management Programme for 2004	
Project	
Project 1. Reduction of fugitive dust emissions.	Continue with the completion of the Cleaner Production Video for 2004. A two day internal audit will be conducted on site and will include an assessment of dust protection measures in place at Dust Sensitive Locations Project works for 2004 includes: **Hydraulic Harrows** Eight Hydraulic Harrows have been fabricated in 2004, specifically for Dust Sensitive Locations. These hydraulic harrows will allow the spoons to be lifted when not on the production fields. This will assist in reducing dust generation by the following: 1. Less harrowing of headlands and passways, will reduce the suspension of dust particles 2. The headland peat will not be broken down and dried as much from harrowing, which will reduce the volumes that may become suspended. 3. It will also leave it a better condition for subsequent collection by the proposed headland peat units. t is proposed to have these 8 new hydraulic harrows in operation by the 2004 production season. There is a 5 year policy in BNM to fabricate an additional 40 hydraulic harrows, which will include some for the 2005 production season. The total cost of this proposed work is circa €650,000 over the 5 years and will represent 15% of the total no. of harrows in operation. **Headland Peat Collection** Following the success of the headland collection trials in Boora in 2003, a machine design for mass manufacture was agreed and tendered outside BNM for manufacture. These units are planed for mid production season in Derrygreenagh, Mountdillon, Boora, Blackwater, Derryfadda & Littleton. In addition to these machines, 26 Tractor and Haku trailer units will be employed to transport the peat from the headland to the Haku piles, at an over all cost of €1.7 million. All of the above modifications/new methods of production will be assessed, throughout the production year, to measure their performance and identify any potential improvements. The EMP will be updated on a regular basis to reflect these assessments.

Project 2. Minimisation of Suspended Solids	Work on this project is also covered by the Cleaner Production Video. Once completed it will be presented as part of the 2004 training programme and will target all production staff in all of the IPC Licence areas. It will cover all areas of production and will identify cleaner production methods aimed at reducing the generation of waste peat. All of the projects for 2004, covered under Project 1, will also have a positive effect on the minimisation of suspended solids, as it will allow for the collection of more loose peat on the headlands that would previously have been unsuitable as fuel peat.
Project 3. Effective spill/leak management of mobile fuelling tanks	The continuing overhaul of all mobile fuelling units. The training of all relevant personnel in the safe handling of fuels in accordance with the adopted codes of practice and the training of all relevant personnel in the use of emergency spill kits.
Project 4. Re-use of silt pond waste	A silt pond has be constructed, on the headland at Gilltown Bog in the Kilberry Group of Bogs, where trials will be carried out to examine the potential for re-using the silt waste from the silt pond as the main product, or as a by-product. This project was due to commence in 2002, but failed to do so, due to the weather conditions during the 2002 production season.
Project 5. Collection, storage and re-use of polythene.	Collection of polythene is on-going. This is mainly the back-log of polythene. There are currently 20 of the new polythene strippers being manufactured and are currently being delivered. All of the strippers will be delivered by the end of April, and will be assigned to the different locations within BNM. An additional 3 – 4 will also be fabricated by the late 04, early 05' this will bring to 25 the no in operation. There are currently three potential contractors that could take the waste polythene for recycling. All involve shredding, washing and either baling or pelletising the polythene and BNM are currently assessing each contractor to assess their suitability, environmental compliance etc. Once the back-log has been recycled, and BNM have all of the strippers in place, the day to day recycling of the polythene removed each year will be more efficient.

3.3 Environmental Expenditure

The table below lists the environmental costs incurred by the Derrygreenagh Group between January – December 2003.
In calculating the environmental costs 70% of the total costs were attributed to Licence 503 and 30% to Licence 501.The Ballivor Group costs were then added to the Derrygreenagh totals.

Expenditure Related to the Operation of the Derrygreenagh IPC Licence During the Period January – December 2003			
Description	**Ballivor Cost**	**D/Green Cost**	**Total Cost (€)**
Plant @ €40/hour	20,800	180,760	201,560
Labour	6,240	61,532	67,772
Materials	NA	28,252	28,252
Overheads (ESB, Phones, Consumables)	2,000	6,000	8,000
Laboratory Analysis	NA	17,355	17,355
EPA Fees	NA	9,249	9,249
Total	**29,040**	**303,148**	**332,188**

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

The surface water discharge monitoring location programme remains the same as was submitted and accepted by the Agency in June 2000.
Pipes have been fitted at each location in order to accommodate flow metres and the provision of safe access is also ongoing.
Emission point signs have been designed and are in place.
Additional work has also being carried out at these locations as part of the ongoing silt pond upgrade programme.
Monitoring will be carried out at these same locations in the forthcoming year and reported on in next years AER.

4.2 Bunding Programme

The bunding programme for large scale oil storage facilities is complete and the works certified.

4.3 Boiler Combustion Efficiency

Boiler Details
Twin Danstoker solid fuel units each rated at 725KW, fuelled by loose briquettes.
Operating from Oct-Mar approximately at Derrygreenagh Works.

A boiler efficiency test was carried out on the 09/12/03. The results of this test showed the boiler to be operating at an efficiency level of 82.1%.
A full breakdown of the test is retained on file at the Derrygreenagh office.

4.4 Resource consumption Summary

There was a total of 151,409 tonnes of milled peat produced across the licence area in the production season 2003.
There was also a total of 124,859 tonnes of stock peat sold during the reporting period. Of this total 47,849 tonnes were sold to Edenderry Power Limited, 1,505 tonnes to Derrinlough Briquette Factory, 30,500 tonnes to Ballivor Moss Factory, 3,560 tonnes to Kilberry Moss Factory and 41,445 tonnes direct to Dublin Port for export.

4.5 De-silting programme report

Summary Data Table of Ponds De-Silted From Jan-December 2003

Bog	No Silt Ponds	Cleaned Once	Cleaned Twice	Cleaned >Three Times	Notes
Ballivor	10	6	4		
Carranstown	5	4			
Bracklin West	6		6	4	
Lisclogher	7	6			*
Kinnegad	6		6	2	
D/Hinch	4	0			**
Drumman	6	1			**
Ballybeg	6	4	2		
Toar	6	0			**

*: Bog still under development, no production.
**: No production at this Bog.

4.6 Bog Development and Operational Programme

The bogs in the Derrygreenagh Group are well into their productive lives, therefore there will be no development in the year 2004.
However in the Ballivor Group, Carranstown bog is currently under development, the works involve production field preparation and drainage works such as piping.

There will be 644.83 nett hectares in production in the 2004 season, yeilding 120,569 tonnes @ 55% moisture content.

Derrygreenagh will account for 45,569 tonnes and 229.5 hectares.
Ballivor will account for 50,000 tonnes and 274.33 hectares and Rossan will account for 25,000 tonnes and 141 hectares.

4.7 Bog Rehabilition Report
There was no bog rehabilitation carried out within the Derrygreenagh group during the reporting period.
Management guidelines for the planning and implementation of cutaway bog rehabilitation have been adopted and the document is currently available for inspection on file at the Derrygreenagh office.

5 Summary

With regard to environmental compliance at the Derrygreenagh Group of Bogs, there was one exceedence in the quarterly grab sampling of the ponds in the Surface Water Discharge Monitoring Location Programme.
There were Five non-compliances in relation to the Composite Sampler during the period January to December 2003. Dust monitoring results at the dust sensitive locations were below the Emission Limit Value and there was one complaint of an environmental nature received during the reporting period.

The staff awareness through training and involvement in the operation of the licence has also improved immensely. A full programme of training and awareness has been conducted at the works and has targeted all personnel ie. Office, Workshop, Transport and Production.

Bord na Mona are project partners of the Southeastern River Basin District Management, as set up under the Water Framework Directive.
Bord na Mona are also involved in catchment management on the River Barrow.

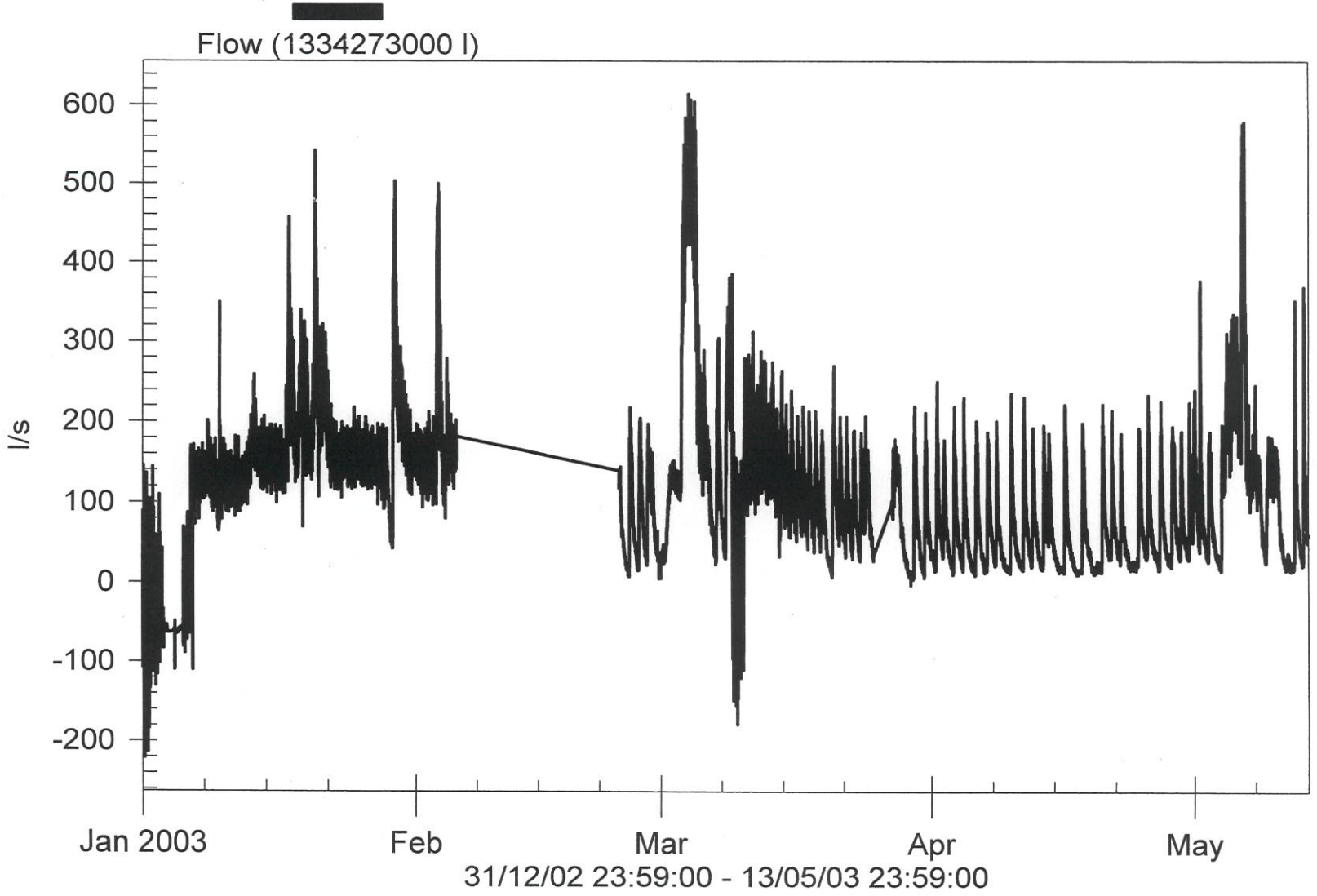
Bord na Mona Energy Ltd would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection measures.

APPENDIX 1

Composite Sampler Results

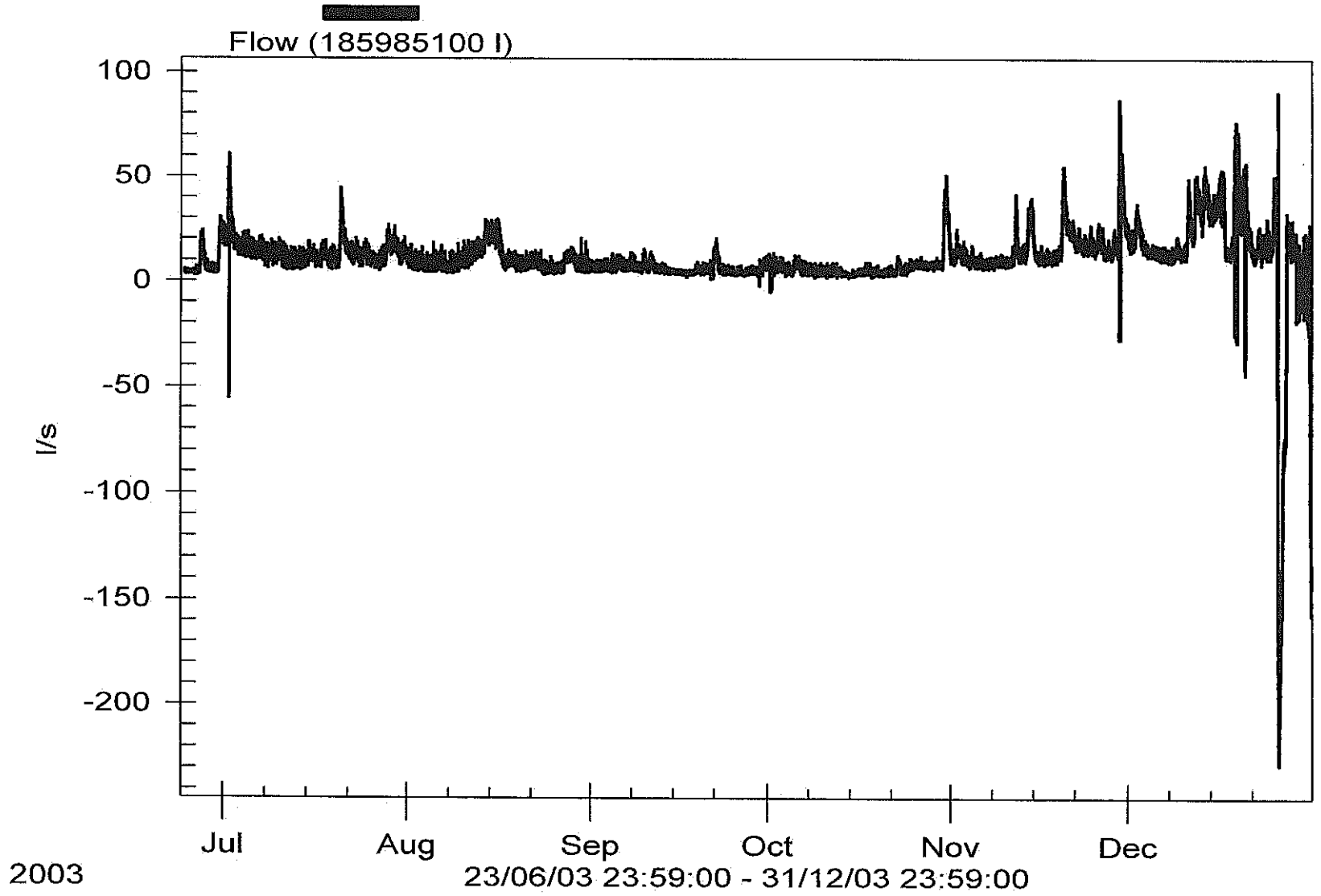
Ballybeg (BB15) Composite Sampler

01/01/03 to 13/05/03



Derryhinch (DH 03) Composite Sampler

24/06/03 to 31/12/03



Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
January	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2003		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS		7789923					
2					IS	IS		3840880					
3					IS	IS		4769522					
4					IS	IS		5617487					
5	7.4	47	1.5	0.07	7	172	79	4936091	232.00	7.40	0.35	34.55	849.01
6					5	414		6704616				33.52	2775.71
7					6	314		11354790				68.13	3565.40
8					8	358		11995150				95.96	4294.26
9					5	442		10408670				52.04	4600.63
10					5	444		11226370				56.13	4984.51
11					38	488		10953280				416.22	5345.20
12	7.6	32	1.5	0.07	5	266	67	11425600	365.62	17.14	0.80	57.13	3039.21
13					5	304		14855920				74.28	4516.20
14					5	342		13729380				68.65	4695.45
15					5	388		13275410				66.38	5150.86
16					5	379		12878520				64.39	4880.96
17					12	112		20093200				241.12	2250.44
18					6	256		17315590				103.89	4432.79
19	8.1	53	0.9	0.08	5	IS	192	19045700	1009.42	17.14	1.52	95.23	#VALUE!
20					9	188		22261950				200.36	4185.25
21					5	308		21766970				108.83	6704.23
22					5	386		14645310				73.23	5653.09
23					5	408		13480680				67.40	5500.12
24					6	444		13620860				81.73	6047.66
25					6	348		13960700				83.76	4858.32
26	7.9	48	1.2	0.06	5	394	150	13727510	658.92	16.47	0.82	68.64	5408.64
27					5	414		12957410				64.79	5364.37
28					5	408		11891860				59.46	4851.88
29					14	270		18921710				264.90	5108.86
30					6	428		18331520				109.99	7845.89
31					5	466		13782230				68.91	6422.52

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters					Daily Totals				
February	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2003		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	360		13275810				66.38	4779.29
2	8.1	48	1.2	0.05	5	344	153	13068710	627.30	15.68	0.65	65.34	4495.64
3					5	316		21821610				109.11	6895.63
4					5	352		13829520				69.15	4867.99
5					5	356		13318290				66.59	4741.31
6					5	416		12052800				60.26	5013.96
7					5	214		12052800				60.26	2579.30
8					5	460		12052800				60.26	5544.29
9	8.2	53	1.1	0.07	12	140	81	12052800	638.80	13.26	0.84	144.63	1687.39
10					5	290		12052800				60.26	3495.31
11					5	218		12052800				60.26	2627.51
12					5	408		12052800				60.26	4917.54
13					6	406		12052800				72.32	4893.44
14					6	296		12052800				72.32	3567.63
15					IS	IS		12052800					
16	8	36	1.7	0.05	5	400	78	12052800	433.90	20.49	0.60	60.26	4821.12
17					5	398		12052800				60.26	4797.01
18					5	340		12052800				60.26	4097.95
19					5	472		12052800				60.26	5688.92
20					5	198		12052800				60.26	2386.45
21					5	250		12052800				60.26	3013.20
22					5	386		12052800				60.26	4652.38
23	8.1	36	1.8	0.05	5	182	71	12052800	433.90	21.70	0.60	60.26	2193.61
24					16	458		7993264				127.89	3660.91
25					5	170		6593746				32.97	1120.94
26					5	462		6921965				34.61	3197.95
27					5	302		7956093				39.78	2402.74
28					14	389		4934699				69.09	1919.60
29													
30													
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
March 2003	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					34	250		4273220				145.29	1068.31
2	7.6	76	1.3	0.14	28	217	144	11126560	845.62	14.46	1.56	311.54	2414.46
3					8	248		26451060				211.61	6559.86
4					7	146		44020170				308.14	6426.94
5					5	IS		21269650				106.35	
6					5	282		12252450				61.26	3455.19
7					5	330		10234340				51.17	3377.33
8					6	280		13655460				81.93	3823.53
9	7.9	57	1	0.06	5	212	173	7690499	438.36	7.69	0.46	38.45	1630.39
10					5	244		9715159				48.58	2370.50
11					5	232		14688530				73.44	3407.74
12					5	248		16016010				80.08	3971.97
13					5	218		15245720				76.23	3323.57
14					5	238		12058810				60.29	2870.00
15					5	234		10011000				50.06	2342.57
16					6	276		10680300				64.08	2947.76
17	7.9	36	1	0.07	5	266	80	8334120	300.03	8.33	0.58	41.67	2216.88
18					10	314		9898372				98.98	3108.09
19					9	382		8050158				72.45	3075.16
20					17	440		5815313				98.86	2558.74
21					5	416		9172562				45.86	3815.79
22					5	432		7349564				36.75	3175.01
23					5	427		7452857				37.26	3182.37
24	7.6	44	0.8	0.08	11	368	78	10149310	446.57	8.12	0.81	111.64	3734.95
25					IS	IS		6755058					
26					IS	IS		8384429					
27					5	358		9976631				49.88	3571.63
28					5	446		8084401				40.42	3605.64
29					5	468		1231614				6.16	576.40
30					5	392		6661695				33.31	2611.38
31	8.3	28	0.8	0.05	5	436	65	6208610	173.84	4.97	0.31	31.04	2706.95

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results **Licence 501**

Month				Parameters							Daily Totals		
April	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2003		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	336		6296932				31.48	2115.77
2					5	182		6707497				33.54	1220.76
3					5	328		5806547				29.03	1904.55
4					5	463		6136953				30.68	2841.41
5					5	192		2917155				14.59	560.09
6					5	448		6527260				32.64	2924.21
7	8.5	18	0.2	0.05	5	466	71	6144158	110.59	1.23	0.31	30.72	2863.18
8					5	224		6307052				31.54	1412.78
9					5	252		1979096				9.90	498.73
10					5	332		6999749				35.00	2323.92
11					5	442		6376709				31.88	2818.51
12					5	336		6278754				31.39	2109.66
13					5	412		4897624				24.49	2017.82
14	8.3	58	0.2	0.05	5	318	69	7081850	410.75	1.42	0.35	35.41	2252.03
15					8	232		2035693				16.29	472.28
16					5	276		6674664				33.37	1842.21
17					5	256		1647269				8.24	421.70
18					5	254		6356302				31.78	1614.50
19					6	270		1844888				11.07	498.12
20					5	480		6087622				30.44	2922.06
21	8.3	55	0.9	0.05	6	290	62	6294666	346.21	5.67	0.31	37.77	1825.45
22					5	312		5945695				29.73	1855.06
23					5	366		2674436				13.37	978.84
24					5	282		5516747				27.58	1555.72
25					5	364		7088751				35.44	2580.31
26					5	354		3540561				17.70	1253.36
27					5	324		6838260				34.19	2215.60
28	8.2	40	7	0.05	5	364	82	6922454	276.90	48.46	0.35	34.61	2519.77
29					5	340		6241581				31.21	2122.14
30					5	398		7075021				35.38	2815.86
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
May 2003	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	310		10403560				52.02	3225.10
2					5	138		6945837				34.73	958.53
3					5	270		3634873				18.17	981.42
4					5	398		14565200				72.83	5796.95
5	8.1	57	2	0.06	10	176	223	22919280	1306.40	45.84	1.38	229.19	4033.79
6					5	190		28150900				140.75	5348.67
7					5	295		12556500				62.78	3704.17
8					5	412		8719490				43.60	3592.43
9					5	432		9764944				48.82	4218.46
10					5	486		9941591				49.71	4831.61
11					5	394		2300668				11.50	906.46
12	8.4	53	0.7	0.05	5	394	83	7088921	375.71	4.96	0.35	35.44	2793.03
13					5	400		6810333				34.05	2724.13
14					5	398		*					
15					5	478		*					
16					5	420		*					
17					5	398		*					
18					5	310		*					
19	8.4	64	1	0.05	5	342	143	*					
20					5	334		*					
21					5	385		*					
22					5	266		*					
23					5	332		*					
24					5	278		*					
25					5	270		*					
26	8.1	51	0.51	0.07	5	292	126	*					
27					5	396		*					
28					5	183		*					
29					5	286		*					
30					5	348		*					
31					5	408		*					

IS: Insufficient amount of sample due to low flow or sampler malfunction.

* Velocity meter malfunction

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
June 2003	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	444		*					
2	8.1	59	0.4	0.05	5	390	124	*					
3					IS	IS		*					
4					IS	IS		*					
5					IS	IS		*					
6					IS	IS		*					
7					IS	IS		*					
8					IS	IS		*					
9					IS	IS		*					
10					IS	IS		*					
11					IS	IS		*					
12					IS	IS		*					
13					IS	IS		*					
14					IS	IS		*					
15	7.5	48	1.1	0.05	5	300	74	*					
16					IS	IS		*					
17					IS	IS		*					
18					IS	IS		*					
19					IS	IS		*					
20					IS	IS		*					
21					IS	IS		*					
22	7.9	55	2.3	0.08	5	322	70	*					
23					IS	IS		*					
24					IS	IS		594907					
25					IS	IS		455397					
26					5	320		362637				1.81	116.04
27					5	232		343051				1.72	79.59
28					5	256		1179122				5.90	301.86
29	8.1	36	2	0.06	5	318	101	526852	18.97	1.05	0.03	2.63	167.54
30					5	278		423883				2.12	117.84
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

* Velocity meter malfunction

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
July	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2003		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	228		1648917				8.24	375.95
2					5	214		2184999				10.92	467.59
3					5	248		2256312				11.28	559.57
4					5	286		1424804				7.12	407.49
5					5	274		1361803				6.81	373.13
6	7.9	86	1.8	0.05	5	220	142	1286364	110.63	2.32	0.06	6.43	283.00
7					5	282		1206542				6.03	340.24
8					5	288		1217167				6.09	350.54
9					5	294		1068490				5.34	314.14
10					5	288		961803				4.81	277.00
11					5	284		1074007				5.37	305.02
12					5	279		912553				4.56	254.60
13	8.2	60	1.29	0.05	5	270	129	903490	54.21	1.17	0.05	4.52	243.94
14					5	282		894642				4.47	252.29
15					5	298		912440				4.56	271.91
16					5	292		998282				4.99	291.50
17					5	292		930873				4.65	271.81
18					5	284		1108545				5.54	314.83
19					5	258		961054				4.81	247.95
20	7.7	58	1.26	0.05	5	228	164	1017374	59.01	1.28	0.05	5.09	231.96
21					5	182		1712623				8.56	311.70
22					5	533		1635002				8.18	871.46
23					5	200		1177241				5.89	235.45
24					5	234		1210511				6.05	283.26
25					5	212		1121393				5.61	237.74
26					5	240		1018582				5.09	244.46
27	8.4	42	1.1	0.07	5	364	133	859570	36.10	0.95	0.06	4.30	312.88
28					**IS**	**IS**		931398					
29					**IS**	**IS**		1359661					
30					**IS**	**IS**		1507563					
31					**IS**	**IS**		1202255					

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
August 2003	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					IS	IS		1216657					
2					IS	IS		867021					
3					IS	IS		673424					
4	7.5	82	2.57	0.17	5	324	135	753345	61.77	1.94	0.13	3.77	244.08
5					5	288		556352				2.78	160.23
6					5	304		649228				3.25	197.37
7					6	306		681640				4.09	208.58
8					13	304		556403				7.23	169.15
9					5	292		620766				3.10	181.26
10					5	278		740104				3.70	205.75
11	7.8	66	2.02	0.06	5	282	176	902347	59.55	1.82	0.05	4.51	254.46
12					5	240		1064022				5.32	255.37
13					5	196		1232545				6.16	241.58
14					5	190		1384606				6.92	263.08
15					5	198		1978323				9.89	391.71
16					5	172		1941786				9.71	333.99
17					5	204		1676179				8.38	341.94
18					5	267		854737				4.27	228.21
19	8.2	51	2.08	0.08	5	183	133	927954	47.33	1.93	0.07	4.64	169.82
20					5	200		801379				4.01	160.28
21					5	298		741491				3.71	220.96
22					5	320		790722				3.95	253.03
23					5	316		857466				4.29	270.96
24					5	320		711380				3.56	227.64
25					5	296		520021				2.60	153.93
26					5	256		546265				2.73	139.84
27	8.2	33	2.18	0.05	5	260	97	504069	16.63	1.10	0.03	2.52	131.06
28					5	274		751553				3.76	205.93
29					5	272		1055509				5.28	287.10
30					5	302		820268				4.10	247.72
31					5	286		690428				3.45	197.46

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
September 2003	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	298		683919				3.42	203.81
2	8	43	2.12	0.07	5	302	97	606386	26.07	1.29	0.04	3.03	183.13
3					5	212		654350				3.27	138.72
4					5	242		650376				3.25	157.39
5					5	276		558473				2.79	154.14
6					5	258		718577				3.59	185.39
7					5	262		665498				3.33	174.36
8					5	248		755937				3.78	187.47
9	8	41	2.28	0.05	5	262	83	645866	26.48	1.47	0.03	3.23	169.22
10					5	274		606811				3.03	166.27
11					5	276		683454				3.42	188.63
12					5	206		730682				3.65	150.52
13					5	152		516542				2.58	78.51
14					5	216		479354				2.40	103.54
15					5	214		435597				2.18	93.22
16	8	47	2.46	0.05	5	238	90	399751	18.79	0.98	0.02	2.00	95.14
17					5	322		374532				1.87	120.60
18					6	307		360077				2.16	110.54
19					7	262		416900				2.92	109.23
20					13	242		464259				6.04	112.35
21	8.2	58	1.71	0.05	12	302	80	526934	30.56	0.90	0.03	6.32	159.13
22					5	308		517652				2.59	159.44
23					5	208		939921				4.70	195.50
24					5	240		475997				2.38	114.24
25					5	310		420807				2.10	130.45
26					5	302		372426				1.86	112.47
27					5	328		391265				1.96	128.33
28	8	118	2.56	0.05	5	283	78	399226	47.11	1.02	0.02	2.00	112.98
29					5	294		445622				2.23	131.01
30					5	272		458204				2.29	124.63
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
October	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2003		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	280		680897				3.40	190.65
2					5	280		435232				2.18	121.86
3					5	270		638996				3.19	172.53
4					5	270		613388				3.07	165.61
5	8.2	46	2.55	0.05	5	260	62	539049	24.80	1.37	0.03	2.70	140.15
6					5	226		639485				3.20	144.52
7					5	274		661503				3.31	181.25
8					5	242		543380				2.72	131.50
9					5	232		493554				2.47	114.50
10					5	244		449797				2.25	109.75
11					5	270		478011				2.39	129.06
12	8.5	48	1.9	0.13	5	290	90	458761	22.02	0.87	0.06	2.29	133.04
13					IS	IS		488883					
14					IS	IS		368510					
15					IS	IS		300843					
16					IS	IS		320665					
17					IS	IS		400150					
18					IS	IS		452340					
19	7.9	46	3.11	0.05	5	178	85	437491	20.12	1.36	0.02	2.19	77.87
20					9	274		365781				3.29	100.22
21					5	274		352005				1.76	96.45
22					6	258		399766				2.40	103.14
23					5	252		464221				2.32	116.98
24					5	232		581754				2.91	134.97
25					5	270		583514				2.92	157.55
26					5	270		713912				3.57	192.76
27	7.9	48	3.06	0.05	8	270	67	732498	35.16	2.24	0.04	5.86	197.77
28					5	218		684513				3.42	149.22
29					5	222		697046				3.49	154.74
30					5	230		700701				3.50	161.16
31					5	204		1435247				7.18	292.79

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
November 2003	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phospiorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	226		2459980				12.30	555.96
2					5	206		1155416				5.78	238.02
3	7.6	34	1.99	0.05	5	212	130	1234556	41.97	2.46	0.06	6.17	261.73
4					5	174		1012736				5.06	176.22
5					5	222		933568				4.67	207.25
6					5	242		850030				4.25	205.71
7					5	232		797618				3.99	185.05
8					5	228		771521				3.86	175.91
9					5	206		830006				4.15	170.98
10					5	232		872315				4.36	202.38
11	8	59	1.77	0.05	5	184	133	822127	48.51	1.46	0.04	4.11	151.27
12					5	260		1416778				7.08	368.36
13					5	224		1384612				6.92	310.15
14					5	152		1336359				6.68	203.13
15					5	228		2540045				12.70	579.13
16					5	146		1089775				5.45	159.11
17					5	121		1005376				5.03	121.65
18	7.9	66	1.37	0.05	5	176	156	1036266	68.39	1.42	0.05	5.18	182.38
19					5	164		1045128				5.23	171.40
20					5	158		1838792				9.19	290.53
21					5	136		2886357				14.43	392.54
22					9	178		2008675				18.08	357.54
23					5	160		1666931				8.33	266.71
24					5	160		1515241				7.58	242.44
25					5	174		1558957				7.79	271.26
26	7.8	74	1.51	0.05	5	168	161	1532837	113.43	2.31	0.08	7.66	257.52
27					5	218		1674860				8.37	365.12
28					5	148		1244711				6.22	184.22
29					5	170		1458541				7.29	247.95
30					5	136		2889230				14.45	392.94
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Dec 2003	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	154		2655902				13.28	409.01
2	7.3	39	1.42	0.05	5	170	149	1710196	66.70	2.43	0.09	8.55	290.73
3					5	158		2289279				11.45	361.71
4					5	218		1639936				8.20	357.51
5					5	170		1282496				6.41	218.02
6					5	159		1260128				6.30	200.36
7					5	204		1176520				5.88	240.01
8	7.5	46	1.73	0.05	5	208	131	1129522	51.96	1.95	0.06	5.65	234.94
9					5	190		1096843				5.48	208.40
10					5	170		1343472				6.72	228.39
11					5	188		1282139				6.41	241.04
12					5	156		2617300				13.09	408.30
13					5	158		3352626				16.76	529.71
14					5	168		3279777				16.40	551.00
15	7.9	48	1.32	0.05	5	160	173	3367304	161.63	4.44	0.17	16.84	538.77
16					5	148		2999588				15.00	443.94
17					5	156		3589937				17.95	560.03
18					5	142		1960219				9.80	278.35
19					5	130		1637459				8.19	212.87
20					5	140		4235925				21.18	593.03
21					5	165		2847970				14.24	469.92
22	7.5	91	1.76	0.05	5	172	128	1806098	164.35	3.18	0.09	9.03	310.65
23					5	144		1248067				6.24	179.72
24					11	180		1448075				15.93	260.65
25					5	130		1512514				7.56	196.63
26					IS	IS		2276122					
27					5	94		-11805440				-59.03	-1109.71
28					5	188		-3516038				-17.58	-661.02
29	6.7	19	2.12	0.05	5	184	119	1656186	31.47	3.51	0.08	8.28	304.74
30					IS	IS		506681					
31					IS	IS		1121613					

IS: Insufficient amount of sample due to low flow or sampler malfunction.

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Annual Environmental Report
IPC LICENCE 501

March 2005

Contents

3.0 Management of the Activity

3.1 Environmental Management Programme Report

3.2 Environmental Management Programme Proposal

3.3 Environmental Expenditure

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

4.2 Bunding Programme

4.3 Boiler Combustion Efficiency

4.4 Resource Consumption Summary

4.5 Report on de-silting Programme

4.6 Bog Development and Operational Programme

4.7 Bog Rehabilitation Report

5.0 Summary

Appendix 1: Composite Sampler Results

1.0 Introduction

1.1 IPC Licence Register No **501**

1.2 Name & Location of Site

Name:	Bord na Mona Energy Limited.
Address:	Derrygreenagh Group Derrygreenagh Works Rochfortbridge Mullingar Co Westmeath.
Telephone No:	044 / 22181 Fax No: 044 / 22344
Contact Name:	Paul Riordan
Position:	Regional Manager.
National Grid Reference:	E249450 N238140

1.3 Description of Activities

The Derrygreenagh Group consists of the Derrygreenagh and Ballivor Groups and Rossan Bog.
The Derrygreenagh group of bogs is located in North Offaly and Southeast Westmeath. The Derrygreenagh group comprises of 3664 acquired hectares, of which there was 644.83 nett hectares in production in the 2004 season. The main catchment of these areas is the River Boyne.

The Ballivor group is made up of the bogs in the Ballivor, Carranstown, Bracklin and Lisclogher areas. There is a total of 274.33 hectares in production and each of these areas are linked by peatland railway to the Bord na Mona horticultural factory, situated between Ballivor and Raharney villages. Drainage from these bogs is to the Deel and Stonyford rivers, tributaries of the Boyne.

Rossan bog is situated one mile from Kinnegad village. There are currently 141 hectares in milled moss production. This bog drains to the Kinnegad River, a tributary of the River Boyne.

The Derrygreenagh Group currently employs 48 permanent and 5 seasonal workers. The Ballivor bogs employing 11 permanant and 3 seasonals, with 3 premanent and 3 seasonals employed in Rossan. Giving a total of 62 permanent and 11 seasonal employees across the licence area.

Transport operations are carried out on a seven day cycle throughout the year. Production operations are typically carried out over a seven day week (weather permitting) for 12 to 15 hours per day.

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:

- Milling.
- Harrowing.
- Ridging.
- Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways to one of the following locations.

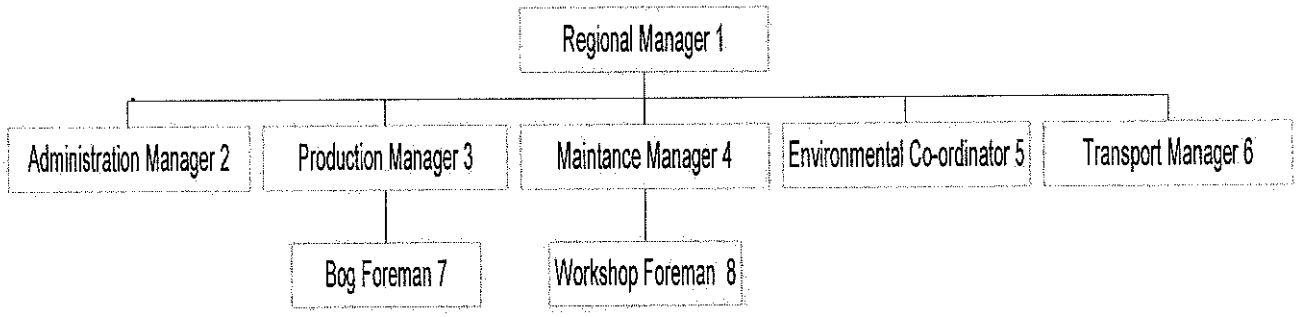
- Power station (EPL)
- Horticultural Factory.
- Briquette Factory.

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.

Derrygreenagh Group

Environmental Responsibilities



(1) Overall environmental responsibilities
(2) Records of complaints and registers
(3) All production related issues
(4) Machine maintenance
(5) Co-ordinating environmental affairs
(6) All peat transportation matters
(7) Silt pond maintenance, tea centres, codes of practice
(8) Fuel loading, oil traps, weekly workshop inspections.

1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Irelands peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its buisness in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

- Discharges to water.
- Emissions to atmosphere.
- Waste disposal.
- Use of natural resources.
- Noise, vibration, odour, dust and visual effects.
- Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

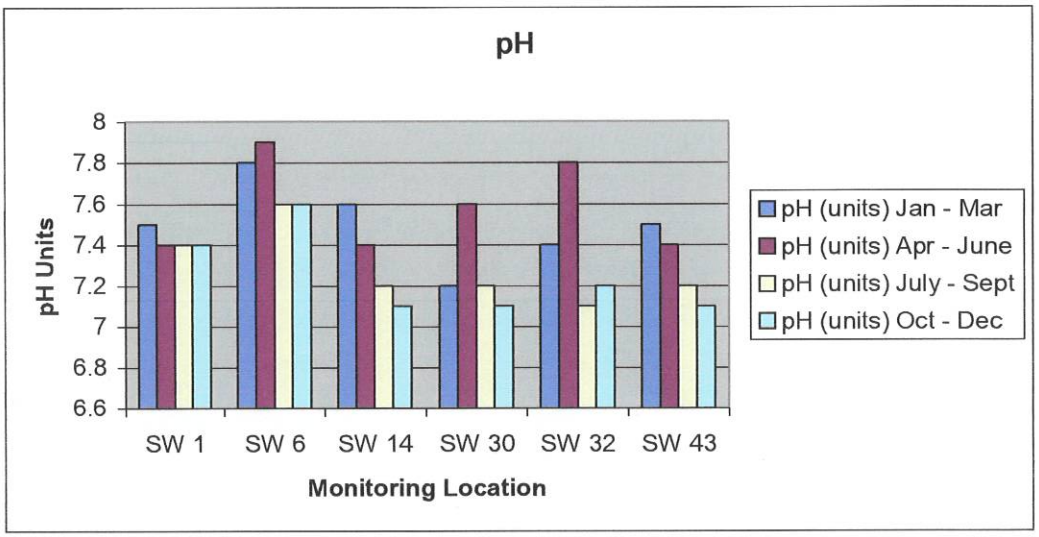
This statement is published and is available at all locations within the division and its contents are brought to the attention of all employees.

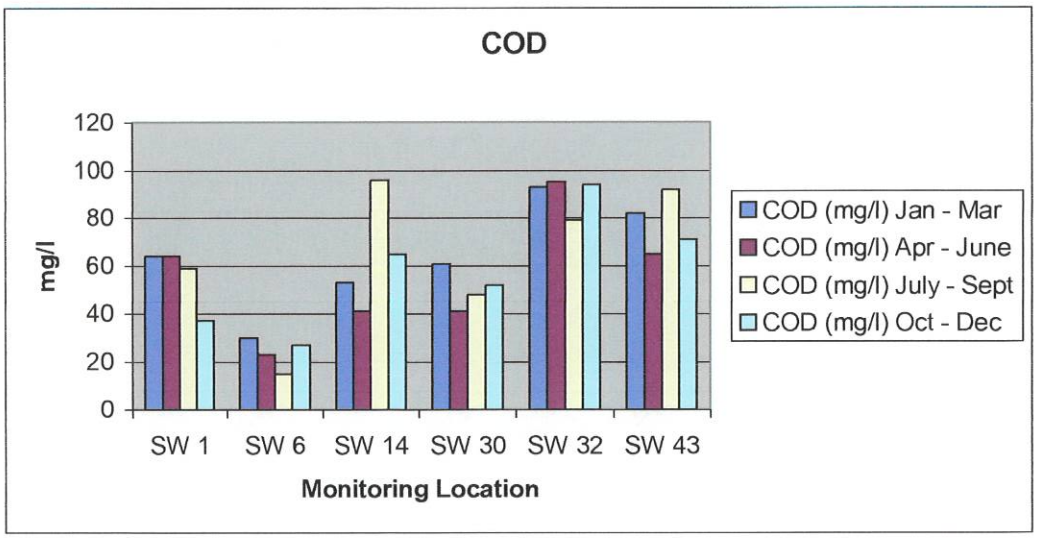
2.0 Summary Information

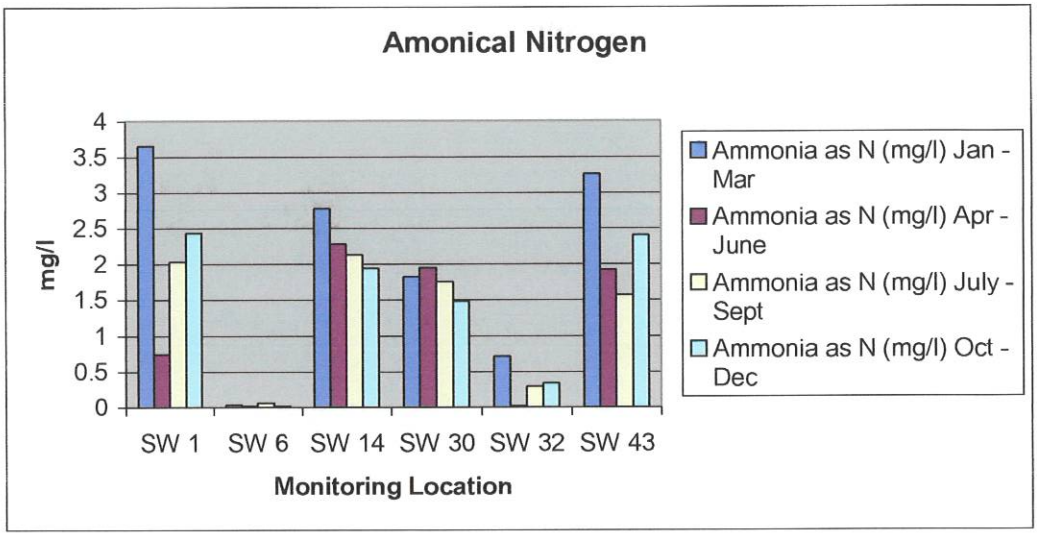
2.1 Emissions to Water Summary

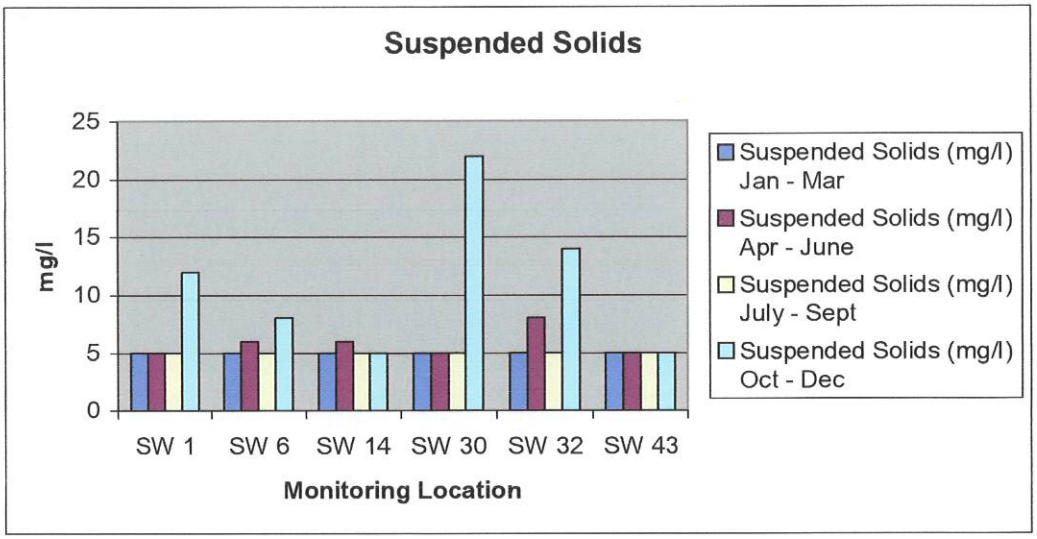
2.1.1 Silt Pond Emissions

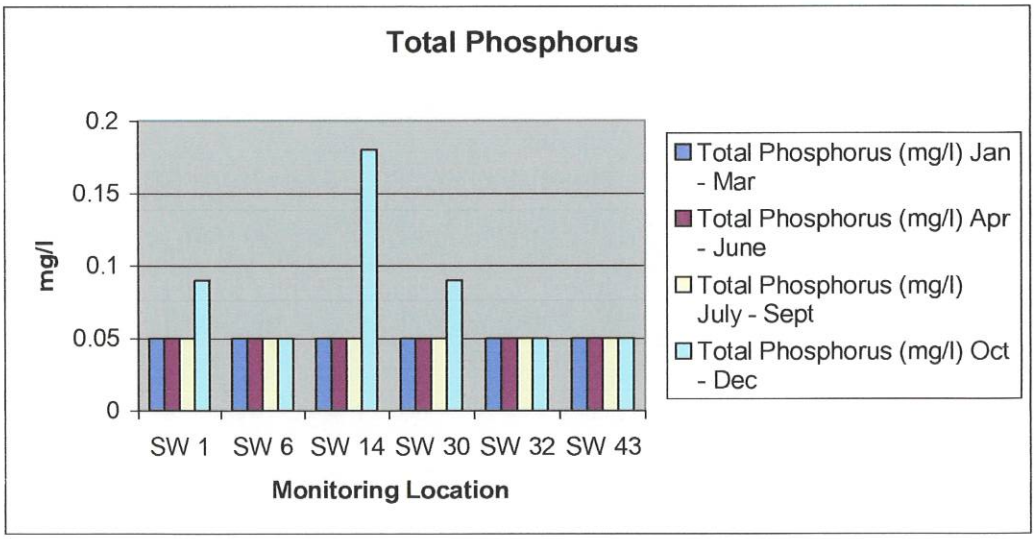
The following graphs compare results obtained during the reporting period at all surface water monitoring points.

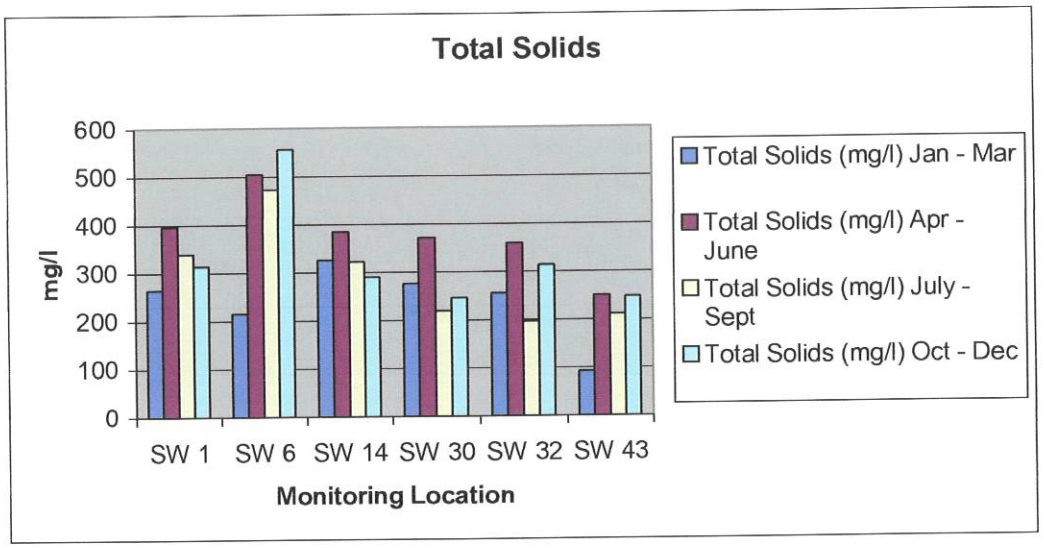


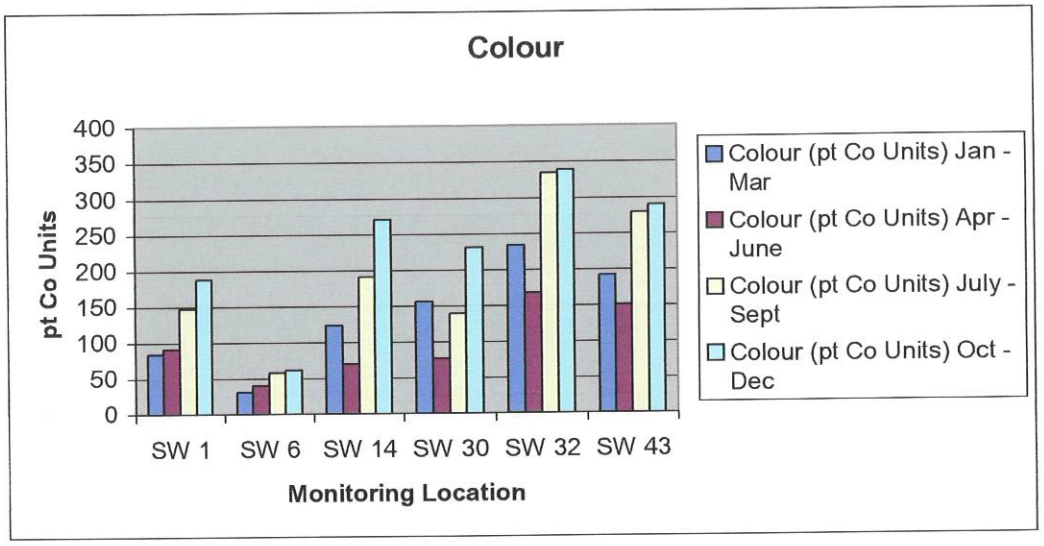


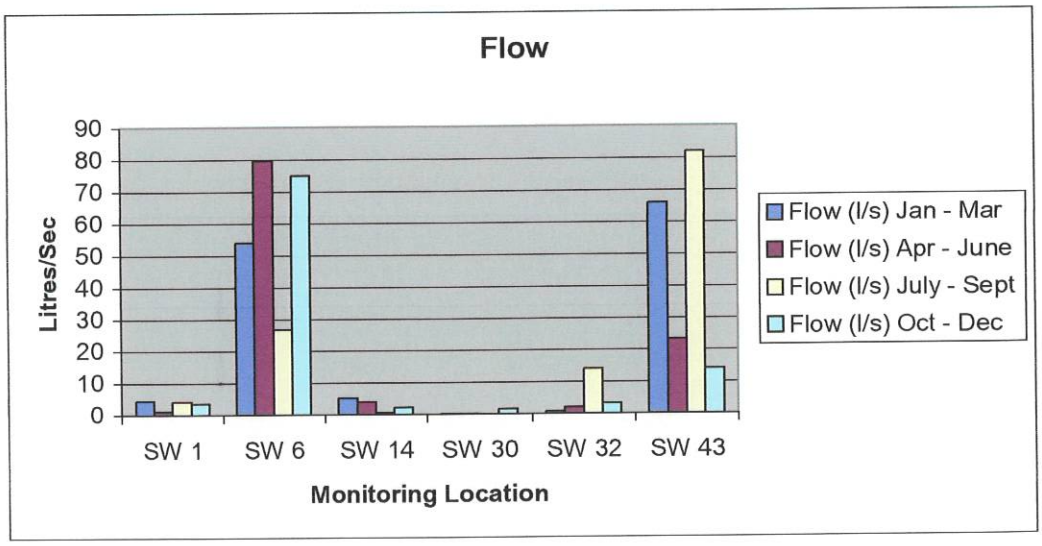

Amonical Nitrogen
4
3.5
3
2.5
2
1.5
1
0.5
0
mg/l
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Monitoring Location
Ammonia as N (mg/l) Jan - Mar
Ammonia as N (mg/l) Apr - June
Ammonia as N (mg/l) July - Sept
Ammonia as N (mg/l) Oct - Dec


Suspended Solids
25
20
15
10
5
0
mg/l
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Monitoring Location
Suspended Solids (mg/l) Jan - Mar
Suspended Solids (mg/l) Apr - June
Suspended Solids (mg/l) July - Sept
Suspended Solids (mg/l) Oct - Dec


Total Phosphorus
0.2
0.15
0.1
0.05
0
mg/l
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Monitoring Location
Total Phosphorus (mg/l) Jan - Mar
Total Phosphorus (mg/l) Apr - June
Total Phosphorus (mg/l) July - Sept
Total Phosphorus (mg/l) Oct - Dec


Total Solids
600
500
400
300
200
100
0
mg/l
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Monitoring Location
Total Solids (mg/l) Jan - Mar
Total Solids (mg/l) Apr - June
Total Solids (mg/l) July - Sept
Total Solids (mg/l) Oct - Dec


Colour
400
350
300
250
200
150
100
50
0
pt Co Units
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Monitoring Location
Colour (pt Co Units) Jan - Mar
Colour (pt Co Units) Apr - June
Colour (pt Co Units) July - Sept
Colour (pt Co Units) Oct - Dec


Flow
90
80
70
60
50
40
30
20
10
0
Litres/Sec
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Monitoring Location
Flow (l/s) Jan - Mar
Flow (l/s) Apr - June
Flow (l/s) July - Sept
Flow (l/s) Oct - Dec

2.1.2 Yard Discharge

The tables below are a summary of the emissions to surface waters from the yard and workshop at the Derrygreenagh Works.

Derrygreenagh SWE-2

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
COD mg/l			56		38	34	30	23	34	14		52

Note: No samples were available on the day of sampling in the months January, February, April & November.

2.1.3 Composite Sampler Report

The composite sampler remains at the same location as last year. In general it is working well and gathers a full contingent of samples every week. Servicing and calibration of the sampler was carried out in April 2004 during which time grab samples were taken every week that the sampler was away. Attached in Appendix 1 are the results of the monitoring carried out using the composite sampler. There was one non-compliance recorded by the sampler during the reporting period.

2.1.4 Non-compliance's

There were no non-compliance's, in relation to silt pond sampling during the reporting period. The composite sampler had one non - compliance. Suspended solids of 91mg/litre were recorded during February this was after a period of heavy rainfall (50mm).

2.2Emissions to Air

2.2.1 Dust Monitoring

The tables below contain the dust emissions for each dust monitoring location within the Derrygreenagh Group. Monitoring took place on three separate occasions during the period, June and August 2004.

June - July

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value	Compliant
DM 01	Dust	18	(350mg/m^2 /Day)	YES
DM 02	Dust	258	(350mg/m^2 /Day)	YES
DM 03	Dust	3319	(350mg/m^2 /Day)	NO

July - July

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value	Compliant
DM 01	Dust	18	(350mg/m^2 /Day)	YES
DM 02	Dust	111	(350mg/m^2 /Day)	YES
DM 03	Dust	123	(350mg/m^2 /Day)	YES

July - Aug

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value	Compliant
DM 01	Dust	18	(350mg/m^2 /Day)	YES
DM 02	Dust	43	(350mg/m^2 /Day)	YES
DM 03	Dust	31	(350mg/m^2 /Day)	YES

Note: DM 01= Toar Bog. DM 02 = Derryhinch Bog. DM 03 = Ballivor Bog.

2.2.2 Non-compliance's

There was one non-compliance, in relation to air in the reporting period.
This occurred during the June – July monitoring period. On investigation it transpired that the dust gauge in question was located too close to production activities, where dust generation is both unavoidable and a nuisance to nobody. It was agreed to relocate the gauge closer to the adjacent dust sensitive area in order to give a clearer representation of any dust that may be creating a nuisance. Monitoring will continue at the same locations during production 2005.

2.3Waste Arisings

2.3.1 Non-Hazardous Waste

The following table lists the quantities of the wastes generated from January-December 2004 from all of the Derrygreenagh Group.

Waste Type	Quantity (Tonnes)
Silt Pond Waste	464.640
Scrap Metal	71.880
Polyethylene	10.130
Mixed Municipal Waste	12.860
Total	**559.51**

2.3.2 Hazardous Waste

The following table is a record of all the hazardous wastes handled by the Derrygreenagh Group from January - December 2004.

WASTE DESCRIPTION	EWC CODE	TONNES	NAME OF CONTRACTOR	DESTINATION	DATE	REJECTED CONSIGNMENTS
Waste Oil	130202	4100L	Atlas Waste Oil	Portlaoise	13/02/04	NA
Nickel Cadium Batteries	160602	1.395	Returnbatt LTD	Kildare Town	11/03/04	NA
Oil Filters	160107	660L	Atlas Waste Oil	Portlaoise	20/04/04	NA
Oily rags	150201	240L	Atlas Waste Oil	Portlaoise	20/04/04	NA
Oily rags	150201	240L	Atlas Waste Oil	Portlaoise	20/04/04	NA
Waste Oil	130202	3000L	Atlas Waste Oil	Portlaoise	26/04/04	NA
Waste Oil	130202	1000L	Atlas Waste Oil	Portlaoise	06/05/04	NA
Fluorescent Tube	200121	0.026	Irish Lamp Recycling	Athy Co Kildare	11/05/04	NA
Waste Oil	130202	3000L	Atlas Waste Oil	Portlaoise	17/06/04	NA
Waste Oil	130202	1200L	Atlas Waste Oil	Portlaoise	09/07/04	NA
Lead Acid Batteries	160601	1.00	Returnbatt LTD	Kildare Town	16/07/04	NA
Oil Filters	160107	660L	Atlas Waste Oil	Portlaoise	12/08/04	NA
Fire Extinguishers		0.048	Apex Fire	Harrolds X Dublin	29/09/04	NA
Waste Oil	130202	5200L	Atlas Waste Oil	Portlaoise	15/10/04	NA
Oily rags	150201	240L	Atlas Waste Oil	Portlaoise	26/11/04	NA

Note: * Approximate weight.

2.4 Energy and Water Consumption

2.4.1 Energy Consumption

The table below is a summary of the energy consumption for the Derrygreenagh Group, from the dates January – December 2004.
Water is not included, as it is not used as part of the production process. It is only used in offices, canteens and workshops on a domestic scale.

Fuel	Volume M^3	Tonnes	MW/Hours
Jan - Dec 2004			
Diesel	335.8	278.714	3288.82
Electricity	NA	NA	33.30
Peat Briquettes	NA	343.30	1716.5
Total	**335.8**	**622.014**	**5038.62**

2.5 Environmental Incidents & Complaints

2.5.1 Incidents

There were no incidents within the Derrygreenagh Group during the reporting period.

Environmental Incidents	Number of Incidents
Incidents	0
Incidents requiring corrective action	0
Categories of Incident	
Odour	
Noise	
Water	
Air	
Procedural	
Miscellaneous	

2.5.2 Complaints

There was one complaint within the Derrygreenagh Group, in the period January - December 2004. 1 was received from the local authority and was in relation to stockpile covering polyethylene which was being stored for subsequent bailing.

Environmental Complaints	Number of complaints
Complaints received	1
Complaints requiring corrective action	1
Categories of complaint	
Odour	
Noise	
Water	
Air	
Procedural	
Miscellaneous	√

3.0 Management of the Activity

3.1 Environmental Management Programme Report 2004

Environmental Management Report for 2004	
Project	
Project 1. Reduction of fugitive dust emissions.	**Training** The Cleaner Production Video was completed in May 2004. The video covers all aspects of the IPC Licence, and in particular, cleaner production methods, good & bad practice, pollution prevention and codes of practice. A quiz on the contents of the video and items relating to the target audience, accompanies the 1 hour training session. During 2004, training with the video occurred at 4 of the IPC licensed sites and targeted management and production personnel. An internal audit of all IPC licensed sites also occurred during May and June of 2004. This included an assessment of the dust prevention measures in-place or planned during 2004. A copy of the audit findings is on file at each works. Based on these audits, various projects were put in-place regarding training for personnel at these dust sensitive locations and new machines for targeting dust problems from headland peat. Project works for 2004 includes: **Hydraulic Harrows** As was proposed for 2004, 8 newly fabricated hydraulic harrows were purchased and distributed to Dust Sensitive Locations within the 9 IPC licensed sites. These have proved successful in reducing dust generation at DSL sites. **Headland Peat Collection** BNM recently took delivery of 4 new mechanical bin harvesters. These were manufactured in Finland, and are currently being modified in Ireland. These types of harvesters are specifically for use in lifting dry peat from headlands at DSL's and will be engaged alone in tackling dust sensitive areas in each licence, for the 2005 production season. In addition two Headland Harvester units will be in operation. These units operated in Boora and Mountdillon in 2004, and will continue to operate in these areas. In total, these 6 units will operate specifically at DSL' in Peco bogs, and will be assessed during the 2005 season, as to their effectiveness at reducing headland peat and reducing incidents of dust generation. The total expenditure on the additional bin harvesters, hydraulic harrows, and the polyrollers (project 5) for the 2004 season is €670,600, which is €400,000 above what was budgeted.

Project 2. Minimisation of Suspended Solids	This project is on-going and is primarily one of training for all production personnel, and is covered in the Cleaner Production Video, as in Project 1 (Training).
Project 3. Effective spill/leak management of mobile fuelling tanks	All of BNM's production bogs now have locations highlighted as being suitable for re-fuelling on the bog, and this is being brought to the attention of all personnel. These locations have been chosen having due regard to location of watercourses and drains.
Project 4. Re-use of silt pond waste	There are over 850 silt ponds in operation in the 9 IPC Licensed BNM bogs. These are located in low areas on the bog perimeters, due to drainage requirements. All of these ponds are excavated into the mineral layer, and as a result of this, all silt removed from the ponds have high levels of grit, stones etc. All of these make the peat unsuitable for combustion purposes. In addition, over 95% of the silt excavated is water, which would require it to be spread out on the bog to be allowed to dry to the required moisture content. Given the small volumes of silt excavated, it is therefore not feasible to reuse this silt pond waste.
Project 5. Collection, storage and re-use of polythene.	Polythene collection is ongoing in BNM, and volumes collected and recycled are recorded in the Non-hazardous Waste records in the AER. The 25 new polystrippers proposed in last years EMP, were delivered in 04' and are currently being used to strip polythene from stockpiles. This new system now produces a roll of polythene which is cleaner, easier to handle, and consequently more attractive for recycling. All bogs now have a hard standing area, where the rolls of polythene are stored for collection and subsequent recycling. In addition to this, procedures have been put in-place, and are highlighted during training, about best practice for stripping, collection and storage. There are currently three potential contractors that could take the waste polythene for recycling. All involve shredding, washing and either baling or pelletising the polythene and BNM are currently assessing each contractor to assess their suitability, environmental compliance etc. Once the back-log has been recycled, and BNM have all of the strippers in place, the day to day recycling of the polythene removed each year will be more efficient.
Project 6. Condition 2.2.2 (v) *Provision of measures to protect dust sensitive areas.*	All DSL's have been identified within BNM group. Existing shelter belts were maintained were required during the reporting period.

3.2 Environmental Management Programme Proposal for 2005

Environmental Management Programme Proposal for 2005	
Project	
Project 1. Reduction of fugitive dust emissions.	**Training** Continue with the training programme for 2005. 15 Training sessions have already taken place at 6 of the IPC Licensed works, since January 05' This has targeted management and production personnel (teamleaders) and will be extended to include all seasonal staff to be engaged this year. It is targeted to have all production personnel trained by the commencement of production for 2005. **Headland Peat** The 6 new headland peat harvester units will be deployed for the 2005 production season. These units are a mixture of the bin harvester system (4 units) and the same field harvester (2 units), and will be operated in dust sensitive locations. The bin harvester units, while having been experimented with previously in BNM, are a relatively new technology in BNM's modern day operations, and so will be monitored closely over the coming season to asses their performance. All trials, observations and tests will be monitored and recorded by the EMP system as to their effectiveness and suitability. **Hydraulic harrows** 14 new hydraulic harrows have been made over 04/05 and will be in operation between now and the end of 2005. In line with BNM's policy to fabricate 40 hydraulic harrows over 5 years, this current no. brings the total to-date to 22 in operation by the end of 05' This is well ahead of what was planned in the 2004 EMP proposal. In addition, 3 new units are budgeted for fabrication by the end of 05. When completed, all DSL's will be equipped with a hydraulic harrow.
Project 2. Minimisation of Suspended Solids	This project is on-going and is primarily one of training for all production personnel, and is covered in the Cleaner Production Video, as in Project 1 (Training). It will also include inspections at a number of production units during the 05 production season, to assess compliance with the good practice and codes of practice developed by BNM and communicated through the training programmes and the video.

Project 3. Effective spill/leak management of mobile fuelling tanks	As reported in the 2004 EMP report, all areas have designated areas for re-fuelling. This project is therefore completed. Compliance with the original requirements of this project will however be checked through the inspections as highlighted in project 2 above. Specific training has also been provided for oil spill management and clean-up, as part of the management of oil spill kits and procedures etc. and will continue to be facilitated during 2005.
Project 4. Re-use of silt pond waste	This project is also not feasible, as highlighted in the 2004 report, but will be reviewed where necessary, if a use (other than fuel use) emerges.
Project 5. Collection, storage and re-use of polythene.	Banner recycling are currently taking BNM's rolled and loose polythene, for recycling to their permitted yards in Co.Clare. Two additional interested parties are also being investigated, one locally in Co Kildare and a potential recycler in Belgium who may be in a position to reuse the polythene to process pellets to be used in the manufacture of new polythene to be used by BNM. An additional order for 22 polyrollers have been placed, to be delivered by the end of March, so that all bog units will have a roller for stripping piles. This will put an end to loose polythene gathering around the bog.
Project 6. Condition 2.2.2 (v) *Provision of measures to protect dust sensitive areas.*	This project is on-going. All dust sensitive locations will have bergerhoff dust gauges installed for the 2005 season. Further shelter belts may be planted where no complaints were received but may in time become dust sensitive.

3.3 Environmental Expenditure

The table below lists the environmental costs incurred by the Derrygreenagh Group between January – December 2004.
In calculating the environmental costs 70% of the total costs were attributed to Licence 503 and 30% to Licence 501.The Ballivor Group costs were then added to the Derrygreenagh totals.

Expenditure Related to the Operation of the Derrygreenagh IPC Licence During the Period January – December 2004			
Description	**Ballivor Cost**	**D/Green Cost**	**Total Cost (€)**
Plant @ €40/hour	27,200	210,360	237,560
Labour	10,000	78,519	88,519
Materials	NA	28,686	28,686
Overheads (ESB, Phones, Consumables)	2,000	6,000	8,000
Laboratory Analysis	NA	18,960	18,960
EPA Fees	NA	9,873	9,873
Total	**39,200**	**352,398**	**391,598**

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

The surface water discharge monitoring location programme remains the same as was submitted and accepted by the Agency in June 2000.
Pipes have been fitted at each location in order to accommodate flow metering and the provision of safe access is also ongoing.
Emission point signs have been designed and are in place.
Additional work has also being carried out at these locations as part of the ongoing silt pond upgrade programme.
It is proposed to relocate some of the monitoring locations in 2005. A proposal will be forwarded to the agency outlining the reasons for relocation.

4.2 Bunding Programme

The bunding programme for large scale oil storage facilities is complete and the works certified.

4.3 Boiler Combustion Efficiency

Boiler Details
Twin Danstoker solid fuel units each rated at 725KW, fuelled by loose briquettes.
Operating from Oct-Mar approximately at Derrygreenagh Works.

A boiler efficiency test was carried out on the 05/01/05. The results of this test showed the boiler to be operating at an efficiency level of 87.2 %.
A full breakdown of the test is retained on file at the Derrygreenagh office.

4.4 Resource consumption Summary

There was a total of 120,617 tonnes of milled peat produced across the licence area in the production season 2004.
There was also a total of 117,738 tonnes of stock peat sold during the reporting period. Of this total 31,752 tonnes were sold to Edenderry Power Limited, 13,967 tonnes to Derrinlough Briquette Factory, 53,447 tonnes to Ballivor Moss Factory, 40 tonnes to Kilberry Moss Factory, 745 tonnes to Lough Ree Power Station and 17,787 tonnes direct to Dublin Port for export.

4.5 De-silting programme report

Summary Data Table of Ponds De-Silted From Jan-December 2004

Bog	No Silt Ponds	Cleaned Once	Cleaned Twice	Cleaned Three Times	Notes
Ballivor	10	6			
Carranstown	5	3	1		
Bracklin West	6	6	6	2	
Lisclogher	7	0			*
Kinnegad	6	6	6	6	
D/Hinch	4	4	4	4	
Drumman	6	6	6	6	
Ballybeg	6	6	3		**
Toar	6	6			**

*: Bog still under development, no production.
**: No production at this Bog in 2004.
Note: Any pond which was not cleaned at least twice, as required by the licence, is due to the fact that inspections showed those ponds not requiring a second cleaning.

4.6 Bog Development and Operational Programme

The bogs in the Derrygreenagh Group are well into their productive lives, therefore there will be no development in the year 2005.
However in the Ballivor Group, Carranstown and Lisclogher West bogs are currently under development, the works involve production field preparation and drainage works such as piping and also some silt control works.

There will be 630.32 nett hectares in production in the 2005 season, yeilding 125,592 tonnes @ 55% moisture content.

Derrygreenagh will account for 47,514 tonnes and 239.44 hectares.
Ballivor will account for 51,480 tonnes and 252.71 hectares and Rossan will account for 26,598 tonnes and 138.17 hectares.

4.7 Bog Rehabilition Report
There was no bog rehabilitation carried out within the Derrygreenagh group during the reporting period.
Management guidelines for the planning and implementation of cutaway bog rehabilitation have been adopted and the document is currently available for inspection on file at the Derrygreenagh office.

5.0 Summary

With regard to environmental compliance at the Derrygreenagh Group of Bogs, there were no exceedences in the quarterly grab sampling.
There was one non-compliance in relation to the Composite Sampler during the period January to December 2004. Dust monitoring results at the dust sensitive locations were in general good although as stated in the body of this report there was one exceedence. There was one complaint of an environmental nature received during the reporting period.

The staff awareness through training and involvement in the operation of the licence has also improved immensely. A full programme of training and awareness has been conducted at the works and has targeted all personnel ie. Office, Workshop, Transport and Production.

Bord na Mona are project partners of the South Eastern River Basin District Management, as set up under the Water Framework Directive.
Bord na Mona are also involved in catchment management on the River Barrow.

Bord na Mona Energy Ltd would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection measures.

APPENDIX 1

Composite Sampler Results

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
January	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS		0					
2					5	166		2072959				10.36	344.11
3					5	146		0				0.00	0.00
4					5	196		2616565				13.08	512.85
5	7.9	37	1.26	0.05	5	232	150	2382647	88.16	3.00	0.12	11.91	552.77
6					5	228		2697902				13.49	615.12
7					5	214		1069013				5.35	228.77
8					5	214		489768				2.45	104.81
9					IS	IS		1405856					
10					IS	IS		863380					
11					IS	IS		1505780					
12					IS	IS		1654729					
13	7.2	11	1	0.05	6	224	137	1605066	17.66	1.61	0.08	9.63	359.53
14					21	190		2644145				55.53	502.39
15					31	178		4599495				142.58	818.71
16					36	226		6467866				232.84	1461.74
17					IS	IS		3243822					
18					IS	IS		1973462					
19					IS	IS		1973462					
20	IS	IS	IS	IS	IS	IS	IS	1973462					
21					IS	IS		1973462					
22					6	326		1972690				11.84	643.10
23					26	274		1961433				51.00	537.43
24					7	252		1949851				13.65	491.36
25					5	306		1981142				9.91	606.23
26					IS	IS		1972015					
27					IS	IS		1976582					
28	7.4	36	2.14	0.05	5	210	62	2033386	73.20	4.35	0.10	10.17	427.01
29					IS	IS		1935014					
30					IS	IS		2018958					
31					IS	IS		3809406					

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
February	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS		1908948					
2					IS	IS		3806364					
3					IS	IS		5240995					
4					IS	IS		4305142					
5					5	174		1996517				9.98	347.39
6					5	204		677601				3.39	138.23
7					5	186		677601				3.39	126.03
8					13	202		677601				8.81	136.88
9					5	314		677601				3.39	212.77
10					IS	IS		677601					
11	7.7	40	1.66	0.05	5	292	102	677601	27.10	1.12	0.03	3.39	197.86
12					5	250		677601				3.39	169.40
13					5	266		677601				3.39	180.24
14					5	298		677601				3.39	201.93
15					5	198		677601				3.39	134.16
16					5	280		677601				3.39	189.73
17					5	198		677601				3.39	134.16
18	7.5	52	2.29	0.05	5	266	66	677601	35.24	1.55	0.03	3.39	180.24
19					5	198		677601				3.39	134.16
20					5	276		677601				3.39	187.02
21					5	250		677601				3.39	169.40
22					5	276		677601				3.39	187.02
23					5	182		677601				3.39	123.32
24					5	326		677601				3.39	220.90
25	7.6	57	3.28	0.22	91	258	32	677601	38.62	2.22	0.15	61.66	174.82
26					IS	IS		677601					
27					IS	IS		677601					
28					IS	IS		677601					
29					IS	IS		677601					
30													
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
March	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS		677601					
2					IS	IS		677601					
3	7.5	10	3.18	0.05	5	352	67	677601	6.78	2.15	0.03	3.39	238.52
4					5	308		677601				3.39	208.70
5					5	272		677601				3.39	184.31
6					5	290		677601				3.39	196.50
7					5	312		677601				3.39	211.41
8					5	310		677601				3.39	210.06
9					5	304		677601				3.39	205.99
10	7.8	40	3.6	0.05	5	334	47	677601	27.10	2.44	0.03	3.39	226.32
11					IS	IS		677601					
12					IS	IS		677601					
13					IS	IS		677601					
14					IS	IS		677601					
15					IS	IS		677601					
16					IS	IS		677601					
17	8.1	35	2.86	0.05	5	266	42	677601	23.72	1.94	0.03	3.39	180.24
18					CAL	CAL		677601					
19					CAL	CAL		677601					
20					CAL	CAL		677601					
21					CAL	CAL		677601					
22					CAL	CAL		677601					
23					CAL	CAL		677601					
24					CAL	CAL		677601					
25					CAL	CAL		677601					
26					CAL	CAL		677601					
27					CAL	CAL		677601					
28					CAL	CAL		677601					
29					CAL	CAL		677601					
30					CAL	CAL		677601					
31	8	43	0.08	0.05	14	324	63	677601	29.14	0.05	0.03	9.49	219.54

IS: Insufficient amount of sample due to low flow or sampler malfunction.

CAL: Sampler away for calibration and service

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
April 2004	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					IS	IS		677601					
2					IS	IS		677601					
3					IS	IS		677601					
4					IS	IS		677601					
5					IS	IS		677601					
6					IS	IS		677601					
7	7.8	31	2.47	0.05	5	288	63	677601	21.01	1:67	0.03	3.39	195.15
8					IS	IS		987925					
9					IS	IS		1484179					
10					IS	IS		1484179					
11					IS	IS		1484179					
12					IS	IS		1484179					
13					IS	IS		1484179					
14	7.5	17	2.62	0.05	10	254	79	1484179	25.23	3.89	0.07	14.84	376.98
15					12	170		1810574				21.73	307.80
16					5	124		1563587				7.82	193.88
17					5	178		1608461				8.04	286.31
18					5	168		2059953				10.30	346.07
19					5	178		1768699				8.84	314.83
20					5	127		1537834				7.69	195.30
21	7.8	48	2.69	0.06	5	130	81	1537834	73.82	4.14	0.09	7.69	199.92
22					IS	IS		1537834					
23					5	389		1537834				7.69	598.22
24					5	280		1537834				7.69	430.59
25					IS	IS		1537834					
26					IS	IS		1537834					
27					IS	IS		1537834					
28					IS	IS		1537834					
29	8	46	3.11	0.05	22	178	48	1537834	70.74	4.78	0.08	33.83	273.73
30					5	290		1537834				7.69	445.97
31					IS	IS							

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
May	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					8	138		1537834				12.30	212.22
2					IS	IS		1537834					
3					IS	IS		1537834					
4					6	258		1537834				9.23	396.76
5	8.3	58	2.44	0.05	8	220	79	1537834	89.19	3.75	0.08	12.30	338.32
6					5	238		1537834				7.69	366.00
7					5	227		1537834				7.69	349.09
8					5	256		1355073				6.78	346.90
9					5	278		1155921				5.78	321.35
10					5	288		1354425				6.77	390.07
11					5	274		1364165				6.82	373.78
12	8.7	28	3.1	0.05	5	290	80	1469167	41.14	4.55	0.07	7.35	426.06
13					5	328		1470513				7.35	482.33
14					5	256		1061983				5.31	271.87
15					5	324		871663				4.36	282.42
16					5	314		797508				3.99	250.42
17					5	218		602471				3.01	131.34
18					5	314		1089928				5.45	342.24
19					5	296	67	554189				2.77	164.04
20					IS	IS		880809					
21					IS	IS		18210					
22					IS	IS		43032					
23					IS	IS		67819					
24					IS	IS		82546					
25					IS	IS		66129					
26	7.9	57	2.91	0.05	10	310	56	56819	3.24	0.17	0.00	0.57	17.61
27					IS	IS		533203					
28					IS	IS		517638					
29					IS	IS		322333					
30					IS	IS		324398					
31					IS	IS		501537					

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath
Composite Sampler Results Licence 501

Month				Parameters								Daily Totals		
June	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS		208355					
2	7.5	56	3.68	0.07	14	270	119	586223	32.83	2.16	0.04	8.21	158.28
3					IS	IS		323607					
4					IS	IS		313327					
5					IS	IS		231814					
6					IS	IS		192747					
7					IS	IS		279855					
8					IS	IS		45440					
9	7.9	48	2.9	0.12	6	220	85	157681	7.57	0.46	0.02	0.95	34.69
10					IS	IS		525410					
11					IS	IS		289846					
12					IS	IS		258180					
13					IS	IS		226278					
14					IS	IS		142002					
15					IS	IS		44842					
16	7.9	33	3.54	0.05	5	228	94	90198	2.98	0.32	0.00	0.45	20.57
17					15	282		80597				1.21	22.73
18					5	260							
19					5	314							
20					8	288							
21					5	228							
22					13	50							
23	7.6	65	3.21	0.05	9	144	203						
24					IS	IS							
25					IS	IS							
26					IS	IS							
27					IS	IS							
28					IS	IS							
29					IS	IS							
30	7.8	50	3.15	0.05	5	220	126						
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath
Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
July	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS		206366					
2					IS	IS		206366					
3					IS	IS		228433					
4					IS	IS		572698					
5					IS	IS		252052					
6					IS	IS		532518					
7	7.9	66	2.73	0.05	5	248	440	1195200	78.88	3.26	0.06	5.98	296.41
8					5	256		837507				4.19	214.40
9					5	254		467389				2.34	118.72
10					5	214		389699				1.95	83.40
11					5	262		630242				3.15	165.12
12					5	252		502180				2.51	126.55
13					5	273		448695				2.24	122.49
14	8	37	1.8	0.05	5	268	99	388667	14.38	0.70	0.02	1.94	104.16
15					9	428		542392				4.88	232.14
16					8	236		408974				3.27	96.52
17					IS	IS		295874					
18					IS	IS		247217					
19					5	260		339398				1.70	88.24
20					5	250		455546				2.28	113.89
21	7.8	4	2.89	0.06	5	242	90	207319	0.83	0.60	0.01	1.04	50.17
22					IS	IS		137186					
23					IS	IS		162969					
24					IS	IS		111579					
25					IS	IS		93919					
26					IS	IS		137430					
27					IS	IS		363003					
28	7.8	26	2.51	0.05	5	348	82	172918	4.50	0.43	0.01	0.86	60.18
29					5	236		219447				1.10	51.79
30					5	158		42792				0.21	6.76
31					13	166		24082				0.31	4.00

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
August	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					7	206		41908				0.29	8.63
2					5	182		36422				0.18	6.63
3					28	248		835137				23.38	207.11
4					18	166		4545526				81.82	754.56
5	7.6	74	1.95	0.05	5	178	174	1459370	107.99	2.85	0.07	7.30	259.77
6					5	210		1010377				5.05	212.18
7					5	IS		105109				0.53	
8					5	IS		194018				0.97	
9					5	200		904361				4.52	180.87
10					8	160		1242595				9.94	198.82
11					5	210		1743890				8.72	366.22
12	7.6	74	1.6	0.05	5	198	202	4431888	327.96	7.09	0.22	22.16	877.51
13					5	198		2824370				14.12	559.23
14					5	222		1582249				7.91	351.26
15					5	270		779618				3.90	210.50
16					5	208		1893017				9.47	393.75
17					5	216		3258885				16.29	703.92
18	7.6	63	0.8	0.08	5	206	215	2093679	131.90	1.67	0.17	10.47	431.30
19					5	146		2531998				12.66	369.67
20					5	150		3086644				15.43	463.00
21					5	214		1760329				8.80	376.71
22					5	204		1794887				8.97	366.16
23					5	154		2730032				13.65	420.42
24					5	174		1787972				8.94	311.11
25	7.5	38	1.12	0.05	19	164	266	3153584	119.84	3.53	0.16	59.92	517.19
26					5	28		2021028				10.11	56.59
27					5	122		3393889				16.97	414.05
28					5	170		1951918				9.76	331.83
29					5	168		1298651				6.49	218.17
30					5	248		962922				4.81	238.80
31					5	168		757465				3.79	127.25

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
September	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	7.6	37	1.91	0.05	5	152	151	805364	29.80	1.54	0.04	4.03	122.42
2					5	40		861198				4.31	34.45
3					14	278		783969				10.98	217.94
4					5	304		782813				3.91	237.98
5					10	320		855143				8.55	273.65
6					5	330		823143				4.12	271.64
7					5	338		718035				3.59	242.70
8	8.4	47	1.63	0.05	5	334	131	897970	42.20	1.46	0.04	4.49	299.92
9					5	214		960342				4.80	205.51
10					5	278		1065753				5.33	296.28
11					5	254		1183867				5.92	300.70
12					21	272		1201738				25.24	326.87
13					5	214		1575411				7.88	337.14
14					5	184		971455				4.86	178.75
15	7.7	53	2.74	0.05	5	220	158	0					
16					5	174		987103				4.94	171.76
17					8	198		1608630				12.87	318.51
18					6	190		1567921				9.41	297.90
19					10	102		1413734				14.14	144.20
20					5	158		1756166				8.78	277.47
21					5	212		1524471				7.62	323.19
22	8	54	1.25	0.05	12	212	126	1549778	83.69	1.94	0.08	18.60	328.55
23					5	232		1689527				8.45	391.97
24					10	226		1349982				13.50	305.10
25					6	230		1129743				6.78	259.84
26					5	14		1239783				6.20	17.36
27					6	168		1297166				7.78	217.92
28					5	172		1113327				5.57	191.49
29	7.8	53	2.23	0.05	9	200	143	1232045	65.30	2.75	0.06	11.09	246.41
30					10	178		2041551				20.42	363.40

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath
Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
October	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					30	154		2018918				60.57	310.91
2					8	200		1974717				15.80	394.94
3					12	174		1996246				23.95	347.35
4					12	104		4343268				52.12	451.70
5					13	126		2729526				35.48	343.92
6	7.7	57	1.42	0.05	6	166	177	1809816	103.16	2.57	0.09	10.86	300.43
7					5	178		1914141				9.57	340.72
8					6	174		1685272				10.11	293.24
9					10	184		1629763				16.30	299.88
10					8	244		1629763				13.04	397.66
11					5	236		1629763				8.15	384.62
12					5	244		1629763				8.15	397.66
13	8	32	1.4	0.08	5	244	114	1541432	49.33	2.16	0.12	7.71	376.11
14					5	278		1331589				6.66	370.18
15					6	298		1458497				8.75	434.63
16					11	310		1728634				19.01	535.88
17					14	286		1714579				24.00	490.37
18					15	237		1683925				25.26	399.09
19					42	232		1909713				80.21	443.05
20	8	71	2.73	0.08	26	182	101	1891196	134.27	5.16	0.15	49.17	344.20
21					24	146		4185651				100.46	611.11
22					14	196		2473003				34.62	484.71
23					24	118		5020948				120.50	592.47
24					9	106		4929333				44.36	522.51
25					29	142		2166198				62.82	307.60
26					5	192		2611376				13.06	501.38
27	7.9	36	1.48	0.05	5	196	141	2515715	90.57	3.72	0.13	12.58	493.08
28					5	196		3666103				18.33	718.56
29					16	146		5586871				89.39	815.68
30					16	116		4485992				71.78	520.38
31					21	216		2533307				53.20	547.19

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
November	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					7	214		2466950				17.27	527.93
2					7	232		2413859				16.90	560.02
3	8	83	0.94	0.05	10	238	125	2274971	188.82	2.14	0.11	22.75	541.44
4					16	112		2213892				35.42	247.96
5					10	282		2067631				20.68	583.07
6					6	280		2003990				12.02	561.12
7					6	308		1912667				11.48	589.10
8					12	300		1717857				20.61	515.36
9					5	321		1619880				8.10	519.98
10	7.7	46	2.42	0.05	5	334	106	1649742	75.89	3.99	0.08	8.25	551.01
11					20	280		1719563				34.39	481.48
12					13	274		1610898				20.94	441.39
13					14	224		1400378				19.61	313.68
14					8	230		1438358				11.51	330.82
15					7	74		1486272				10.40	109.98
16					14	282		1473055				20.62	415.40
17	7.9	33	2.27	0.07	8	288	93	1582074	52.21	3.59	0.11	12.66	455.64
18					5	114		2669851				13.35	304.36
19					5	127		2858001				14.29	362.97
20					5	138		4378594				21.89	604.25
21					5	116		5289471				26.45	613.58
22					5	56		3384812				16.92	189.55
23					5	68		2188858				10.94	148.84
24	7.7	28	0.94	0.05	5	26	122	2160200	60.49	2.03	0.11	10.80	56.17
25					30	198		2184395				65.53	432.51
26					6	146		3227900				19.37	471.27
27					6	242		2229344				13.38	539.50
28					5	232		2184575				10.92	506.82
29					8	274		2201157				17.61	603.12
30					5	256		2073302				10.37	530.77

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

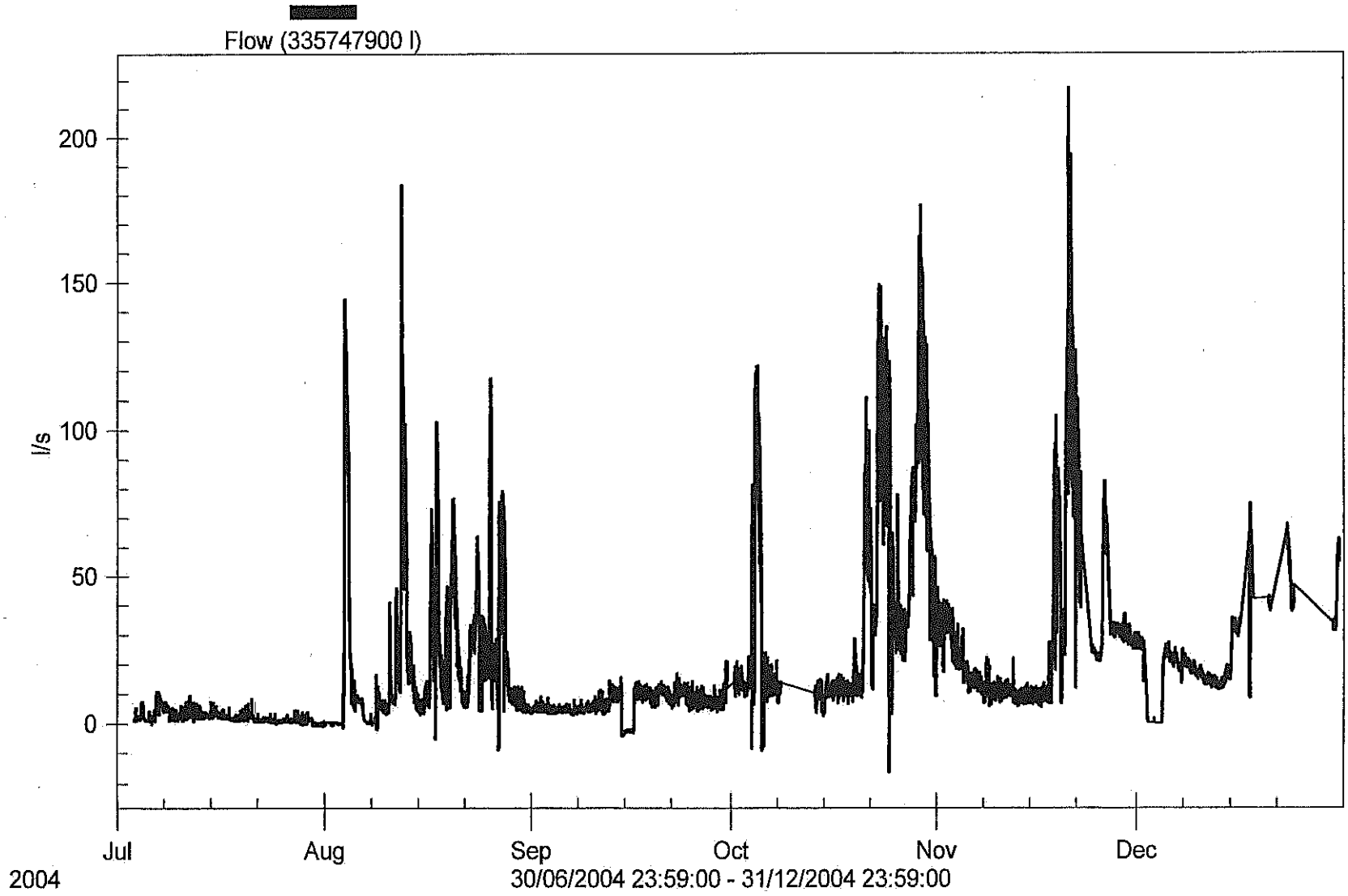
Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Dec	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2004		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	8	28	1.44	0.09	5	266	99	1988299	55.67	2.86	0.18	9.94	528.89
2					14	182		717305				10.04	130.55
3					IS	IS		47370					
4					5	198		249618				1.25	49.42
5					5	120		2088162				10.44	250.58
6					10	250		2104617				21.05	526.15
7					5	278		1971759				9.86	548.15
8	8	31	1.24	0.05	6	247	107	1957443	60.68	2.43	0.10	11.74	483.49
9					5	170		1882776				9.41	320.07
10					5	178		1861585				9.31	331.36
11					5	66		1819179				9.10	120.07
12					5	78		1792956				8.96	139.85
13					5	140		1795857				8.98	251.42
14					5	114		1874202				9.37	213.66
15	8	10	0.05	0.05	5	116	143	2201859	22.02	0.11	0.11	11.01	255.42
16					8	58		2916326				23.33	169.15
17					5	50		3143279				15.72	157.16
18					16	130		2609111				41.75	339.18
19					IS	IS		2350080					
20					17	128		2347246				39.90	300.45
21					IS	IS		3389994					
22	7.7	62	1.39	0.05	12	120	169	3390768	210.23	4.71	0.17	40.69	406.89
23					6	117		3255124				19.53	380.85
24					10	138		1266199				12.66	174.74
25					20	202							
26					5	149							
27					5	166							
28					5	174							
29	7.9	10	1.74	0.05	5	144	150						
30													
31													

IS: Insufficient amount of sample due to low flow or sampler malfunction.

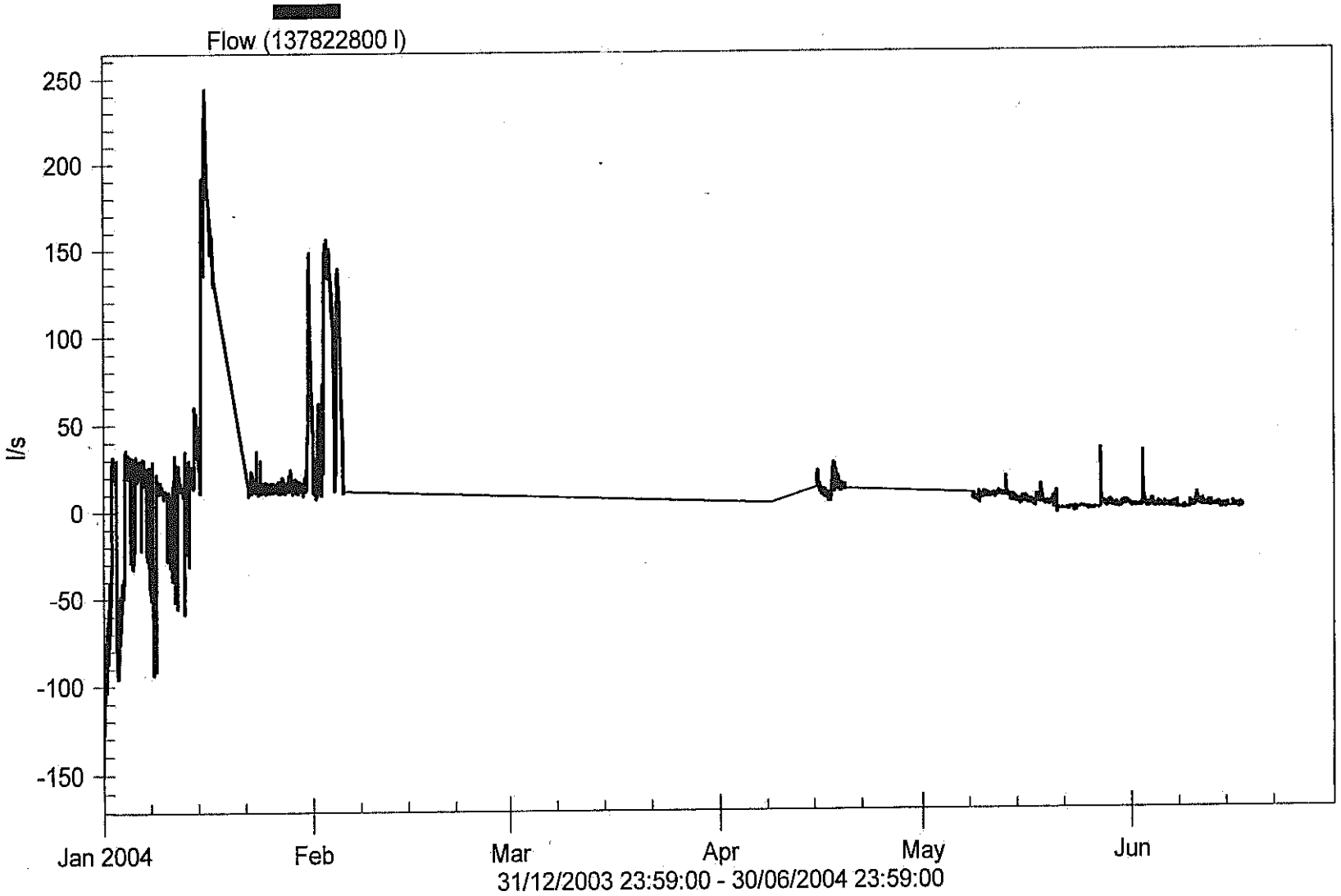
Derrygreenagh Composite Sampler

July to Dec



Derrygreenagh Composite Sampler

Jan to June



BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

ENVIRONMENTAL PROTECTION AGENCY
03 APR 2006

Office of Environmental Enforcement
South East Region
Environmental Protection Agency
PO Box 3000
Johnstown Castle Estate
Co Wexford

March 31, 2006

Ref: AER/501-006

Dear Sir,

Please find enclosed the **Derrygreenagh Group** Annual Environmental Report, IPC Licence (ref. no. 501).

Yours sincerely

P.P. Eamonn Mulhall
Paul Riordan
Eastern Regional Manager.

EPA
IPC ENFORCEMENT WEXFORD.
Main File ✓
Public File ✓
Evaluation File Team A
Date 3/4/06 EB
For Assessment

DERRYGREENAGH, ROCHFORTBRIDGE, MULLINGAR, CO. WESTMEATH, IRELAND
TELEPHONE: (044) 22181. FAX: (044) 22344

REGISTERED OFFICE: MAIN STREET, NEWBRIDGE, CO. KILDARE
REGISTERED IN IRELAND NUMBER: 303287

BORD NA MÓNA
BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Annual Environmental Report 2005
IPC LICENCE 501

March 2006

Contents

1.0 Introduction

1.1 IPC Licence Register No **501**

1.2 Name & Location of Site

Name:	Bord na Mona Energy Limited.
Address:	Derrygreenagh Group Derrygreenagh Works Rochfortbridge Mullingar Co Westmeath.
Telephone No:	044 / 22181 Fax No: 044 / 22344
Contact Name:	Paul Riordan
Position:	Regional Manager.
National Grid Reference:	E249450 N238140

1.3 Description of Activities

The Derrygreenagh Group consists of the Derrygreenagh and Ballivor Groups and Rossan Bog.
The Derrygreenagh group of bogs is located in North Offaly and Southeast Westmeath. The Derrygreenagh group comprises of 3664 acquired hectares, of which there was 629 nett hectares in production in the 2005 season. The main catchment of these areas is the River Boyne.

The Ballivor group is made up of the bogs in the Ballivor, Carranstown, Bracklin and Lisclogher areas. There was a total of 250 hectares in production in the 2005 season and each of these areas are linked by peatland railway to the Bord na Mona horticultural factory, situated between Ballivor and Raharney villages. Drainage from these bogs is to the Deel and Stonyford rivers, tributaries of the Boyne.

Rossan bog is situated one mile from Kinnegad village. There was 140 hectares in milled moss production in the 2005 season. This bog drains to the Kinnegad River, a tributary of the River Boyne.

The Derrygreenagh Group currently employs 59 permanent and 7 seasonal workers. The Ballivor bogs employing 7 permanant and 3 seasonals, with 3 premanent and 4 seasonals employed in Rossan. Giving a total of 69 permanent and 14 seasonal employees across the licence area.

Transport operations are carried out on a seven day cycle throughout the year. Production operations are typically carried out over a seven day week (weather permitting) for 12 to 15 hours per day.

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:

- Milling.
- Harrowing.
- Ridging.
- Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways to one of the following locations.

- Power station (EPL)
- Horticultural Factory.
- Briquette Factory. (Via Road)
- Dublin Port (Via Road)

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.

Derrygreenagh Group

Environmental Responsibilities

(1) Overall environmental responsibilities
(2) Records of complaints and registers
(3) All production related issues
(4) Machine maintenance
(5) Co-ordinating environmental affairs
(6) All peat transportation matters
(7) Silt pond maintenance, tea centres, codes of practice
(8) Fuel loading, oil traps, weekly workshop inspections.

1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Irelands peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its buisness in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

- Discharges to water.
- Emissions to atmosphere.
- Waste disposal.
- Use of natural resources.
- Noise, vibration, odour, dust and visual effects.
- Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

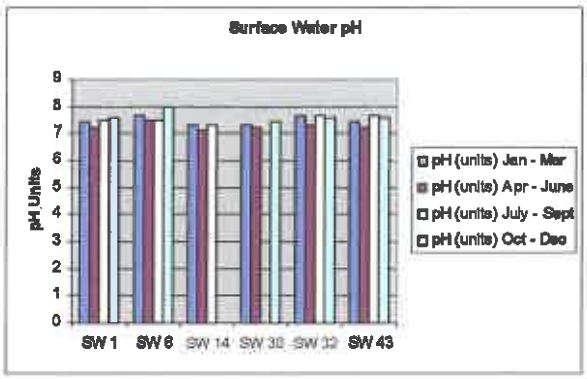
This statement is published and is available at all locations within the division and its contents are brought to the attention of all employees.

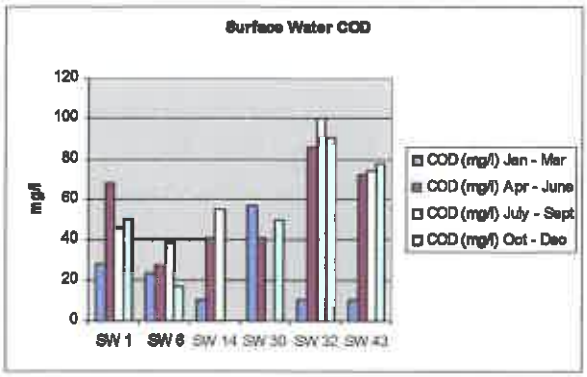
2.0 Summary Information

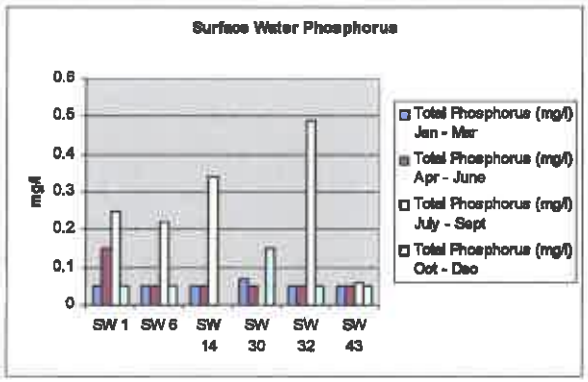
2.1 Emissions to Water Summary

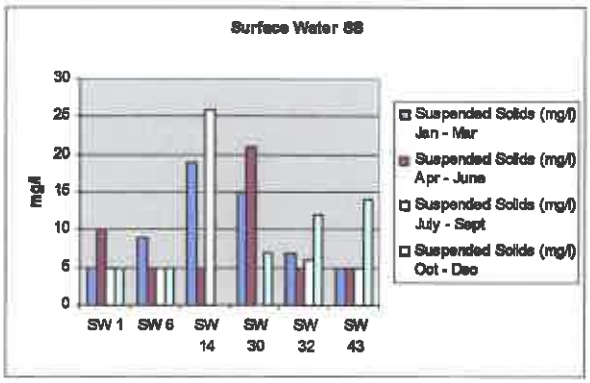
2.1.1 Silt Pond Emissions

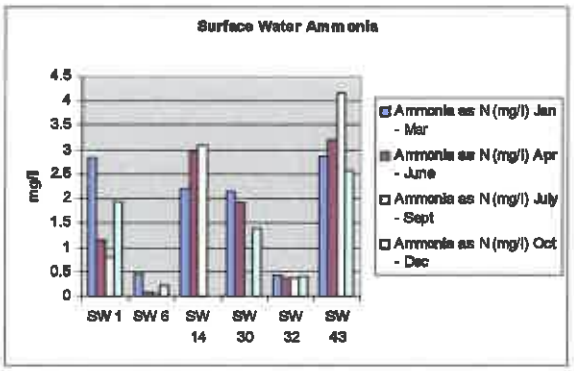
The following graphs compare results obtained during the reporting period at all surface water monitoring points.

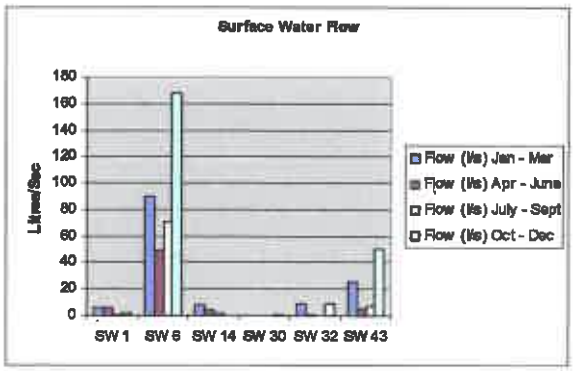












Comment

In general results were good on all parameters analysed. Suspended solids were within the emission limit value of 35mg/litre. Elevated ammonia detected at SW 43 can be common in waters emanating from certain peatlands. Due to the fact that 2005 was the fifth driest year since records began in 1956, flow rates during the period were a lot less than in previous years. It is proposed to monitor at the same locations in the upcoming year, except for at SW 14, due to the construction of the new N6 Motorway which will impede access. An alternative location will be selected and the agency informed.

2.1.2 Yard Discharge

The tables below are a summary of the emissions to surface waters from the yard and workshop at the Derrygreenagh Works.

Derrygreenagh SWE-2

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
COD mg/l	58	47	14	28	-	39	-	-	34	30	-	91

Comment.
No samples were available on the day of sampling in the months May, July & November. As with the surface water results, flow rates were very low due to the particularly dry year.

2.1.3 Composite Sampler Report

The composite sampler remains at the same location as last year. There was no production in the bog upstream of the sampler during 2005. This was reflected in sample results which returned no non-compliances for the period and would suggest, bogs which are not in production have no great influence on receiving waters in relation to suspended solids.
Attached in Appendix 1 are the results of the monitoring carried out using the composite sampler.

2.1.4 Non-compliance's

There were no non-compliances during the reporting period in relation to surface water monitoring.

2.2Emissions to Air

2.2.1 Dust Monitoring

The tables below contain the dust emissions for each dust monitoring location within the Derrygreenagh Group. Monitoring took place on three separate occasions during the period, May and August 2005.

May - June

Emission Point	Parameter	Emission (mg/m^2/day)	Emission Limit Value	Compliant
DM 01	Dust	72	(350mg/m^2/Day)	YES
DM 02	Dust	78	(350mg/m^2/Day)	YES
DM 03	Dust	466	(350mg/m^2/Day)	NO

June - July

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value	Compliant
DM 01	Dust	18	(350mg/m^2 /Day)	YES
DM 02	Dust	42	(350mg/m^2 /Day)	YES
DM 03	Dust	59	(350mg/m^2 /Day)	YES

July - Aug

Emission Point	Parameter	Emission (mg/m^2 /day)	Emission Limit Value	Compliant
DM 01	Dust	53	(350mg/m^2 /Day)	YES
DM 02	Dust	53	(350mg/m^2 /Day)	YES
DM 03	Dust	53	(350mg/m^2 /Day)	YES

Note: DM 01= Toar Bog. DM 02 = Derryhinch Bog. DM 03 = Ballivor Bog.

2.2.2 Non-compliance's

The emission limit value was exceeded at DM 03 during the first monitoring event. This was reported to the Agency (Ref D/G 501-CA-005). No complaints were received at the time, from adjacent dwellings. Monitoring will take place at this location once production begins in 2006. Operatives have also been reminded of the sensitivity of the location.

2.3Waste Arisings

2.3.1 Non-Hazardous Waste

The following table lists the quantities of the wastes generated from January-December 2005.

Waste Type	Quantity (Tonnes)
Silt Pond Waste	412 *
Scrap Metal	163.59
Polyethylene	237.32
Mixed Municipal Waste	12.33
Total	**825.24**

Note:

* Estimated amount. Scrap metal and Polyethlene are both recycled.

2.3.2 Hazardous Waste

The following table is a record of all the hazardous wastes handled by the Derrygreenagh Group from January - December 2005.

WASTE DESCRIPTION	EWC CODE	TONNES	NAME OF CONTRACTOR	DESTINATION	DATE	LICENCE NR
Waste Oil	13 02 08	3	Atlas Waste Oil	Portlaoise	19/01/2005	184-1
Lead Acid Batteries	16 06 01	1.684	Returnbatt Ltd	Kildare Town	21/02/2005	067/OY/11/02
Waste Oil	13 02 08	3.750	Atlas Waste Oil	Portlaoise	29/03/2005	184-1
Oily Rags	13 08 99	480 L	Atlas Waste Oil	Portlaoise	12/04/2005	184-1
Waste Grease	13 08 99	210 L	Atlas Waste Oil	Portlaoise	12/04/2005	184-1
Lead Acid Batteries	16 06 01	1	Returnbatt Ltd	Kildare Town	16/05/2005	067/OY/11/02
Waste Oil	13 02 08	4	Atlas Waste Oil	Portlaoise	03/06/2005	184-1
Parts Wash Kerosene	11 01 13	90 L	Safety Kleen	Dublin	16/06/2005	99-1
Oil/Sludge	13 05 07	10	Atlas Waste Oil	Portlaoise	09/08/2005	184-1
Waste Oil	13 02 08	2	Atlas Waste Oil	Portlaoise	23/08/2005	184-1
Waste Oil	13 02 08	5.3	Atlas Waste Oil	Portlaoise	24/08/2005	184-1
Fire Extinguishers		0.06	Apex Fire	Dublin	22/09/2005	
Parts Wash Kerosene	11 01 13	90 L	Safety Kleen	Dublin	04/10/2005	99-1
Oily Rags	13 08 99	240 L	Atlas Waste Oil	Portlaoise	17/11/2005	184-1
Waste Grease	13 08 99	205 L	Atlas Waste Oil	Portlaoise	17/11/2005	184-1
Thinners	08 01 11	205 L	Atlas Waste Oil	Portlaoise	17/11/2005	184-1
Lead Acid Batteries	16 06 01	2.434	Returnbatt Ltd	Kildare Town	29/11/2005	067/OY/11/02
Oil Filters	15 02 03	660 L	Atlas Waste Oil	Portlaoise	30/11/2005	184-1
Waste Oil	13 02 08	4	Atlas Waste Oil	Portlaoise	14/12/2005	184-1

2.4 Energy and Water Consumption

2.4.1 Energy Consumption

The table below is a summary of the energy consumption for the Derrygreenagh Group, from the dates January – December 2005.
Water is not included, as it is not used as part of the production process. It is only used in offices, canteens and workshops on a domestic scale.

Fuel	Volume M^3	Tonnes	MW/Hours
Jan - Dec 2005			
Diesel	325.948	270.537	3192.34
Electricity			30.754
Peat Briquettes		231.26	1156.3
Total	**325.948**	**501.797**	**4379.394**

2.5 Environmental Incidents & Complaints

2.5.1 Incidents

There were no incidents within the Derrygreenagh Group during the reporting period.

Environmental Incidents	Number of Incidents
Incidents	0
Incidents requiring corrective action	0
Categories of Incident	
Odour	
Noise	
Water	
Air	
Procedural	
Miscellaneous	

2.5.2 Complaints

There were no complaints to the Derrygreenagh Group during the reporting period.

Environmental Complaints	Number of complaints
Complaints received	0
Complaints requiring corrective action	0
Categories of complaint	
Odour	
Noise	
Water	
Air	
Procedural	
Miscellaneous	

3.0 Management of the Activity

3.1 Environmental Management Programme Report 2005

Environmental Management Report for 2005	
Project	
Project 1. Reduction of fugitive dust emissions.	**Training** All employees both permanent and seasonal were shown the cleaner production and environmental video during the year as part of an ongoing training programme. Each training group were also given a talk on the video by the environmental co-ordinator followed by a questions and answers session. Details of attendants retained on the training file. An internal audit of all IPC licensed sites also occurred during 2005. This included an assessment of the dust prevention measures in-place or planned. A copy of the audit findings is on file at each works. **Hydraulic Harrows** Hydraulic harrows are currently in operation at appropriate areas / locations **Headland Peat Collection** There is one headland peat collector in operation This has proved very successful in reducing headland peat.
Project 2. Minimisation of Suspended Solids	This project is on-going and is primarily one of training for all production personnel, and is covered in the Cleaner Production Video, as in Project 1 (Training).
Project 3. Effective spill/leak management of mobile fuelling tanks	All of BNM's production bogs now have locations highlighted as being suitable for re-fuelling on the bog.These locations have been chosen having due regard to location of watercourses and drains. Mobile fueling tanks are currently being upgraded on a phased basis with 2 tanks fully overhauled in 2005.
Project 4. Re-use of silt pond waste	This project will be kept active should any opportunities for re-using silt pond waste arise.

Project 5. Collection, storage and re-use of polythene.	Polythene collection is ongoing in BNM, and volumes collected and recycled are recorded in the Non-hazardous Waste records in the AER. All bogs now have a hard standing area, where the rolls of polythene are stored for collection and subsequent recycling. In addition to this, procedures have been put in-place, and are highlighted during training, about best practice for stripping, collection and storage. All areas have a pollyroller device. A total of 237 tonnes of polyethlene was recycled in 2005.
Project 6. Condition 2.2.2 (v) *Provision of measures to protect dust sensitive areas.*	DSL's have been identified within the licence area. Existing shelter belts were maintained where required during the reporting period. During production such areas are closely monitored and operatives continually reminded of their responsibilities.

.2 Environmental Management Programme Proposal for 2006

Environmental Management Programme Proposal for 2006	
Project	
Project 1. Reduction of fugitive dust emissions.	**Training** Training of all new operatives will take place in 2006. Any changes in working procedures should they occur, will also be communicated to all personnel. **Headland Peat** Continue with the practice of lifting headland peat at the various dust sensitive locations on a rotational basis. Identify any potential dust sensitive location before production begins and include same in the roster. **Hydraulic harrows** Continue using hydraulic harrows in areas of sensitivity and identify any potential dust sensitive locations where additional harrows may be required.
Project 2. Minimisation of Suspended Solids	Inspections during 2005 primarily targeted tea centres, oil stores, workshops etc. It is proposed to carry out inspections at production locations during 2006, looking at cleaner production, dust sensitive areas, silt pond maintenance etc. The results of these inspections will be reported to the General Manager and any corrective actions will be maintained on file.
Project 3. Effective spill/leak management of mobile fuelling tanks	These areas will also be inspected as part of the proposed inspections under Project 6 above. Compliance with Conditions 9.1.1 to 9.1.14 will be checked and any improvements and corrective actions will be documented and maintained on file. The overhaul of all service trains will continue on a phased basis. The use of designated service areas will continue.

Project 4. Re-use of silt pond waste	This project will be kept active should any opportunities for re-using silt pond waste arise.
Project 5. Collection, storage and re-use of polythene.	An invitation to tender for the recycling of BNM's polythene was sent to a number of interested companies in 2005. Six companies expressed in interest, and are currently being assessed as to environmental compliance with permitting regulations, collection methods, waste records transfer etc. It is proposed to select one or two of these companies to contract the recycling of the BNM Polythene in 2006. The Polyrollers developed in BNM will be removing and wrapping polythene in the coming months. This year will have a renewed emphasis on the reduction of peat and water presence in the rolls. Derrygreenagh are to receive two more Pollyrollers in 2006.
Project 6. Condition 2.2.2 (v) *Provision of measures to protect dust sensitive areas.*	Identify areas where shelter belts may be planted, where no complaints were received but may in time become dust sensitive due to encroaching housing development.

3.3 Environmental Expenditure

The table below lists the environmental costs incurred by the Derrygreenagh Group between January – December 2005.
In calculating the environmental costs 70% of the total costs were attributed to Licence 503 and 30% to Licence 501.The Ballivor Group costs were then added to the Derrygreenagh totals.

Expenditure Related to the Operation of the Derrygreenagh IPC Licence During the Period January – December 2005			
Description	Ballivor Cost	D/Green Cost	Total Cost (€)
Plant @ €42 / hour	23,520	221,732	245,252
Labour	11,200	105,587	116,787
Materials	NA	35,431	35,431
Overheads (ESB, Phones, Consumables)	2,500	7,000	9,500
Laboratory Analysis	NA	18,110	18,110
EPA Fees	NA	8,980	8,980
Total	€37,220	€396,840	€434,060

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

The surface water discharge monitoring location programme remains the same as was submitted and accepted by the Agency in June 2000.
Pipes have been fitted at each location in order to accommodate flow metering and the provision of safe access is also ongoing.
Emission point signs have been designed and are in place.

4.2 Bunding Programme

The bunding programme for large scale oil storage facilities is complete and the works certified.

4.3 Boiler Combustion Efficiency

Boiler Details
A new oil fired burner was installed at Derrygreenagh during the reporting period. It is a Riello RL 70 kerosene burner. The briquette fuelled danstoker is retained as a backup boiler but has not been used to date. An efficiency test was carried out on the new burner the results of which had not been received at the time of submission of this report.

4.4 Resource consumption Summary

There was a total of 120,617 tonnes of milled peat produced across the licence area in the production season 2005.
There was also a total of 192,798 tonnes of stock peat sold during the reporting period.
4.5 De-silting programme report

Summary Data Table of Ponds De-Silted From Jan-December 2005

Bog	No Silt Ponds	Cleaned Once	Cleaned Twice	Cleaned Three Times	Notes
Ballivor	10	5			
Carranstown	5	2	1		
Bracklin West	6	5			
Lisclogher	7				**
Kinnegad	6	1	5		
D/Hinch	4				**
Drumman	6				**
Ballybeg	6	5	1		
Toar	6		6		**

**: No production at this Bog in 2005.
Note: Any pond which was not cleaned at least twice, as required by the licence, is due to the fact that inspections showed those ponds did not require a second cleaning.

4.6 Bog Development and Operational Programme

The bogs in the Derrygreenagh Group are well into their productive lives, therefore there will be no development in the year 2006.
However in the Ballivor Group, Carranstown and Lisclogher West bogs are currently under development, the works involve production field preparation and drainage works such as piping and also some silt control works.

There will be 630.88 nett hectares in production in the 2006 season, yeilding 128,006 tonnes @ 55% moisture content.

Derrygreenagh will account for 49,356 tonnes and 240 hectares.
Ballivor will account for 51,480 tonnes and 252.71 hectares and Rossan will account for 27,170 tonnes and 138.17 hectares.

4.7 Bog Rehabilition Report
There was no bog rehabilitation carried out within the Derrygreenagh group during the reporting period.
Management guidelines for the planning and implementation of cutaway bog rehabilitation have been adopted and the document is currently available for inspection on file at the Derrygreenagh office.

5.0 Summary

With regard to environmental compliance at the Derrygreenagh Group of Bogs, there were no exceedences in the quarterly grab sampling.
There was one non-compliance in relation to the Composite Sampler during the period January to December 2005. Dust monitoring results at the dust sensitive locations were in general good although as stated in the body of this report there was one exceedence. There were no complaint of an environmental nature received during the reporting period.

The staff awareness through training and involvement in the operation of the licence has also improved immensely. A full programme of training and awareness has been conducted at the works and has targeted all personnel ie. Office, Workshop, Transport and Production.
Bord na Mona, Derrygreenagh Group, will continue to strive to maintain and improve its level of environmental compliance.

Bord na Mona are project partners of the South Eastern River Basin District Management, as set up under the Water Framework Directive.
Bord na Mona are also involved in catchment management on the River Barrow.

Bord na Mona Energy Ltd would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection measures.

APPENDIX 1

Composite Sampler Results

Bord Na Mona Energy Ltd, Derrygreenagh (oup, Rochfordsbridge, Co Westmea

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Jan	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2005		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS							
2					IS	IS							
3					IS	IS							
4					IS	IS							
5	7.5	25	2.04	0.05	5	214	133						
6					5	202							
7					5	140							
8					19	120							
9					13	142							
10					18	116							
11					6	130							
12	7.6	30	0.94	0.05	5	182	128						
13					7	50							
14					7	228							
15					6	232							
16					5	240							
17					6	246							
18					7	228							
19	7.5	45	0.87	0.05	13	124	132						
20					5	84							
21					5	87							
22					5	54							
23					5	228							
24					5	224							
25					5	214							
26	7.6	35	1.74	0.05	5	244	84						
27					8	198							
28					IS	IS							
29					IS	IS							
30					IS	IS							
31					IS	IS							

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Feb 2005	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					6	150							
2	8	17	1.06	0.05	5	134	103						
3					5	242							
4					5	182							
5					5	236							
6					5	258							
7					5	210							
8					5	78							
9	8.4	57	1.12	0.05	10	248	90						
10					IS	IS							
11					IS	IS							
12					IS	IS							
13					IS	IS							
14					IS	IS							
15					IS	IS							
16	7.6	34	2.17	0.05	7	302	118						
17					8	90							
18					5	90							
19					13	50							
20					8	50							
21					6	74							
22					5	308							
23	8.2	26	1.69	0.05	7	68	101						
24					5	52							
25					5	166							
26					5	50							
27					5	108							
28					5	56							

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh ( )up, Rochfordsbridge, Co Westmeat

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Mar 2005	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	62							
2	8.2	91	1.94	0.05	6	50	98						
3					5	306							
4					5	320							
5					7	334							
6					21	360							
7					9	340							
8					5	318							
9	8	39	2.04	0.05	5	280	74						
10					5	291							
11					5	272							
12					5	278							
13					5	288							
14					5	256							
15	7.9	28	1.35	0.05	5	222	102						
16					8	263							
17					5	246							
18					8	224							
19					6	194							
20					5	234							
21					10	202							
22					9	156							
23	8.2	38	0.95	0.06	5	144	155						
24					5	129							
25					5	166							
26					5	234							
27					5	238							
28					5	253							
29					5	246							
30	8	57	1.2	0.05	5	198	122						
31					3	234							

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Apr	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2005		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	150							
2					12	166							
3					5	222							
4					5	176							
5					5	216							
6	8.1	22	1.06	0.05	5	194	133						
7					5	214							
8					5	196							
9					5	272							
10					5	256							
11					5	274							
12					5	248							
13	8.1	33	1.16	0.05	5	304	60						
14					5	284							
15					5	276							
16					5	310							
17					5	248							
18					5	256							
19					5	176							
20	7.9	40	0.93	0.05	5	222	97						
21					5	266							
22					5	286							
23					5	294							
24					5	256							
25					5	300							
26					5	274							
27	7.8	32	2.1	0.06	6	294	88						
28					5	274							
29					12	312							
30					7	274							

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh (oup, Rochfordsbridge, Co Westmea

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
May	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2005		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					14	292							
2					5	242							
3					5	240							
4	7.7	32	1.31	0.08	5	276	89						
5					5	208							
6					5	218							
7					9	230							
8					7	292							
9					5	342							
10					6	290							
11	7.7	35	1.34	0.05	5	274	64						
12					11	324							
13					5	360							
14					6	302							
15					9	312							
16					5	344							
17					11	347							
18	7.9	28	1.18	0.05	57	322	57						
19					5	210							
20					6	250							
21					5	266							
22					5	330							
23					5	298							
24					5	226							
25	8.1	52	1.11	0.05	5	182	115						
26					5	194							
27					5	268							
28					5	240							
29					5	182							
30					5	240							
31					5	272							

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Jun	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2005		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	8.1	57	1.17	0.05	7	240	93						
2					5	308							
3					5	290							
4					5	358							
5					IS	IS							
6					IS	IS							
7					IS	IS							
8	7.6	25	2.63	0.07	5	334	85						
9					IS	IS							
10					IS	IS							
11					IS	IS							
12					IS	IS							
13					IS	IS							
14					IS	IS							
15	7.7	55	3.1	0.05	6	306	71						
16					IS	IS							
17					IS	IS							
18					IS	IS							
19					IS	IS							
20					IS	IS							
21					IS	IS							
22	8.1	39	1.92	0.05	5	282	70						
23					IS	IS							
24					IS	IS							
25					IS	IS							
26					IS	IS							
27					IS	IS							
28					IS	IS							
29	8.3	35	2.58	0.05	5	318	65						
30					IS	IS							

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh (oup, Rochfordsbridge, Co Westmea

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Jul	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2005		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS							
2					IS	IS							
3					IS	IS							
4					IS	IS							
5					IS	IS							
6	8	50	2.67	0.05	5	286	93						
7					IS	IS							
8					IS	IS							
9					IS	IS							
10					IS	IS							
11					IS	IS							
12					IS	IS							
13	8	67	2.34	0.08	8	343	87						
14					IS	IS							
15					IS	IS							
16					IS	IS							
17					IS	IS							
18					IS	IS							
19					IS	IS							
20	8.1	45	2.26	0.05	5	333	70						
21					IS	IS							
22					IS	IS							
23					IS	IS							
24					IS	IS							
25					IS	IS							
26					5	346							
27	7.8	10	2.34	0.05	5	338	75						
28					5	306							
29					5	288							
30					5	264							
31					10	266							

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Aug	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2005		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS							
2					IS	IS							
3	7.9	38	2.15	0.05	5	356	77						
4					5	326							
5					5	320							
6					IS	IS							
7					IS	IS							
8					IS	IS							
9					IS	IS							
10	8	42	1.41	0.05	5	330	74						
11					IS	IS							
12					IS	IS							
13					IS	IS							
14					IS	IS							
15					IS	IS							
16					IS	IS							
17	7.9	115	2.35	0.06	5	312	87						
18					IS	IS							
19					IS	IS							
20					IS	IS							
21					IS	IS							
22					IS	IS							
23					IS	IS							
24	7.8	44	2.57	0.1	8	280	78						
25					IS	IS							
26					IS	IS							
27					IS	IS							
28					IS	IS							
29					IS	IS							
30					IS	IS							
31	7.8	64	2.5	0.05	6	290	84						

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh (oup, Rochfordsbridge, Co Westmea

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Sep	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2005		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					IS	IS							
2					IS	IS							
3					IS	IS							
4					IS	IS							
5					IS	IS							
6					IS	IS							
7	7.8	85	2.66	0.1	5	326	60						
8					IS	IS							
9					IS	IS							
10					IS	IS							
11					IS	IS							
12					IS	IS							
13					IS	IS							
14	7.9	61	2.38	0.05	8	322	71						
15					5	360							
16					5	272							
17					19	320							
18					5	268							
19					5	266							
20					5	338							
21	7.8	50	2.41	0.05	5	276	74						
22					IS	IS							
23					IS	IS							
24					IS	IS							
25					IS	IS							
26					5	270							
27					5	258							
28	8.1	50	1.55	0.05	5	220	106						
29	8.1	62	0.02	0.05	5	236	122						
30					5	234							

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Full suite of analysis carried out on 29/09/05 due to Lab error.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

Month				Parameters							Daily Totals		
Oct	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2005		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	240							
2					5	246							
3					5	272							
4					5	278							
5					5	277							
6					5	280							
7					10	284							
8					5	286		928897				4.64	265.66
9					5	266		683826				3.42	181.90
10					5	258		847909				4.24	218.76
11					5	214		1169892				5.85	250.36
12	8.1	51	1.58	0.05	5	220	104	838045	42.74	1.32	0.04	4.19	184.37
13					6	232		531811				3.19	123.38
14					11	272		488411				5.37	132.85
15					5	250		596163				2.98	149.04
16					5	236		481056				2.41	113.53
17					5	272		611126				3.06	166.23
18					5	254		1078330				5.39	273.90
19	8	63	2.04	0.05	5	214	113	3890369	245.09	7.94	0.19	19.45	832.54
20					5	182		4123757				20.62	750.52
21					5	182		6252645				31.26	1137.98
22					5	204		2354259				11.77	480.27
23					5	218		1407708				7.04	306.88
24					5	158		16132820				80.66	2548.99
25					5	180		14599260				73.00	2627.87
26	7.5	69	1.08	0.05	5	201	205	9480260	654.14	10.24	0.47	47.40	1905.53
27					5	248		2889532				14.45	716.60
28					5	182		1919287				9.60	349.31
29					5	228		2088177				10.44	476.10
30					5	136		3929984				19.65	534.48
31					5	210		2960499				14.80	621.70

* All flow data up to October 2005 was lost due to a technical fault in the storage of the data.

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh (oup, Rochfordsbridge, Co Westmea

Composite Sampler Results Licence 501

Month				Parameters								Daily Totals		
Nov 2005	pH	COD mg/l	Ammonia as N mg/l	Total Phosphorus mg/l	Suspended Solids mg/l	Total Solids mg/l	Colour Pt Co units	Flow Daily Total (litres)	COD Kg/Day	Ammonia as Kg/Day	Total Phosphorus Kg/Day	Suspended Solids Kg/Day	Total Solids Kg/Day
1					5	164		2179346				10.90	357.41
2	7.7	48	1.18	0.05	5	122	178	8048509	386.33	9.50	0.40	40.24	981.92
3					IS	IS		14496600					
4					IS	IS		6507821					
5					IS	IS		6507821					
6					IS	IS		6507821					
7					IS	IS		6507821					
8					IS	IS		6507821					
9					IS	IS		6507821					
10	7.6	24	1.64	0.05	5	188	187	6507821	156.19	10.67	0.33	32.54	1223.47
11					IS	IS		6507821					
12					IS	IS		6507821					
13					IS	IS		6507821					
14					IS	IS		6507821					
15					IS	IS		6507821					
16	7.6	46	1.91	0.05	5	330	120	6507821	299.36	12.43	0.33	32.54	2147.58
17					IS	IS		6507821					
18					IS	IS		6507821					
19					IS	IS		6507821					
20					IS	IS		6507821					
21					IS	IS		6507821					
22					IS	IS		6507821					
23	7.6	44	2.13	0.05	5	240	79	6507821	286.34	13.86	0.33	32.54	1561.88
24					IS	IS		6507821					
25					IS	IS		6507821					
26					IS	IS		6507821					
27					IS	IS		6507821					
28					IS	IS		6507821					
29					IS	IS		6507821					
30	7.6	42	2	0.05	5	190	106	6507821	273.33	13.02	0.33	32.54	1236.49

IS: Insufficient amount of sample due to low flow or sampler malfunction.

Bord Na Mona Energy Ltd, Derrygreenagh Group, Rochfordsbridge, Co Westmeath

Composite Sampler Results Licence 501

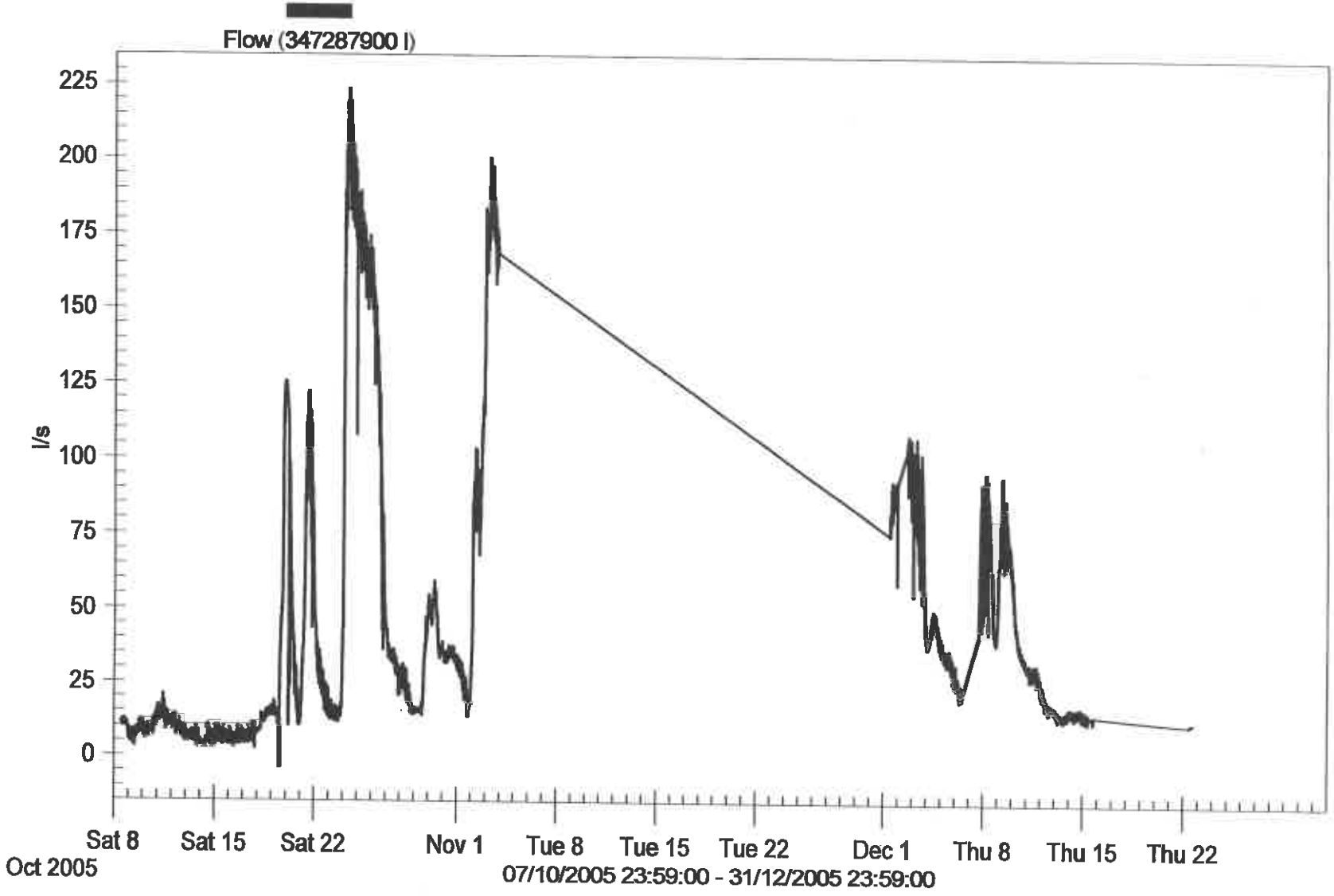
Month				Parameters							Daily Totals		
Dec	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2005		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					8	178		7038953				56.31	1252.93
2					5	140		8825839				44.13	1235.62
3					7	142		6962911				48.74	988.73
4					5	202		3728060				18.64	753.07
5					5	208		2872848				14.36	597.55
6					5	214		2877860				14.39	615.86
7	7.8	59	1.51	0.05	5	184	124	4408658	260.11	6.66	0.22	22.04	811.19
8					5	152		5610001				28.05	852.72
9					5	140		6207086				31.04	868.99
10					11	126		3515521				38.67	442.96
11					5	218		2506661				12.53	546.45
12					5	228		1693547				8.47	386.13
13					15	190		1323796				19.86	251.52
14	7.7	41	1.95	0.24	14	226	99	1367149	56.05	2.67	0.33	19.14	308.98
15					IS	IS		1188751					
16					IS	IS		1035677					
17					IS	IS		1035677					
18					IS	IS		1035677					
19					IS	IS		1035677					
20					IS	IS		1035677					
21	7.5	29	2.2	0.05	8	270	73	1035677	30.03	2.28	0.05	8.29	279.63
22					IS	IS		697975					
23					IS	IS		TF					
24					IS	IS		TF					
25					IS	IS		TF					
26					IS	IS		TF					
27					IS	IS		TF					
28	7.7	39	2.43	0.05	5	268	83	TF					
29					IS	IS		TF					
30					IS	IS		TF					
31					IS	IS		TF					

IS: Insufficient amount of sample due to low flow or sampler malfunction.

TF: No flow data due to technical fault

Derryhinch Composite Flow Rates 2005

Flowlink 4 for Windows



BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Annual Environmental Report 2006
P0501-01

March 2007

Contents

3.0 Management of the Activity

3.1 Environmental Management Programme Report

3.2 Environmental Management Programme Proposal

3.3 Environmental Expenditure

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

4.2 Bunding Programme

4.3 Boiler Combustion Efficiency

4.4 Resource Consumption Summary

4.5 Report on de-silting Programme

4.6 Bog Development and Operational Programme

4.7 Bog Rehabilitation Report

4.8 Archaeological Report

5.0 Summary

Appendix 1: Emissions to Water Monitoring Results. (Bogs)

Appendix 2: Emissions to Water Monitoring Results. (Yards)

Appendix 3: Emissions to Water Monitoring Results. (Composite)

Appendix 4: Emissions to Air Monitoring Results.

Appendix 5: Boiler Efficiency Results

Appendix 6: De-silting Programme Review

1.0 Introduction

1.1 IPPC Licence No PO501-01

1.2 Name & Location of Site

Name:	Bord na Mona Energy Limited.
Address:	Derrygreenagh Works, Rochfortbridge, Mullingar, Co. Westmeath.
Telephone No:	044 9222181 Fax No. 044 9222344
Contact Name:	Paul Riordan
Position:	General Manager
National Grid Reference:	E249450 N238140

1.3 Description of Activities

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:
Milling.
Harrowing.
Ridging.
Harvesting.

Milling.
Special milling machines work their way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

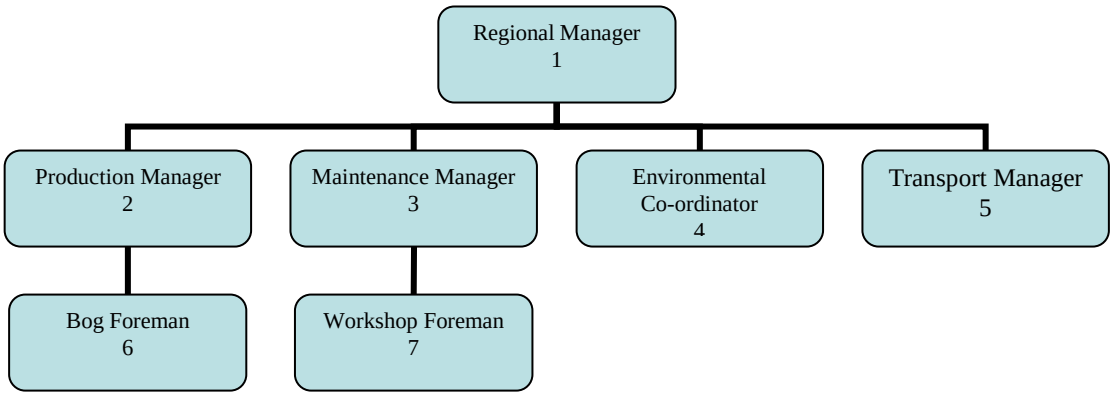
The milled peat is then transported via the existing network of peatland railways or via road to one of the following locations.
Power station
Horticultural Factory.
Briquette Factory.

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.

Group

Environmental Responsibilities



(1) Overall environmental responsibilities
(2) All production related issues
(3) Machine maintenance
(4) Co-ordinating environmental affairs
(5) All peat transportation matters
(6) Environmental issues relating to peatlands.
(7) Environmental issues relating to Workshops.

1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Irelands peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its business in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

Discharges to water.
Emissions to atmosphere.
Waste disposal.
Use of natural resources.
Noise, vibration, odour, dust and visual effects.
Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its contents are brought to the attention of all employees.

2.0 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

Comment
Surface water monitoring was carried out four times during the reporting period. In total analysis was carried out at five different locations. These locations are as follows, Derryhinch @ SW1, Drumman @ SW6, Bracklin @ SW30, Carranstown @ SW32 and Rossan @ SW43. The parameters measured during each sampling event were as follows.
Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD.
In general results were constant across all parameters at each monitoring location.
May was the wettest month of 2006 with rainfall of 151mm being recorded, while June was the driest with 13.2mm recorded.
The quarterly grab sampling programme proved to be 100% compliant for the year as was the 2005 regime.

pH values were between 6.4 and 8.3, with normal emission limit values being of the range 6 and 9. The graph clearly shows consistent trends for the period.
Suspended solids varied from 5mg/l to 56mg/l and would depend on activities (piping, ditching) etc in the catchments at the time of sampling. Increased flow is noted at the time of the most elevated result during the 3rd quarter monitoring event. All other location results are within the licence limit of 35mg/l.
Ammonia levels were slightly elevated during the 1st quarter monitoring event at SW1, 30 and 43. This is not unusual for waters discharging from peatlands.
COD readings were slightly elevated during 2nd quarter monitoring event. This can be attributed to reduced flow rates and increased temperature during that time.
Flow rates were far greater during the 4th quarter sampling event. This is to be expected as the year ended with unusually inclement weather.
Total Phosphorus results are slightly elevated at SW32 3rd quarter. Future trends will be monitored to establish whether this is typical of that location.
Sampling will continue at the same locations during 2007.

Surface Water Results are attached in Appendix 1.

2.1.2 Yard Discharges

Comment
Yard runoff monitoring took place at one location during the reporting period. Sampling frequency was monthly and COD was the parameter requiring analysis. As is evident from the graph, on several occasions no sample was available on the day of sampling. This was due to no flow at the emission point as the catchments are quite small. Sampling will continue at the same locations during 2007.

Yard Emission Results are attached in Appendix 2.

2.1.3 Composite Sampler Report

Comment
The composite sampler has been operating at Derryhinch SW3 during the reporting period.
The parameters measured were Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD, with Suspended solids being the only parameter with an emission limit value (35mg/l). May was the wettest month of 2006 with rainfall of 151mm being recorded, while June was the driest with 13.2mm recorded. In general results were satisfactory with no non-compliances being recorded for the period. The internal battery was replaced on the sampler during the period, there were also some technical difficulties addressed which led to some missing data. A proposal to relocate the composite sampler during 2007 will be submitted to the agency, as a suitable site has been identified at Toar bog SW15. This site because of its nature has the potential to give more accurate flow data when it becomes operational.

Composite Sampler Results are contained in Appendix 3.

2.1.4 Emissions to Water Non-compliance's

Emissions to Water Non-Compliances

Licence: P0501-01
Works: Derrygreenagh

Type	Non-Compliances	Location / SW Nr
Composite	0	
Quarterly Grab	0	
Monthly Yard	NA	
Totals	0	

2.2 Emissions to Air

2.2.1 Dust Monitoring
Comment
Dust monitoring was carried out on three occasions between May and August. Each monitoring event lasted between 28 and 32 days and the Bergerhoff method of collection was used.
The monitoring locations were as follows, Toar DM01, Derryhinch DM02 and Ballivor DM03. The emission limit value was not exceeded during the period and no complaints of a dust nature were received.
Sampling will continue at the same locations during 2007.

Dust Monitoring Results are attached in Appendix 4.

2.2.2 Emissions to Air Non-compliance's

Dust Non-Compliances	
Licence:P0501-01	
Works: Derrygreenagh	
Location / DM Nr	**Non-Compliances**
	0
Total	0

2.3 Waste Arisings

2.3.1 Non-Hazardous Waste

Non Hazardous Waste Data

Licence: P0501-01

Works: Derrygreenagh

Type	Tonnes	EWC Code	Contractor	Licence Nr
Skips	12.04	20 03 01	Wallace Recycling	031/OY/76/03
Wheelie Bins	11.20	20 03 01	AES	053/OY/39/02
Polyethylene	144.06	02 01 04	APEC PLASTICS	205/2005
Scrap Steel	55.45	17 04 07	Hammond Lane	050/OY/162/04
Timber Pallets	15.51	15 01 02	Kiawah Ltd	WP/TN/24
Silt Pond Cleanings	155.17	01 01 02	Bord na Mona	IPPC P 0501
Peat Screenings	0.00	01 01 02	Bord na Mona	IPPC P 0501
Totals	**386.39**			

2.3.2 Hazardous Waste

Hazardous Waste Data

Licence:P0501-01

Works:Derrygreenagh

Type	Tonnes	EWC Code	Contractor	Licence Nr	Destination
Waste Oil	9.90	13 02 05	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oil Filters	0.66	16 01 07	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oily Rags	0.72	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Waste Grease	0.00	13 08 99	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Lead Acid Batt	1.80	16 06 01	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Fluorescent Tubes	0.08	20 02 21	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Parts Wash	0.56	11 01 13	Safety Kleen, Tallaght, Dublin	99-1	Dublin
Asbestos	6.92	17 06 05	KTK Landfill	81-3	Kilcock
Asbestos	1.32	17 06 05	Rialta Environmentals	192-1	Dublin
Total	**21.96**				

2.4 Energy and Water Consumption

2.4.1 Energy

The table below shows energy consumption for the year. Water is not included, as it is only used in offices, canteens and workshops on a domestic scale. It is not used as part of the production process.

Energy Consumption

Licence: P0501-01

Works: Derrygreenagh

Units	Diesel (Litres)	Petrol (Litres)	Electricity (Units)	Peat Briquettes (Tonnes)
Totals	242054.1	750	442.193	0
MW Hours	2370.3	6.779967	0.442193	0
Total MW Hours	**2377.5**			

2.5 Environmental Incidents and Complaints

2.5.1 Incidents

There were four incidents during the year two relating to dust nuisance and two due to bog fires. In all cases the agency was informed and corrective action taken.

Environmental Incidents	
Licence: P0501-01	
Works: Derrygreenagh	
	Number
Incidents	4
Requiring corrective action	4
Category	
Water	
Air	4
Procedural	
Miscellaneous	
Total	**4**

2.5.2 Complaints.

There were two complaints during the year both relating to dust nuisance, corrective action was taken and the agency informed.

Environmental Complaints	
Licence:P0501-01	
Works: Derrygreenagh	
	Number
Complaints	2
Requiring corrective action	2
Category	
Water	
Air	2
Procedural	
Miscellaneous	
Total	**2**

3.0 Management of the Activity

3.1 Environmental Management Programme Report 2006

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Achieved. All new employees received environmental training during the year, 33 in all. **Hydraulic Harrows.** Ongoing. There was one new hydraulic harrow introduced during the to Ballybeg Bog which seems to be having a positive effect on dust control. **Headland Peat Collection.** Ongoing. Headland peat was collected in all bogs by our harvesters as required and deposited further down the bog fields.
Project 2: Minimisation of suspended solids	**On Site Inspections.** Project didn't materialise. Will commence at start of production 2007.
Project 3: Effective spill leak management of mobile fuelling units.	**On Site Inspections.** Project didn't materialise. Will commence at start of production 2007. Service trains are inspected continuously a number have been overhauled and records kept on file.
Project 4: Reuse of silt pond waste.	**Trials.** Trials in the past proved unsuccessful. For peat silt to be reused, it must be available on the production bog for transfer into the piles. 99 % of all silt ponds are located on the outfall. Another factor is contamination, as these ponds are excavated into the mineral soil to achieve gravity drainage, and as such the silt excavated from the pond is contaminated with mineral soil. Should suitable bog come into production in the future, this project will be considered.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Ongoing During the year 144 tonnes of polythene has been sent for recycling to Apec Plastics Co. Kildare Waste Permit No. 205/2005.
Project 6: Provision of measures to protect Dust Sensitive Areas.	**Planting.** Ongoing. A shelter belt was planted at Daingean Bog during the year and we plan to plant more there during 2007.

3.2 Environmental Management Programme Proposal for 2007

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Continue to train all new employees in environmental matters. Copy environmental video to disk and distribute more widely. All new employees will be trained during the year. **Hydraulic Harrows.** Continue to supply hydraulic harrows. Prioritising dust sensitive locations. There is one Hydraulic Harrow in operation at the moment we will continue to monitor the situation regarding introducing any more. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations. Supply more headland peat collection machinery as required and research efficient ways of collecting such peat for use as a saleable product.
Project 2: Minimisation of suspended solids	**On Site Inspections.** A full programme of internal audits will be carried out as soon as production commences. Particular emphasis will be put on cleaner production procedures, milling, harrowing, ridging, harvesting and loading.
Project 3: Effective spill leak management of mobile fuelling units.	**On Site Inspections.** As part of the above project, service trains will also be prioritised with a fitter accompanying the auditor during inspections to highlight any risks or potential risks that may occur.
Project 4: Fire Prevention.	**Fire Patrols.** There will be extra emphasis on fire patrols this coming production season. Research on improved fire fighting techniques will also be investigated. The newly adopted Fire and Environmental Plan will be communicated to all personnel.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.

Project 6: Provision of measures to protect Dust Sensitive Areas.	**Planting.** Ongoing Planting is ongoing as required, with areas in the periphery of production bogs that are being developed for housing being prioritised. A shelter belt will be planted at Daingean again this year.

3.3 Environmental Expenditure

Environmental Expenditure

Licence:P0501-01
Works: Derrygreenagh

Description	Cost €
Capital Costs	€10,000
Silt Control	€101,680.17
Analytical & Consultancy Costs	€8,991.25
EPA Fees	€8,535.75
Bog Rehabilitation,	0
Total	**€129,207.17**

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

A proposal to relocate some of the quarterly sampling locations will be sent to the Agency for approval during 2007. A proposal to relocate the composite sampler was sent for approval prior to the submission of this report. The new location is much better suited to collecting flow data and should make for a more accurate sampling regime in the forthcoming year. The new location is SW15 at Toar Bog.

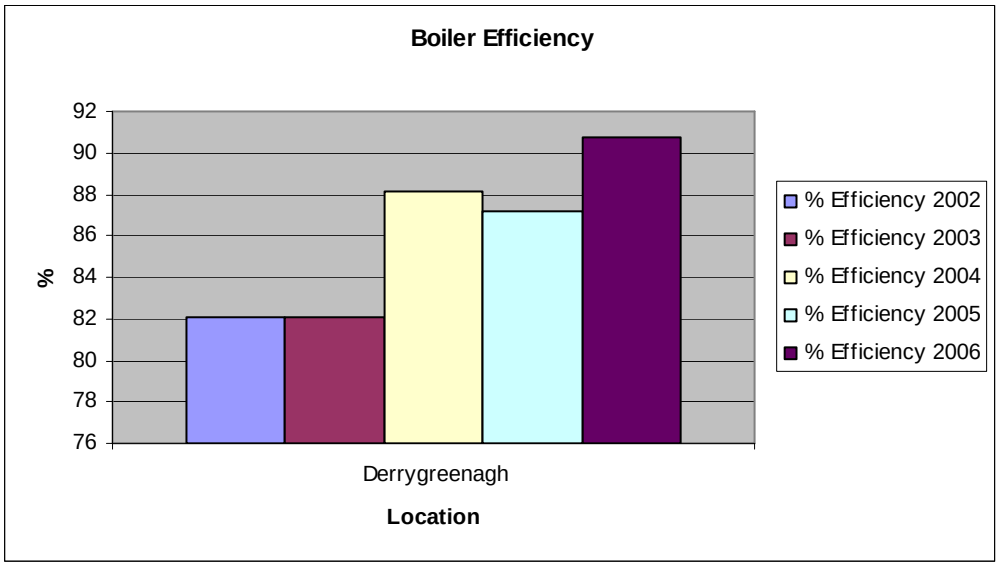
4.2 Bunding Programme

We have recently carried a Bund Integrity Tests on all bunds in our licence. All bunds in the 501 licence area passed and results are kept on file.

4.3 Boiler Combustion Efficiency

Works: Derrygreenagh

Boiler Location	% Efficiency 2002	% Efficiency 2003	% Efficiency 2004	% Efficiency 2005	% Efficiency 2006
Derrygreenagh	82.1	82.1	88.1	87.2	90.71



Note: Copies of the actual test results are contained in Appendix 5.

4.4 Resource consumption summary

We produced just over 152,000 tonnes of peat and sold 194,000 tonnes in 2006 and a minimal amount of turf to private individuals. This year we hope to produce just over 171,000 tonnes of peat and sell near what we sold last year of turf. See table below.

Resource Consumption

Licence: P0501-01

Works: Derrygreenagh

Product	Tonnes Produced	Tonnes Sold	Customer
Milled Peat	59,686	109,373	ESB
Moss	93,000	84,633	Horticulture
Turf	251	251	Private
Other	0	0	N/A
Totals	152,937	194,257	N/A

Proposed Production 2007	
Licence: P0501-01	
Works: Derrygreenagh	
Product	**Proposed Target**
Milled Peat	91,743
Moss	80,000
Turf	250
Other	0
Totals	171993

4.5 De-Silting Report

Where possible ponds were cleaned at least twice during the year, however where there was no production some ponds didn't need to be cleaned as often as there was no silt present when inspected.

Silt Pond Cleaning Review attached in Appendix 6.

4.6 Bog Development and Operational Programme

There was no development in the licence area during the year.

4.7 Bog Rehabilitation Report

No bog rehabilitation took place in this licence during the year.

4.8 Archaeological Report

DERRGREENAGH GROUP

Thirty three sites in Toar Bog were excavated under 20 licences during the 2006 field season in the southern part of the bog. This was the second of two field seasons in Toar Bog. Five sites were excavated in 2005 which were located in the northern part of the bog on the periphery of the main cluster of sites. The sites were all relatively small brushwood and roundwood structures (eight platforms, three toghers and nine archaeological wood) and were excavated over the course of a six week period. The Toar Bog sites were, in most cases, very fragmentary in nature. There are several possible reasons for this. The majority of the sites were composed of light brushwood elements and were already partially exposed on the field surface.

5.0 Summary

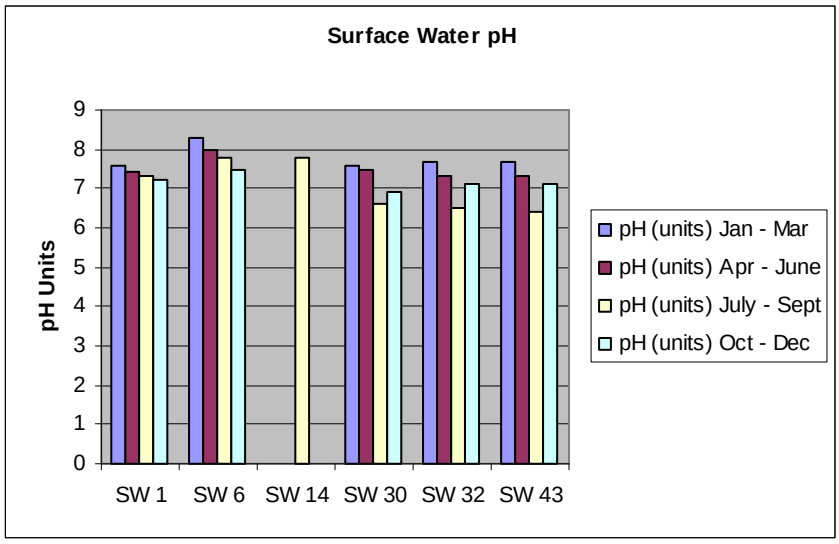
With regard to environmental compliance at the Derrygreenagh Group of Bogs, there was no exceedence of the emission limit value in relation to suspended solids from grab sampling of the silt ponds in the Surface Water Discharge Monitoring Location Programme.
There was no non-compliances in relation to the Composite Sampler during the monitoring period January to December. Dust monitoring results showed no non-compliance. There was no complaints of an environmental nature received during the reporting period.
Bord na Mona, Derrygreenagh Group, will continue to strive to maintain and improve its level of environmental compliance.

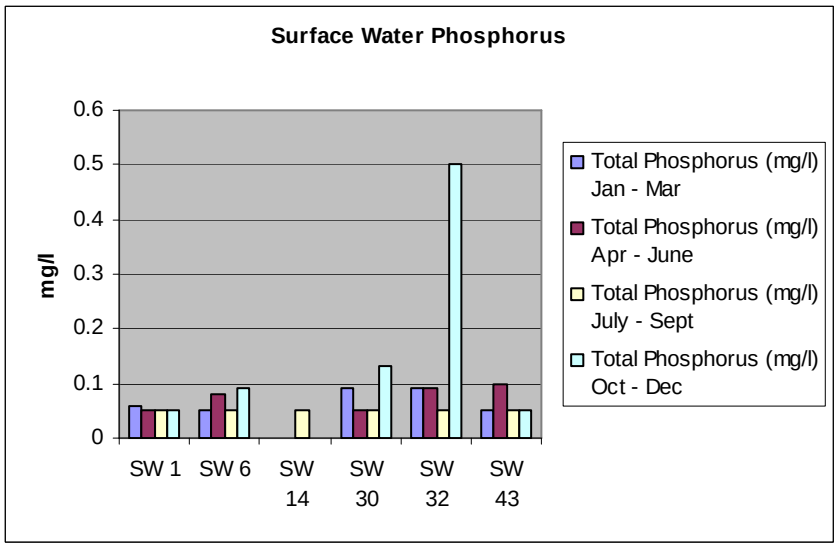
The staff awareness through training and involvement in the operation of the licence has also improved immensely. A full programme of training and awareness has been conducted at the works and has targeted all personnel ie. Office, Workshop, Transport and Production.

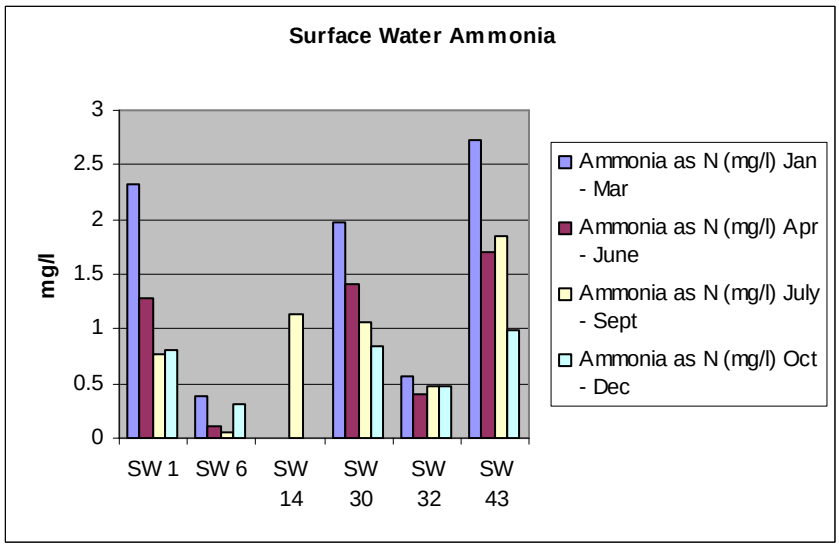
Bord na Mona Energy Ltd would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection measures.

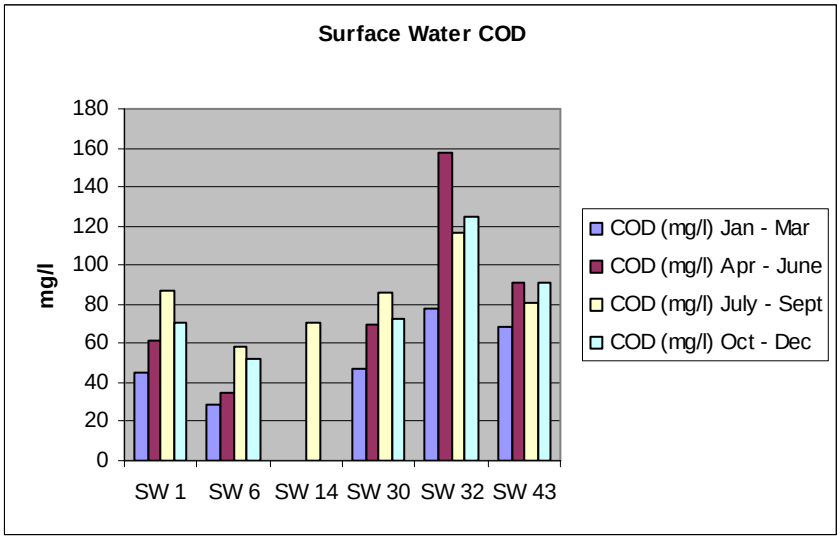
APPENDIX 1

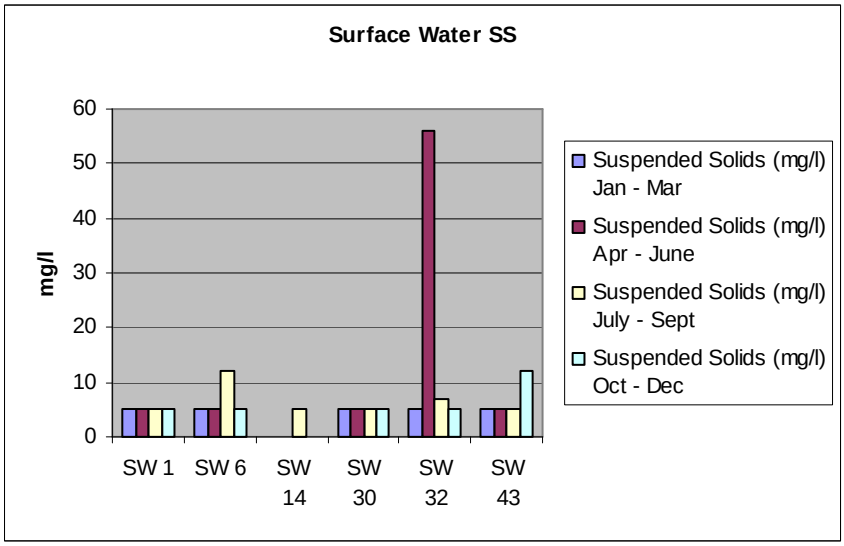
Surface Water Discharge
Monitoring Results
Bogs

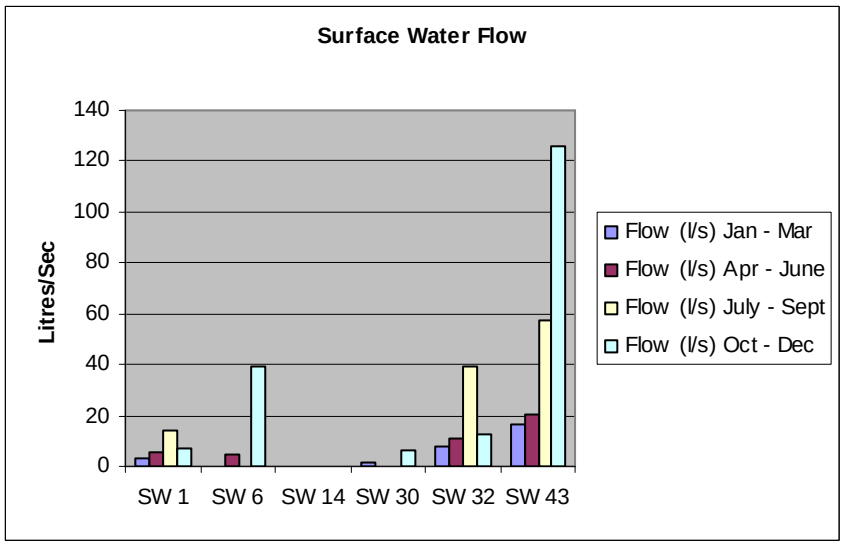

Surface Water pH
pH Units
0
1
2
3
4
5
6
7
8
9
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
pH (units) Jan - Mar
pH (units) Apr - June
pH (units) July - Sept
pH (units) Oct - Dec


Surface Water Phosphorus
mg/l
0
0.1
0.2
0.3
0.4
0.5
0.6
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Total Phosphorus (mg/l) Jan - Mar
Total Phosphorus (mg/l) Apr - June
Total Phosphorus (mg/l) July - Sept
Total Phosphorus (mg/l) Oct - Dec


Surface Water Ammonia
mg/l
0
0.5
1
1.5
2
2.5
3
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Ammonia as N (mg/l) Jan - Mar
Ammonia as N (mg/l) Apr - June
Ammonia as N (mg/l) July - Sept
Ammonia as N (mg/l) Oct - Dec


Surface Water COD
mg/l
180
160
140
120
100
80
60
40
20
0
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
COD (mg/l) Jan - Mar
COD (mg/l) Apr - June
COD (mg/l) July - Sept
COD (mg/l) Oct - Dec

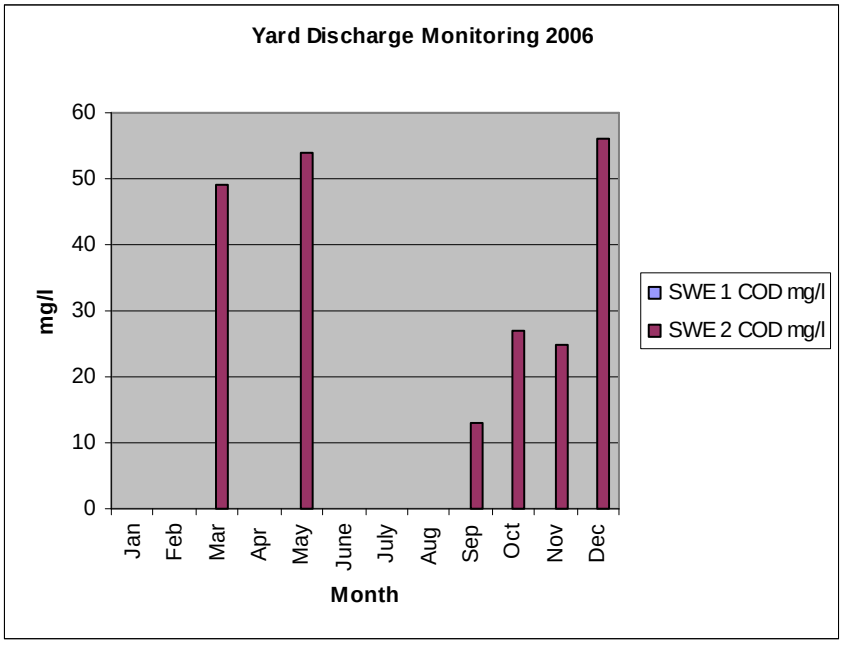

Surface Water SS
mg/l
60
50
40
30
20
10
0
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Suspended Solids (mg/l) Jan - Mar
Suspended Solids (mg/l) Apr - June
Suspended Solids (mg/l) July - Sept
Suspended Solids (mg/l) Oct - Dec


Surface Water Flow
Litres/Sec
140
120
100
80
60
40
20
0
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
Flow (l/s) Jan - Mar
Flow (l/s) Apr - June
Flow (l/s) July - Sept
Flow (l/s) Oct - Dec

APPENDIX 2

Surface Water Discharge
Monitoring Results
Yards

Yard Discharge Results			
Licence: P0501-01			
Works: Derrygreenagh			
Month	**SWE 1 COD mg/l**	**SWE 2 COD mg/l**	
Jan	NF	NF	
Feb	NF	NF	
Mar	NF	49	
Apr	NF	NF	
May	NF	54	
June	NF	NF	
July	NF	NF	
Aug	NF	NF	
Sep	NF	13	
Oct	NF	27	
Nov	NF	25	
Dec	NF	56	



APPENDIX 3

Surface Water Discharge Monitoring Results Composite

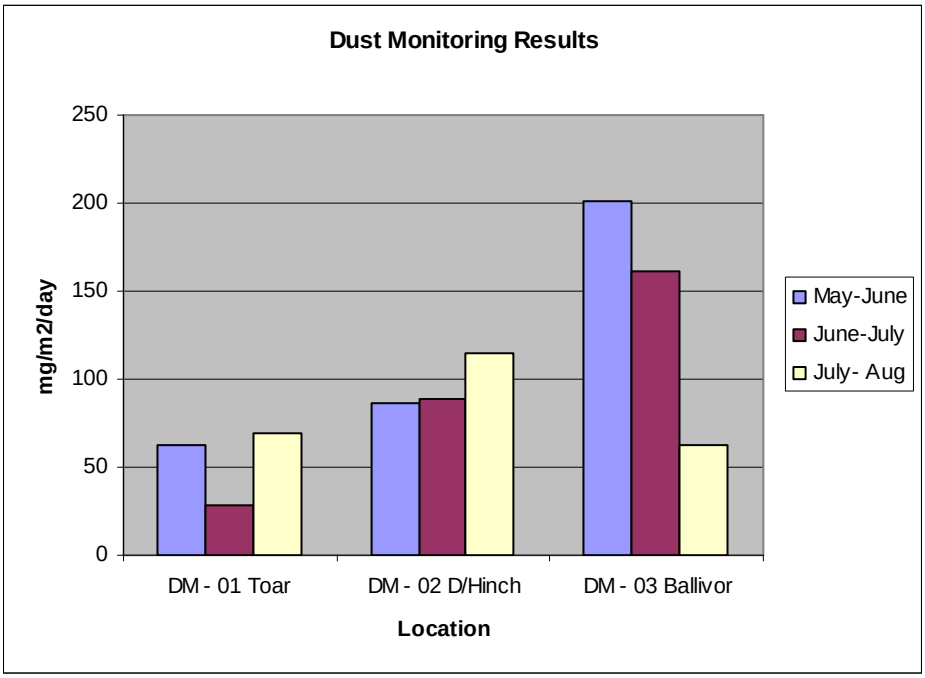
APPENDIX 4

Dust Monitoring Results.

Dust Monitoring Results

Licence:P0501-01
Works: Derrygreenagh

Sample Period	DM - 01 Toar	DM - 02 D/Hinch	DM - 03 Ballivor
May-June	63	86	201
June-July	28	89	161
July- Aug	69	115	63



APPENDIX 5

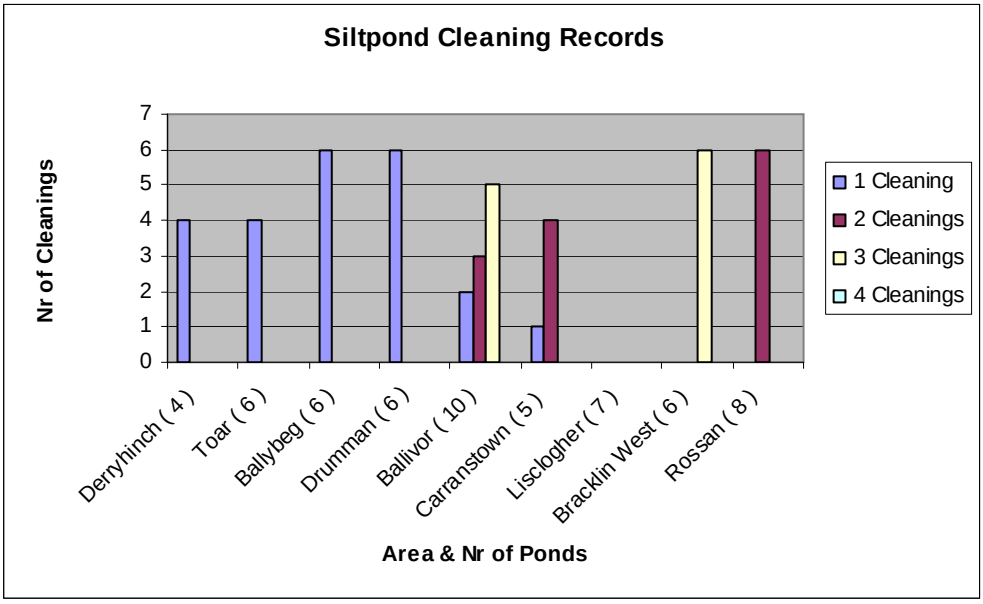
Boiler Efficiency Results

APPENDIX 6

De-silting Programme Review.

Works: Derrygreenagh

Bog Area & Nr Ponds	1 Cleaning	2 Cleanings	3 Cleanings	4 Cleanings
Derryhinch (4)	4			
Toar (6)	4			
Ballybeg (6)	6			
Drumman (6)	6			
Ballivor (10)	2	3	5	
Carranstown (5)	1	4		
Lisclogher (7)				
Bracklin West (6)			6	
Rossan (8)		6		



BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Annual Environmental Report 2007
P0506-01

March 2008

Contents

3.0 Management of the Activity

3.1 Environmental Management Programme Report

3.2 Environmental Management Programme Proposal

3.3 Environmental Expenditure

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

4.2 Bunding Programme

4.3 Boiler Combustion Efficiency

4.4 Resource Consumption Summary

4.5 Report on de-silting Programme

4.6 Bog Development and Operational Programme

4.7 Bog Rehabilitation Report

4.8 Archaeological Report

5.0 Summary

Appendix 1: Emissions to Water Monitoring Results. (Bogs)

Appendix 2: Emissions to Water Monitoring Results. (Composite)

Appendix 3: Emissions to Air Monitoring Results.

Appendix 4: De-silting Programme Review

Appendix 5: AER, PRTR Data

1.0 Introduction

1.1 IPPC Licence No **P0506-01**

1.2 Name & Location of Site

Name:	**Bord na Mona Energy Limited.**
Address:	**Kilberry Group of Bogs** **C/O Bord na Mona** **Ballivor** **Navan** **Co Meath**
Telephone No:	**046/9546003**
Fax No	**046/9546394**
Contact Name	**Terence Bracken**
Position	**General Manager**
National Grid Reference	**E266310 N199810**

1.3 Description of Activities

.

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:
Milling.
Harrowing.
Ridging.
Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

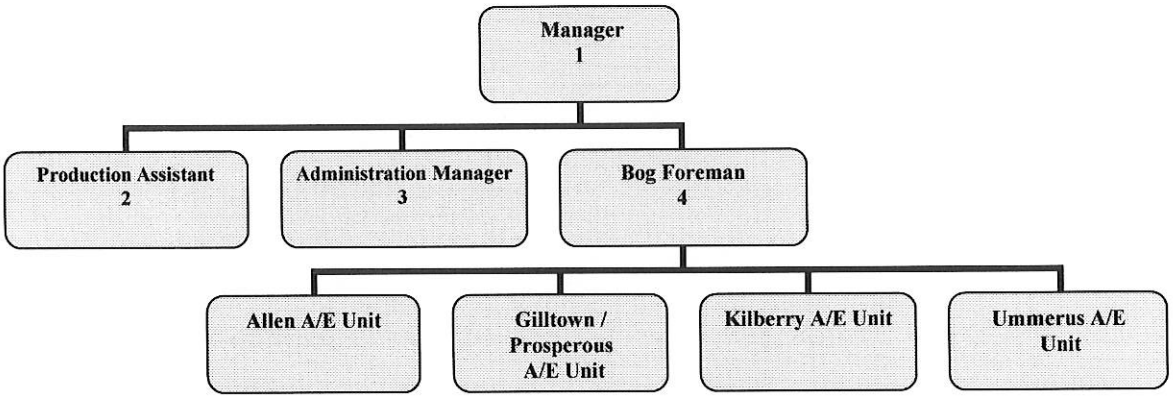
The milled peat is then transported via the existing network of peatland railways or via road to one of the following locations.
Power station
Horticultural Factory.
Dublin Port for Export

1.4 Environmental Management of the Company

The organisational structure within the Kilberry Group is presented in the flow chart below.

Kilberry Group

Environmental Responsibilities



(1) Overall environmental responsibilities
(2) All production related issues
(3) Co-ordinating environmental affairs
(4) Production / Environmental Compliance

1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Kilberry Group

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Irelands peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its buisness in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

Discharges to water.
Emissions to atmosphere.
Waste disposal.
Use of natural resources.
Noise, vibration, odour, dust and visual effects.
Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its contents are brought to the attention of all employees.

2.0 Summary Information

2.1.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

Surface Waters

Comment

Surface water monitoring was carried out four times during the reporting period. In total analysis was carried out at 4 different locations. These locations are as follows, Kilberry @ SW3, Ummerus @ SW4, Gilltown @ SW7 and Allen @ SW13. The parameters measured during each sampling event were as follows.

Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD.

In general results were constant across all parameters at each monitoring location.

pH values were between 7.2 and 8, with normal emission limit values being of the range 6 and 9. In general there was no great variation in results for the period.

Suspended solids varied from 5mg/l to 106mg/l and would depend on activities (piping, ditching) etc in the catchments at the time of sampling. All quarterly grab sampling was fully compliant in relation to suspended solids. Although the 106 result was above the 35mg/l threshold it was just above the 75% below 52.5 mg/l, no sample above 105 mg/l rule. As all other results were so low this is considered a once off abnormality.

Slightly elevated **ammonia** levels were detected at Ummerus SW4, Gilltown SW7 and Allen SW13. The I/PV for A3 waters is of the range 4mg/l. It is however not unusual for surface waters emanating from production peatlands, to be slightly elevated.

COD readings at Kilberry SW3 were elevated in the 2nd & 3rd quarter monitoring events. Subsequent results showed a slight reduction. Results for all future sampling events at the locations will be closely monitored for any elevated or abnormal results and investigations carried out if necessary. Elevated results at SW13 during 2006 seem to have reduced.

Sampling will continue at the same locations during 2008.

Surface Water Monitoring Results are contained in appendix 1.

2.1.2 Yard Discharges

Comment

The maintenance areas at each bog have a small concrete apron and give limited opportunities for sampling. All yard areas are inspected and oil interceptors have been maintained during the year. During an inspection by the Agency an oily sheen was detected at the interceptor outlet, in Ummerus, the source of the sheen was unknown and follow-up actions included cleaning the unit, cleaning of the yard area and outlet drain. Further to this hydro carbon digesting pillows were installed at the interceptor, which already show a marked reduction in COD results at the location.

2.1.3 Composite Sampler Report

Composite Sampling
Comment
The composite sampler has been operating at SW8 Ummerus Bog during the reporting period. The parameters measured were Total Phosphorus, Total Solids, Suspended Solids, pH, Nitrogen, Colour and COD, with Suspended solids being the only parameter with an emission limit value (35mg/l). In general results were satisfactory, with one non-compliance being recorded for the period. A suspended solids result of 63 mg/l was recorded on the 10/12/2007 and the Agency was informed.
Problems in relation to flow were experienced during the reporting period which subsequently led to no samples being available for extended periods. A survey of the outfall leading from the sampler was carried out and levels showed the possibility of a slight improvement in flow rates if the outfall was cleaned and deepened. Following on from this work a slight improvement was noticed, however during extended dry periods the availability of a constant flow cannot be guaranteed at the site.
The COD reading is higher from this location than previous which may be caused by the oily sheen found in the outlet from the yard oil interceptor referred to above. This unit was cleaned by the approved contractor during the year and pillows fitted to the interceptor see above.

Composite Sampler Results are contained in appendix 2.

2.1.4 Emissions to Water Non-compliance's

Emissions to Water Non-Compliances

IPPC Licence: P0506-01

Works: Kilberry

Type	Non-Compliances	Location / SW Nr
Composite	1	Ummerus SW8
Quarterly Grab	0	
Monthly Yard	NA	
Totals	**1**	

Note: Emission Limit Value = 35mg/litre

2.2Emissions to Air

2.2.1 Dust Monitoring

Dust
Comment
Dust monitoring was carried out on a monthly basis at DM01 Gilltown Bog. Each monitoring event lasted between 28 and 32 days and the Bergerhoff method of analysis was used.
Slightly elevated results were detected during the August monitoring event. It should also be noted that all results were below the emission value of 350 mg/m²/day set out in the licence.
Due to human error, sampling was not carried out on five occasions during the reporting period; however no dust complaints were received at any time.

Sampling will continue at the same location during 2008.

Dust Monitoring Results are contained in appendix 3

2.2.2 Emissions to Air Non-compliance's

Dust Non-compliance

IPPC Licence: P0506-01

Works: Kilberry 2007

Location / DM Nr	Non-Compliances
Gilltown / DM01	0
Total	**0**

2.3 Waste Arisings

2.3.1 Non-Hazardous Waste

Non Hazardous Waste Data

Licence: P0502-01

Works: Kilberry

Type	Tonnes	EWC Code	Contractor	Licence Nr
Skips	8.00	20 03 01	AES	053/OY/39/02
Wheelie Bins	4.72	20 03 01	AES	053/OY/39/02
Polyethlene	174.16	02 01 04	Leinster Environmentals	WP 2004/30
Scrap Steel	5.20	17 04 07	Hammond Lane	050/OY/162/04
Timber Pallets	0.00	15 01 02	Kiawa Ltd	WP/TN/24
Silt Pond Cleanings	148.75	01 01 02	Bord na Mona	IPPC P 0499
Peat Screenings	12.00	01 04 99	Bord na Mona	IPPC P 0499
Totals	**352.83**			

Note: Polyethylene, Steel and Peat Screenings are all recycled. All polythene removed from stockpiles is now baled using the tractor attachment in each bog area.

2.3.2 Hazardous Waste

Hazardous Waste Data

Licence:P0506-01

Works: Kilberry 2007

Type	Tonnes	EWC Code	Contractor	Licence Nr	Destination
Waste Oil	0.50	13 02 05	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oil Filters	0.56	16 01 07	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oily Rags	0.00	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Waste Grease	0.00	13 08 99	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Lead Acid Batt	0.70	16 06 01	Returnbatt Ltd	067/OY/280/05	Kill Co Kildare
Fluorescent Tubes	0.00	20 02 21	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Parts Wash	0.00	11 01 13	Safety Kleen, Tallaght, Dublin	99-1	Dublin
Primary Battery	0.00	16 06 04	Returnbatt Ltd	067/OY/280/05	Kill Co Kildare
Asbestos	0.00	17 06 05	Cullen Env Services	81-3	KTK Landfill
Total	**1.76**				

2.4 Energy and Water Consumption

2.4.1 Energy

Energy Consumption				
Licence: P0506-01				
Works: Kilberry				
Units	Diesel (Litres)	Petrol (Litres)	Electricity (Units)	Peat Briquettes (Tonnes)
Totals	184525	0	203516	0
MW Hours	1806.9	0	203.516	0
Total MW Hours	2010.5			

Water is not used as part of the production process.

2.5 Environmental Incidents and Complaints

2.5.1 Incidents

Environmental Incidents	
IPPC Licence: P0506-01	
Works: Kilberry	Number
Incidents	0
Requiring corrective action	0
Category	
Water	
Air	
Procedural	
Miscellaneous	
Total	0

2.5.2 Complaints

Environmental Complaints	
IPPC Licence: P0506-01	
Works: Kilberry	
	Number
Complaints	1
Requiring corrective action	0
Category	
Water	
Air	1
Procedural	
Miscellaneous	
Total	1

One dust complaint was received during May 2007 and a corrective action report forwarded to the Agency.

3.0 Management of the Activity

3.1 Achievement of Objectives & Targets 2007

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Continue to train all new employees in environmental matters. Copy environmental video to disk and distribute more widely. All new employees will be trained during the year. **Status** The training video was successfully transferred onto DVD and distributed to all Licence holders. The DVD was also edited to include new improved poly stripping and rolling techniques. In total 7 personnel received training in 2007. **Hydraulic Harrows.** Continue to supply hydraulic harrows. Prioritising dust sensitive locations. There is one Hydraulic Harrow in operation at the moment we will continue to monitor the situation regarding introducing any more. **Status** No hydraulic harrows were introduced in 2007. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations. Supply more headland peat collection machinery as required and research efficient ways of collecting such peat for use as a saleable product. **Status** As the production season was greatly hampered by inclement weather, July 114.9mm and August 119.6mm of rainfall, headland peat dust was not an issue. However in areas where dust has been an issue, headland dust was controlled by ridging up and sprinkling with a water bauser.
Project 2: Minimisation of suspended solids	**On Site Inspections.** A full programme of internal audits will be carried out as soon as production commences. Particular emphasis will be put on cleaner production procedures, milling, harrowing, ridging, harvesting and loading. **Status** A comprehensive internal audit took place, which proved very successful. Follow up audits were subsequently carried out to ensure that initial findings were addressed and closed out.

Project 3: Effective spill leak management of mobile fuelling units.	**On Site Inspections.** As part of the above project, service trains will also be prioritised with a fitter accompanying the auditor during inspections to highlight any risks or potential risks that may occur. **Status** In conjunction with the above, the fitter at each location audited was present to inspect the service train. Any repairs that were required were identified and rectified.
Project 4: Fire Prevention.	**Fire Patrols.** There will be extra emphasis on fire patrols this coming production season. Research on improved fire fighting techniques will also be investigated. The newly adopted Fire and Environmental Plan will be communicated to all personnel. **Status** The fire prevention plan was communicated to all personnel
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing. **Status** During the year a total of 174 tonnes of polythene has been sent for recycling to Apec Plastics Co. Kildare and Leinster Environmentals, Dundalk.
Project 6: Provision of measures to protect Dust Sensitive Areas.	**Planting.** Planting is ongoing as required, with areas in the periphery of production bogs that are being developed for housing being prioritised. **Status** No planting took place in 2007.

3.2 Environmental Management Programme Proposal for 2008

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Hydraulic Harrows.** There is one new Hydraulic Harrow programmed for delivery for 2008 to be used in Dust Sensitive Locations. **Headland Peat.** Continue with the control of headland peat, particularly at dust sensitive locations. This will be by means of headland ridging and subsequent sprinkling with water bauser.
Project 2: Waste Management	**On Site Inspections.** A full programme of internal audits will be carried out as soon as production commences. This will be an annual exercise with the 2008 audit placing more emphasis on waste management.
Project 3: Minimisation of Suspended Solids.	**Training.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation.
Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** The identification and ultimately the introduction of mobile fuelling units which will enhance the spill / leak management of fuel oils. Increased bund provisions are planned for 2008, as well as one new fuel service wheeled wagon which contains bunded tanks.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.
Project 6: Provision of measures to protect Dust Sensitive Areas.	**Planting.** Ongoing Planting is ongoing as required, with areas in the periphery of production bogs that are being developed for housing being prioritised.

3.3 Environmental Expenditure

Environmental Expenditure

Licence:P0506-01
Works: Kilberry 2007

Description	Cost €
Capital Costs	41735
Silt Control	37579
Analytical & Consultancy Costs	9750
EPA Fees	6340
Bog Rehabilitation	0
Total	**€95,404.00**

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

It is not proposed to change the quarterly grab sampling locations as they are the primary drainage outlets from each bog.

4.2 Bunding Programme

The bunds at Ummerus, Allen, Giltown and at Kilberry were all tested during the reporting period and all passed.

4.3 Boiler Combustion Efficiency

There are no boilers in use in the Kilberry Group of bogs and therefore no efficiency tests were required.

4.4 Resource consumption summary

Resource Consumption			
Licence: P0506-01			
Works: Kilberry			
Product	**Tonnes Produced**	**Tonnes Sold**	**Customer**
Milled Moss	140723	165692	Hort Factory
Totals	**140723**	**165692**	

Proposed Production 2008	
Licence: P0506-01	
Works: Kilberry	
Product	**Proposed Target**
Milled Moss	146000
Totals	**146000**

4.5 De-Silting Report

The cleaning of silt ponds was dictated by the inspection logs. In some instances ponds were required to be cleaned up to 3 times in the year with most ponds cleaned twice.

The De-silting Programme Review is contained in appendix 4.

4.6 Bog Development and Operational Programme

There was no additional development carried out during 2008 in this group of bogs.

4.7 Bog Rehabilitation Report

No bog rehabilitation took place during 2007. As the bogs are all active, rehabilitation is not envisaged for the foreseeable future.

4.8 Archaeological Report

Kilberry – Excavation of 2 sites in Gilltown.

5.0 Summary

This report is the seventh submitted for this licence and it covers the calendar year 2007.

In terms of compliance, there was one non-compliance in the area of composite sampling.

There were no non-compliances at the dust sensitive location.

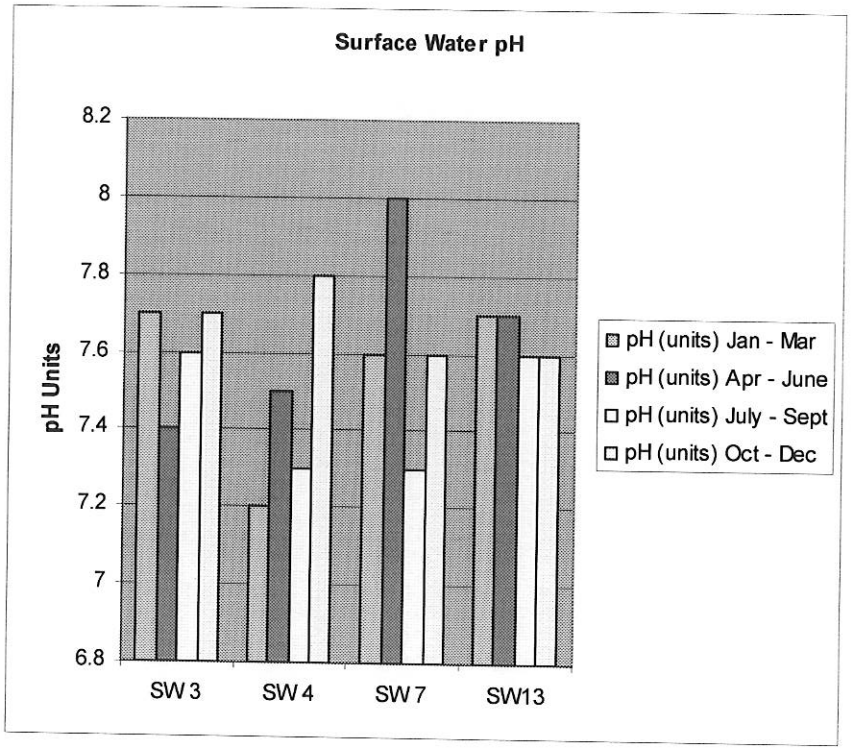
One complaint was received in relation to dust emissions from production operations. This was dealt with and the Agency was informed.

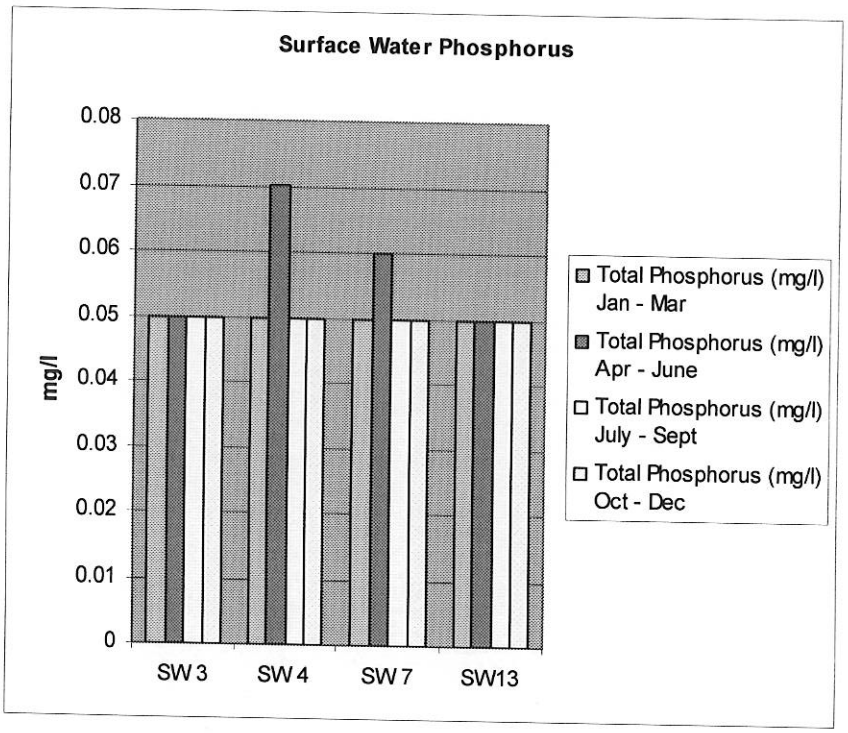
Bord na Mona Energy Ltd are represented on the Management Group of both the Shannon River and Eastern River Basin District Management Systems, set up under the Water Framework Directive, and on the Steering Group of the Catchment Management on the River Barrow.

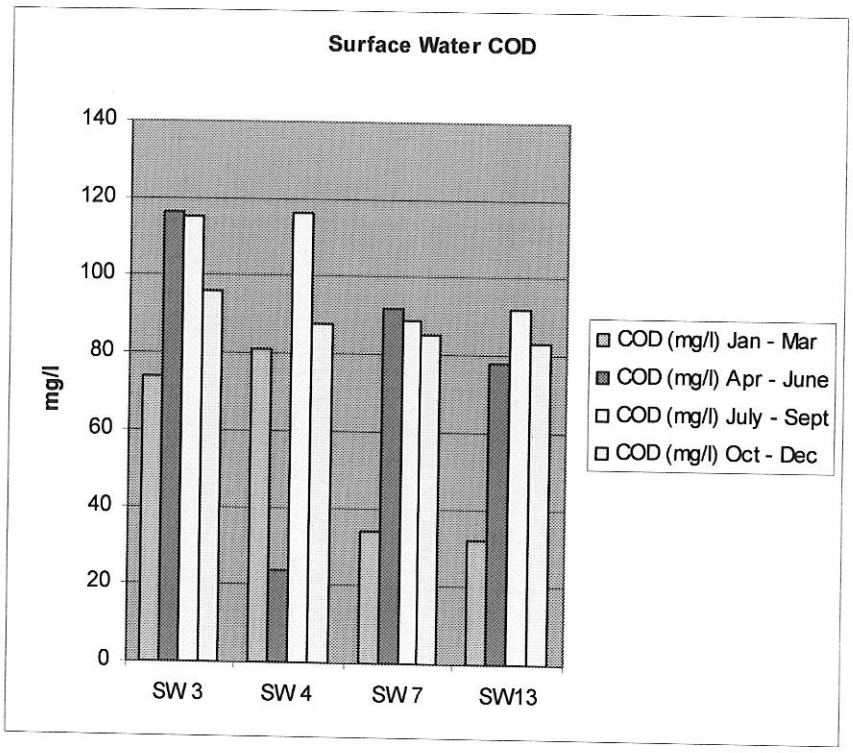
Bord Na Mona wishes to advise the Environmental Protection Agency of our continued commitment towards improvement in our environmental performance.

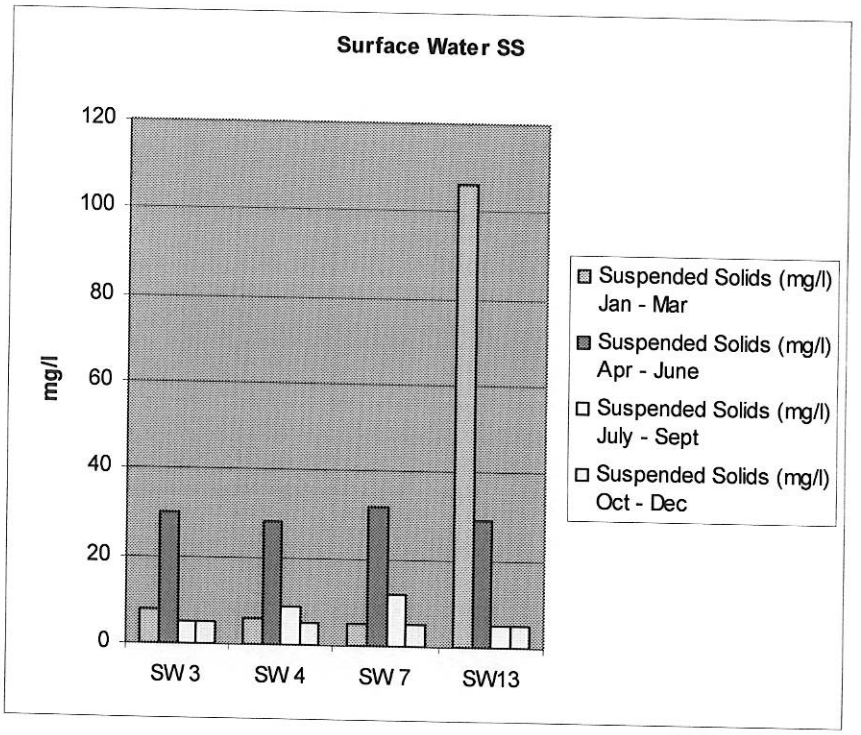
APPENDIX 1

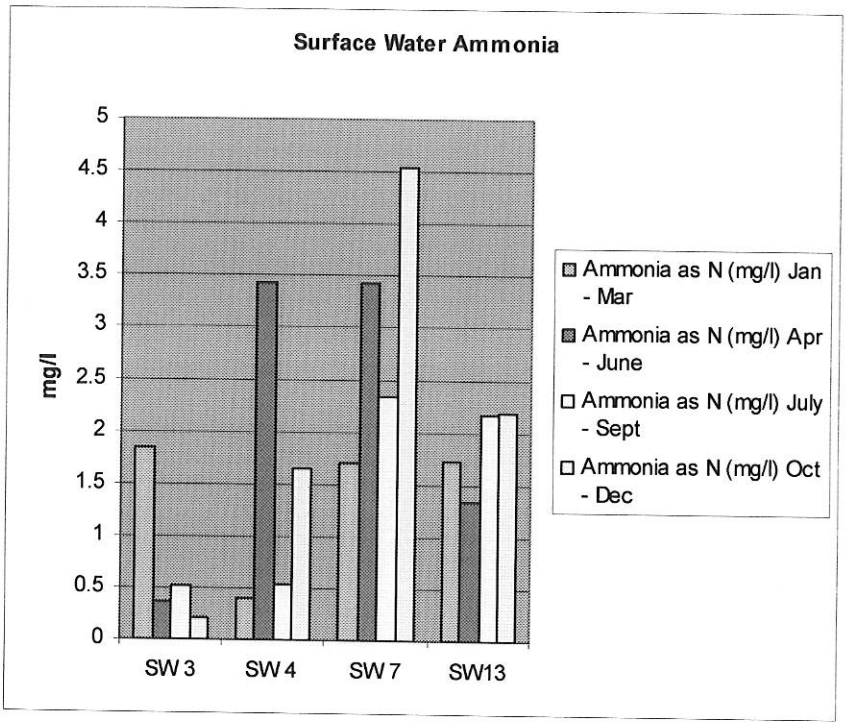
Surface Water Discharge Monitoring Results Bogs

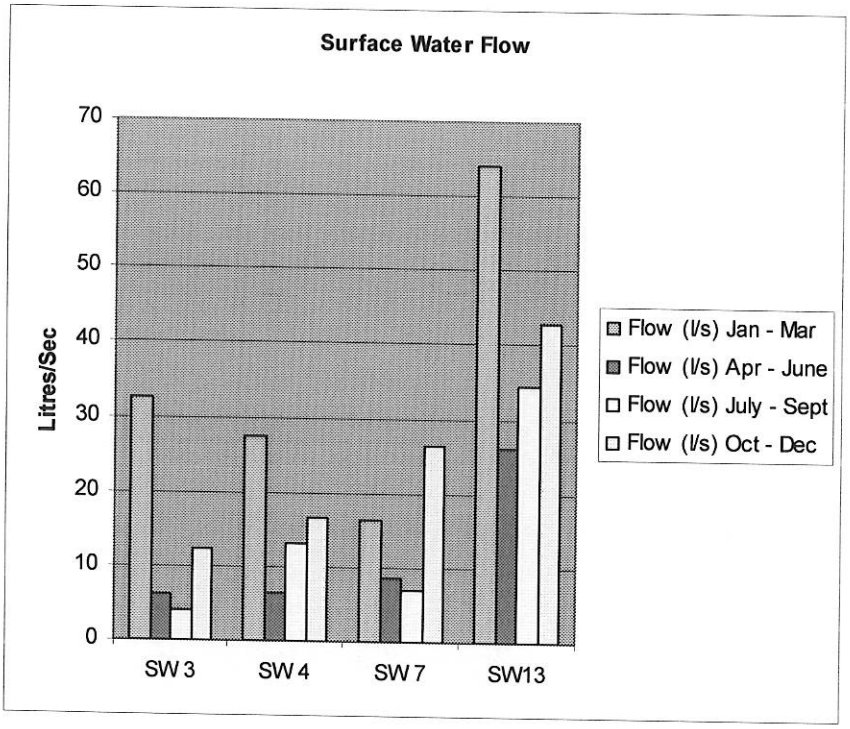

Surface Water pH
8.2
8
7.8
7.6
7.4
7.2
7
6.8
pH Units
SW 3
SW 4
SW 7
SW13
pH (units) Jan - Mar
pH (units) Apr - June
pH (units) July - Sept
pH (units) Oct - Dec


Surface Water Phosphorus
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
mg/l
SW 3
SW 4
SW 7
SW13
Total Phosphorus (mg/l) Jan - Mar
Total Phosphorus (mg/l) Apr - June
Total Phosphorus (mg/l) July - Sept
Total Phosphorus (mg/l) Oct - Dec


Surface Water COD
140
120
100
80
60
40
20
0
mg/l
SW 3
SW 4
SW 7
SW13
COD (mg/l) Jan - Mar
COD (mg/l) Apr - June
COD (mg/l) July - Sept
COD (mg/l) Oct - Dec


Surface Water SS
120
100
80
60
40
20
0
mg/l
SW 3
SW 4
SW 7
SW13
Suspended Solids (mg/l) Jan - Mar
Suspended Solids (mg/l) Apr - June
Suspended Solids (mg/l) July - Sept
Suspended Solids (mg/l) Oct - Dec


Surface Water Ammonia
mg/l
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
SW 3
SW 4
SW 7
SW13
Ammonia as N (mg/l) Jan - Mar
Ammonia as N (mg/l) Apr - June
Ammonia as N (mg/l) July - Sept
Ammonia as N (mg/l) Oct - Dec


Surface Water Flow
Litres/Sec
70
60
50
40
30
20
10
0
SW 3
SW 4
SW 7
SW13
Flow (l/s) Jan - Mar
Flow (l/s) Apr - June
Flow (l/s) July - Sept
Flow (l/s) Oct - Dec

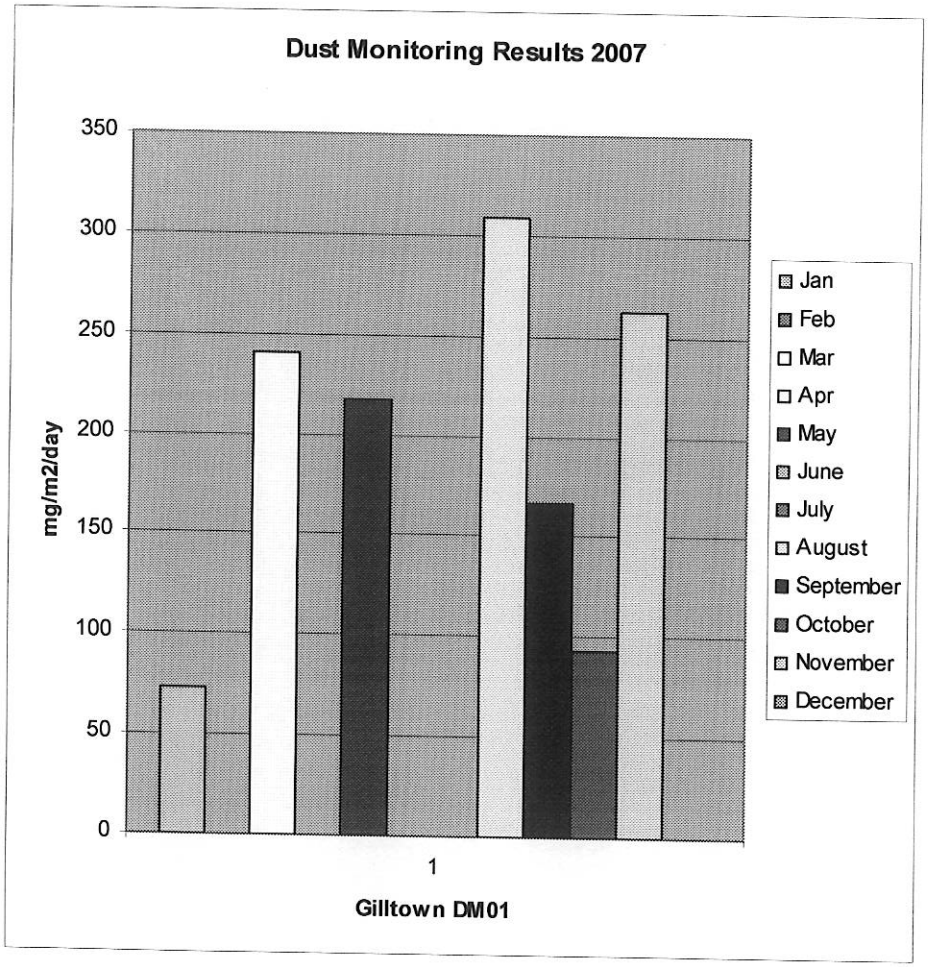
APPENDIX 2

Composite Sampler Monitoring Results

APPENDIX 3

Dust Monitoring Results

Dust Monitoring Results	
IPPC Licence: P0506-01	
Works: Kilberry	2007
Sample Period	DM-01 Gilltown
Jan	73
Feb	0
Mar	241
Apr	0
May	218
June	0
July	0
August	309
September	166
October	93
November	263
December	0



APPENDIX 4

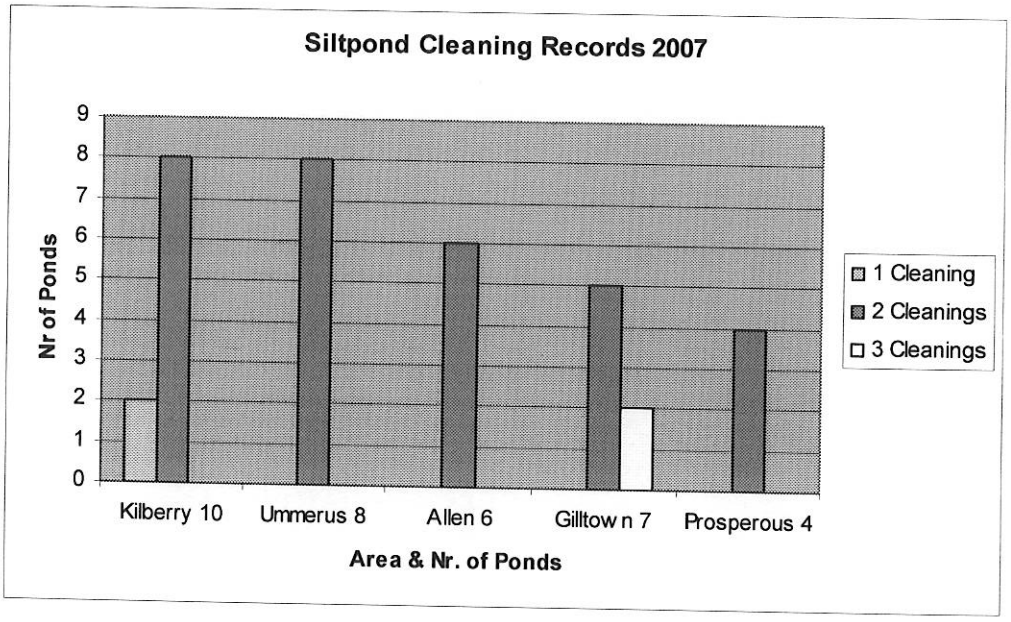
De Silting Programme Review

Siltpond Cleaning Programme 2007

IPPC Licence: P0506-01

Works: Kilberry

Bog Area & No. of Ponds	1 Cleaning	2 Cleanings	3 Cleanings
Kilberry 10	2	8	
Ummerus 8		8	
Allen 6		6	
Gilltown 7		5	2
Prosperous 4		4	



APPENDIX 5

AER, PRTR DATA

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Annual Environmental Report 2008
P0501-01

March 2009

Bord na Móna today operates 5 main subsidiary companies in more than 20 locations throughout Ireland, the UK and USA. The principal businesses are in the Energy, Resource Recovery, Horticulture, Home Heating and Wastewater Treatment and Air Pollution Abatement markets. The company also engages in an extensive rehabilitation program to develop its peat lands in an environmentally sustainable manner. The company turnover for 2007/8 was €370m.

Bord na Móna has long recognised the need to diversify its activities in order to secure a sustainable future. In this context we identified the energy and resource recovery sectors as appropriate areas of growth and development, given our assets, strengths and skills. Significant challenges face Ireland in meeting the country's needs to provide secure sustainable energy and manage waste while minimising the impact on the environment.

Bord na Móna is in a strong position to contribute to dealing with these challenges. We have a unique mixture of assets, experience and innovation which will enable us to cross-link our activities in energy, water and resource recovery to provide products and services which will meet Ireland's needs. We also have the capacity to become an exemplar for others to follow in these fields.
With this background we have scoped out a new vision for the future sustainable development of Bord na Móna.

Following on from our vision, we have developed a new mission for Bord na Móna which the Company is committed to achieving.
In 1934 the Turf Development Board was formed to ‘develop and improve the turf industry.' The experience of fuel shortages during the war re-enforced the Irish State's commitment to developing the country's bogs. In 1944 the TDB was asked to devise and submit a comprehensive programme, the outcome was the transformation in 1946 of the TDB into Bord na Móna. The Board was given a mandate to increase the use of peat as a fuel and in energy production. Markets for the use of moss peat in horticulture were also developed.
In 1990 Bord na Móna implemented a divisionalised and decentralised structure, designed to delegate responsibility downwards ensuring a sharper focus on each profit centre and a greater spirit of enterprise.

Group Vision

The vision statement defines the Company's purpose, in terms of its values.
Values are guiding beliefs about how things should be done.
The vision statement communicates both the purpose and values of Bord na Móna.
For employees, it gives direction about how they are expected to behave and inspires them to give their best. Shared with customers, it shapes the customers' understanding of why they should work with Bord na Móna.

Bord na Móna will seek solutions that optimise the creative energy and potential of the organisation, driven by long term goals and the organisation's vision and mission.
In this context our devolved business units will align their vision and strategic planning with the global direction provided.

Consistent with our vision, innovation will once again return to the core of everything we do. We will capitalise on opportunities to cross fertilise our unique range of skills and technologies that add value and are socially and environmentally sustainable.
Greater focus will be placed on managing and developing our land assets in a responsible and sustainable manner. Our award winning initiatives at Lough Boora (Co. Offaly) and Oweninny (Co Mayo), provide shining examples of what can be achieved

Group Mission

We conduct our affairs with openness, honesty and integrity.
We are Ireland's leading environmentally responsible integrated utility service provider encompassing electricity, heating solutions, resource recovery, water, horticulture and related services.
We capitalise on international opportunities where we have a competitive advantage.
We achieve continuing growth through superior customer service, outstanding quality and innovation delivered through the excellence and commitment of our people.
We engage in sustainable profitable business in the communities we serve, which is rewarding and challenging for employees and other stakeholders.

Contents

1.0 Introduction

1.1 IPPC Licence No 501-01

1.2 Name & Location of Site

Name: Bord na Mona Energy Limited.

Address: Derrygreenagh Works, Rochfortbridge, Mullingar, Co. Westmeath

Telephone No: 044 9222181

Contact Name: Eamonn Mulhall

Position: Resource Manager

National Grid Reference: E249450 N 238140

1.3 Description of Activities

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:
Milling.
Harrowing.
Ridging.
Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

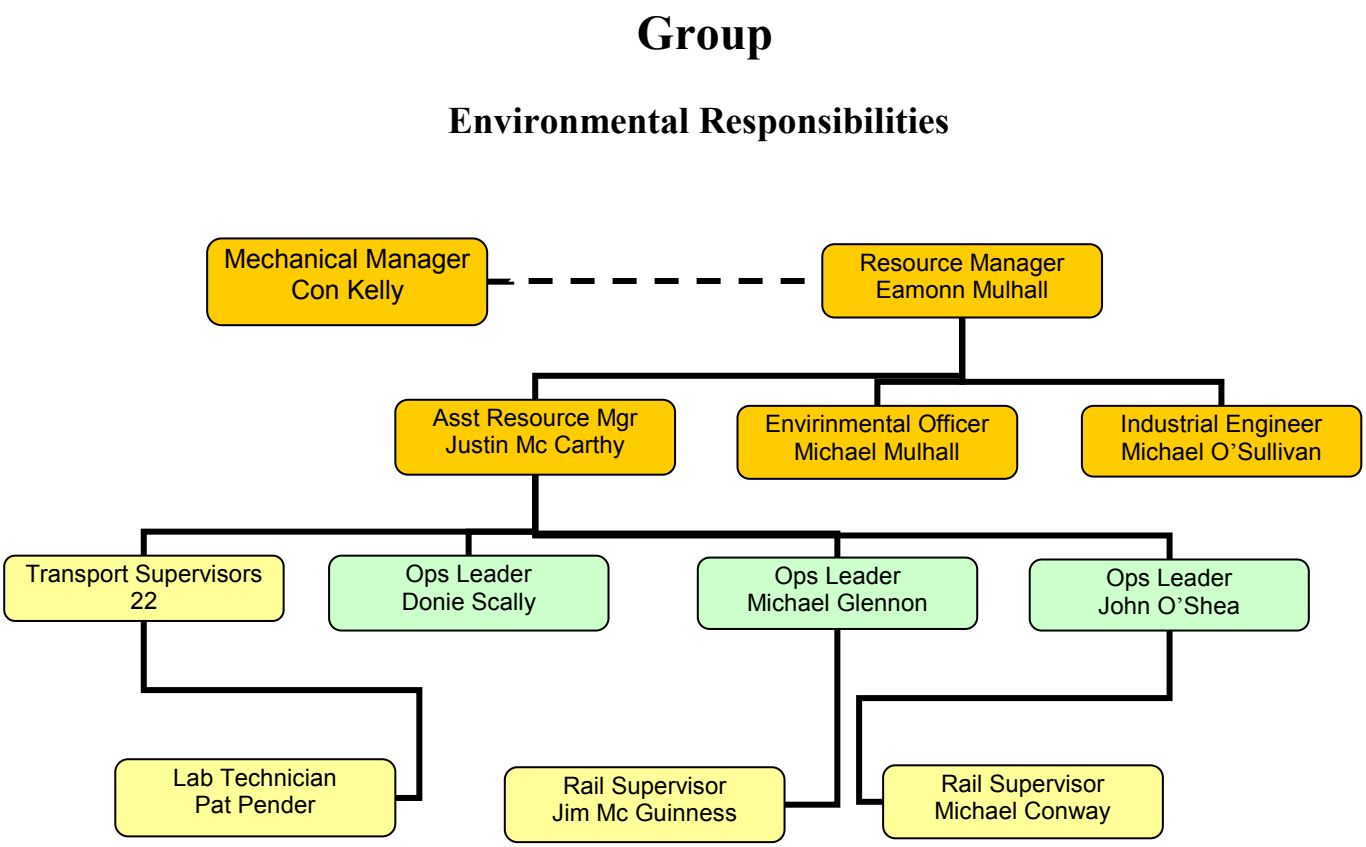
Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways or via road to one of the following locations.
Power station
Horticultural Factory.
Briquette Factory.

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.



1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its business in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

Discharge to water.
Emissions to atmosphere.
Waste disposal.
Use of natural resources.
Noise, vibration, odour, dust and visual effects.
Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its Contents are brought to the attention of all employees.

2.0 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

Surface Waters

Comment

Surface water monitoring was carried out four times during the reporting period. In total analysis was carried out at six different locations. These locations are as follows, Derryhinch @ SW1, Drumman @ SW6, Toar @ SW14, Bracklin @ SW30, Carranstown @ SW32 and Rossan @ SW43. The parameters measured during each sampling event were as follows.
Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD.
In general results were constant across all parameters at each monitoring location.
August was the wettest month with 210.7mm of rainfall recorded and May the driest with 14.6mm recorded. Flow rates appear to have had no adverse effect on suspended solids results.
The quarterly grab sampling programme proved to be 100% compliant for the year as was the 2005, 2006 & 2007 regimes.

pH values were between 7.0 and 8.2, with emission limit values being of the range 6 and 9. The graph clearly shows consistent trends for the period.

Suspended solids varied from 5mg/l to 34mg/l and would depend on activities (piping, ditching) etc in the catchments at the time of sampling. All results were within the licence limit of 35mg/l.

Ammonia values ranged from 0.04 mg/l and 2.82 mg/l.The I/PV for A3 waters is of the range 4mg/l. It is however not unusual for surface waters emanating from production peatlands to be slightly elevated. Overall ammonia was slightly down on 2007 figures.

COD readings were slightly elevated during the reporting period, at SW32. This was the case in 2007 also. The I/PV for A3 waters is of the range 40mg/l. Further investigation of probable causes is being investigated. The first quarter results 2009 will be watched closely.

Flow rates were as expected during the reporting period with the exception of SW6 Drumman, where no flow was recorded during each of the monitoring events. The 1st quarter had the most elevated flow.
It is proposed to change all the monitoring locations post the first quarter monitoring event of 2009.

Total Phosphorus results were consistent across all locations during the monitoring period.

As mentioned, new sampling locations are being assessed for suitability. Once finalised, a proposal to change sampling locations will be submitted to the Agency for approval.

Surface Water Results are attached in Appendix 1.

2.1.2 Yard Discharges

Yard Runoff

Comment

Yard runoff monitoring took place at two locations during the reporting period. Sampling frequency was monthly and COD was the parameter requiring analysis. Results were very satisfactory for the period.

Sampling will continue at the same locations during 2009.

Yard Emission Results are attached in Appendix 2.

2.1.3 Composite Sampler Report

Composite Sampling

Comment

The composite sampler has been operating at Toar Bog SW15 during the reporting period.
The parameters measured were Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD, with Suspended solids being the only parameter with an emission limit value of (35mg/l). Due to some technical faults flow records for the first two quarters were not recorded. Following some repairs, the sampler has being operating successfully since July 2008.
In general results were satisfactory with two non-compliance's being recorded for the period, of which the Agency was informed.
The composite sampler will remain at this location for the foreseeable future.

Composite Sampler Results are contained in Appendix 3.

2.1.4 Emissions to Water Non-compliance's

Emissions to Water Non-Compliances 2008

Licence: P0501-01

Works: Derrygreenagh

Type	Non-Compliances	Location / SW Nr
Composite	2	Toar SW 15
Quarterly Grab	0	
Monthly Yard	N/A	
Totals	2	

There were two non-compliance's at our composite sampler at Toar Bog. The Agency was informed.

2.2 Emissions to Air

2.2.1 Dust Monitoring

Comment

Dust monitoring was carried out on three occasions between May and August. Each monitoring event lasted between 28 and 32 days and the Bergerhoff method of collection was used.
The monitoring locations were as follows, Toar DM01, Derryhinch DM02 and Ballivor DM03.
All monitoring results were within the emission limit value of 350mg/m^2/day.
Sampling will continue at the same locations during 2009.

Dust monitoring results are contained in appendix 4.

2.2.2 Emissions to Air Non-compliance's

Dust Non-Compliances 2008	
Licence:P0501-01	
Works: Derrygreenagh	
Location / DM Nr	Non-Compliances
	0
Total	0

There were no non-compliance's in relation to dust.

2.3 Waste Arisings

2.3.1 Non-Hazardous Waste

Non Hazardous Waste Data 2008

Licence: P0501-01

Works: Derrygreenagh

Type	Tonnes	EWC Code	Contractor	Licence Nr
Skips	8.88	20 03 01	AES	053/OY/39/02
Wheelie Bins	6.78	20 03 01	AES	053/OY/39/02
Polyethylene	175.60	02 01 04	Apec Plastic	205/2005
Scrap Steel	148.64	17 04 07	AES	053/OY/39/02
Timber Pallets	0.00	15 01 02	Kiawa Ltd	WP/TN/24
Silt Pond Cleanings	134.72	01 01 02	Bord na Mona	IPPC P0501-01
Peat Screenings	0.00	01 01 02	Bord na Mona	IPPC P0501-01
Totals	**474.62**			

Note: Polyethylene and Steel are recycled. Skips go to an AES, Mixed Recycling Facility.

2.3.2 Hazardous Waste

Hazardous Waste Data 2008

Licence:P0501-01

Works:Derrygreenagh

Type	Tonnes	EWC Code	Contractor	Licence Nr	Destination
Waste Oil	21.10	13 02 05	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oil Filters	1.15	16 01 07	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oily Rags	1.60	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Waste Grease	0.00	13 08 99	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Lead Acid Batt	2.00	16 06 01	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Contaminated Soil	4.52	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Parts Wash	2.22	11 01 13	Safety Kleen, Tallaght, Dublin	99-1	Dublin
Asbestos	125.47	17 06 05	KTK Landfill Limited	81-3	Kildare
Total	**158.06**				

Note: The large amount of waste oil can be attributed to the clean up of an oil spill. This involved the removal of a large amount of water which had become contaminated with a smaller proportion of spilled fuel oil. The contaminated soil relates to the same incident.

2.4 Energy and Water Consumption

2.4.1 Energy

The table below shows energy consumption for the year. It does not include water as it is only used in offices, canteens and workshops on a domestic basis. It is not used as part of the production process.

Energy Consumption 2008

Licence: P0501-01

Works: Derrygreenagh

Units	Diesel (Litres)	Petrol (Litres)	Electricity (Units)	Peat Briquettes (Tonnes)
Totals	615250	0	219938	10
MW Hours	6024.8	0	219.938	50
Total MW Hours	**6294.7**			

Note: The electricity consumption figure was extracted from ESB on line information systems. Some of the consumption figures relate to estimated readings which do not reflect on the exact amount of consumption. Going forward/ Bord na Mona are liaising with the supplier, to try and eliminate all estimated readings. This will give a more precise figure in relation to consumption in the future.

2.5 Environmental Incidents and Complaints

2.5.1 Incidents

Environmental Incidents 2008	
Licence: P0501-01	
Works: Derrygreenagh	
	Number
Incidents	3
Requiring corrective action	3
Category	
Water	1
Air	2
Procedural	0
Miscellaneous	
Total	**3**

There were three environmental incidents. Two related to bog fires and one related to an oil spill. In all cases the Agency was informed and corrective actions taken.

2.5.2 Complaints

Environmental Complaints 2008	
Licence:P0501-01	
Works: Derrygreenagh	
	Number
Complaints	0
Requiring corrective action	0
Category	
Water	0
Air	0
Procedural	0
Miscellaneous	0
Total	**0**

No complaints of an environmental nature were received during the reporting period.

3.0 Management of the Activity

3.1 Achievement of Objectives & Targets 2008

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Status** In total 230 employees received environmental training. **Hydraulic Harrows.** Hydraulic harrows will be deployed at dust sensitive locations during the 2008 production season. **Status** One hydraulic harrow was deployed at Ballybeg bog in 2008. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations. **Status** Headland peat was collected as part of the peat lifting process and included in general peat return figures.
Project 2: Waste Management	**On Site Inspections.** A full programme of internal audits will be carried out as soon as production commences. Particular emphasis will be put on cleaner production procedures, milling, harrowing, ridging, harvesting and loading. **Status** Due to unforeseen circumstances, this project did not materialise.
Project 3: Minimisation of Suspended Solids.	**On Site Inspections.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Status** In total 230 employees received environmental training. Derrygreenagh also took delivery of one new silt control excavator.

Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** The identification and ultimately the introduction of mobile fuelling units which will enhance the spill / leak management of fuel oils. Increased bund provisions are planned for 2008, as well as one new fuel service wheeled wagon which contain bunded tanks. In addition to this, one new rail operated Fuel Service Wagon will be introduced in Derrygreenagh **Status** Derrygreenagh took delivery of one rail operated Fuel Service Wagon, this machine is currently waiting commissioning. The delivery of Wheeled Fuel Service Wagons was deferred due to design issues.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing. **Status** In total 175.6 tonnes of polyethylene was sent for recycling in 2008.
Project 6: Provision of measures to protect Dust Sensitive Areas.	**Planting.** Ongoing Planting is ongoing as required, with areas in the periphery of production bogs that are being developed for housing being prioritised. **Status** No planting took place in 2008.

3.2 Environmental Management Programme Proposal 2009

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Continue to train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Hydraulic Harrows.** Hydraulic harrows will be deployed at dust sensitive locations during the 2009 production season, with an additional hydraulic harrow budgeted for in the five year plan. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations.
Project 2: Waste Management	**Waste Streamlining.** Following the purchase by Bord na Mona of AES Ltd, meetings with that company's management will be ongoing to see how best Bord na Mona's needs can be catered for. Key account managers dedicated to Bord na Mona have been requested and are due to be in place in 2009.
Project 3: Minimisation of Suspended Solids.	**Training.** Continue to train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation.
Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** Continue to introduce rail operated fuel service wagons on a phased basis, with Derrygreenagh works budgeted to receive one wagon during 2009. Increased bund provisions where required, will be provided, in 2009.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.
Project 6: PCB Directive	**Survey.** Carry out a comprehensive survey of all PCB suspect appliances. Following this, liaise with EPA in deciding a plan of action once a definitive amount of suspect PCB holdings are agreed.

3.3 Environmental Expenditure

Environmental Expenditure 2008

Licence:P0501-01
Works: Derrygreenagh

Description	Cost €
Capital Costs	80,600.00
Silt Control	80,145.33
Analytical & Consultancy Costs	8,627.65
EPA Fees	7,995.00
Bog Rehabilitation	66,863.96
Waste Management	58,840.00
Total	**303,071.94**

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

The Monitoring Locations will be changed; post the first quarter monitoring event 2009 and the Agency will be informed.

4.2 Bunding Programme

Integrity testing was carried out in 2007, with retesting scheduled for 2009.

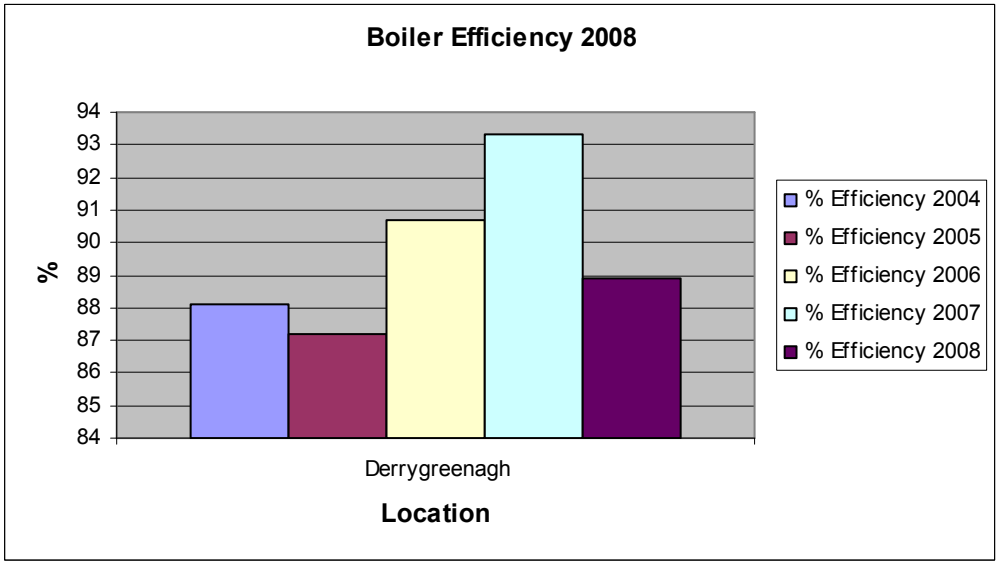
4.3 Boiler Combustion Efficiency

In accordance with Condition 5.1 of the licence a boiler efficiency test was carried out on the only boiler in the licence area, Derrygreenagh. The results of which are retained on file.

Boiler Emissions 2008

Licence: P0501-01
Works: Derrygreenagh

Boiler Location	% Efficiency 2004	% Efficiency 2005	% Efficiency 2006	% Efficiency 2007	% Efficiency 2008
Derrygreenagh	88.1	87.2	90.71	93.3	88.9



Note: All boilers are serviced at the time of efficiency testing.

4.4 Resource consumption summary

Resource Consumption 2008			
Licence: P0501-01			
Works: Derrygreenagh			
Product	**Tonnes Produced**	**Tonnes Sold**	**Customer**
Milled Peat	82,993	96,372	ESB
Moss	74,094	66,000	Horticulture
Turf	0	0	Private
Other	0	0	N/A
Totals	157,087	162,372	N/A

Proposed Production 2009	
Licence: P0501-01	
Works: Derrygreenagh	
Product	**Proposed Target**
Milled Peat	86,646
Moss	77,000
Turf	0
Other	0
Totals	163,646

4.5 De-Silting Report

Silt pond cleaning went well during the reporting period with all ponds being cleaned a minimum of two times.

A table and graph of the cleaning schedule is attached in appendix 5.

4.6 Bog Development and Operational Programme

There was no bog development in 2008.

4.7 Bog Rehabilitation Report

At Ballivor Works, the old turf out loading facility was dismantled. Works included the dismantling of old sheds, loading hoppers and associated plant.

Following consultation with the National Parks and Wildlife Service (Local and Regional Managers), a group was established to identify potential areas within the Licence area, that may be suitable for management with a biodiversity focus. Following on from an initial baseline survey, key areas were identified.
Further consultation with the NPWS will continue in 2009.
All bogs have been mapped, distinguishing current and future cutaway rehabilitation plans and will feed into a specific cutaway rehabilitation plan for Derrygreenagh, in accordance with condition 10.2

4.8 Archaeological Report

Derrygreenagh – No surveys or excavations took place in 2008.

5.0 Summary

The Derrygreenagh Group of Bogs endeavour to comply with all environmental issues. In 2008 we had two non-compliance regarding suspended solids at our composite sampler at Toar bog, mainly due to exceptional heavy rainfall.
There was no non-compliance at the silt pond quarterly sampling events. Silt pond cleaning went very well during the year and every effort will be made to continue this trend into 2009.

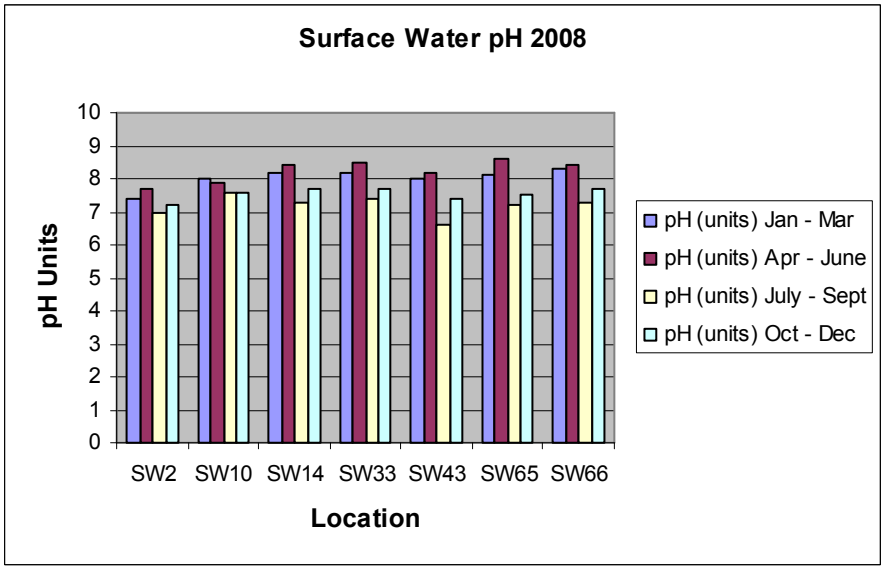
All staff both permanent and seasonal were trained in 2008 and new staff will be trained as they join the company.

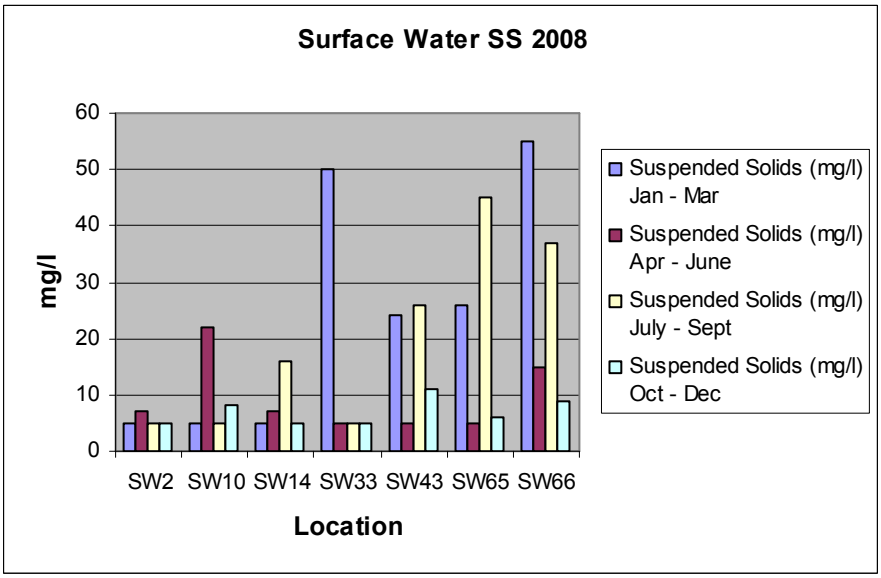
Bord na Mona would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection methods.
This will be communicated to all staff through the ongoing training programme.

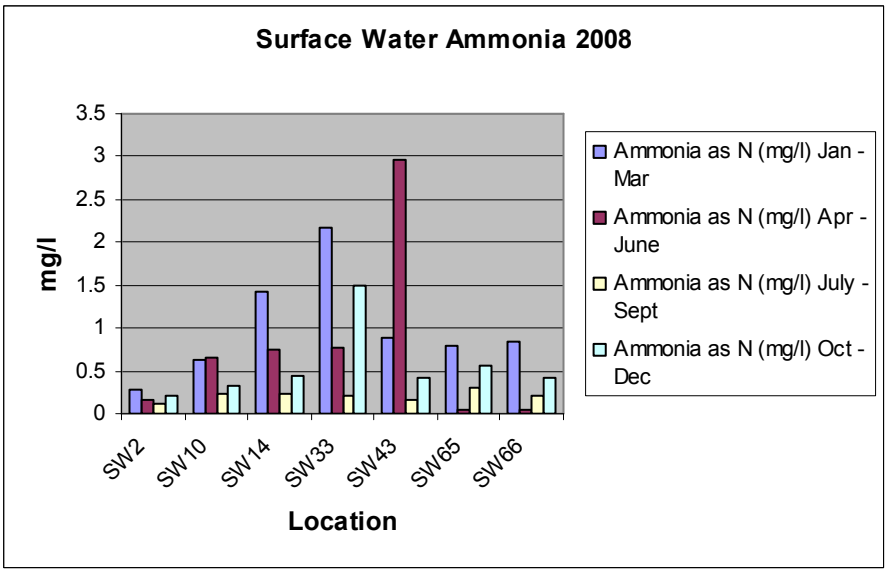
Bord na Mona Energy Ltd are represented on the Management Group of both the Shannon River and Eastern River Basin District Management Systems, set up under the Water Framework Directive, and on the Steering Group of the Catchment Management of the River Barrow.

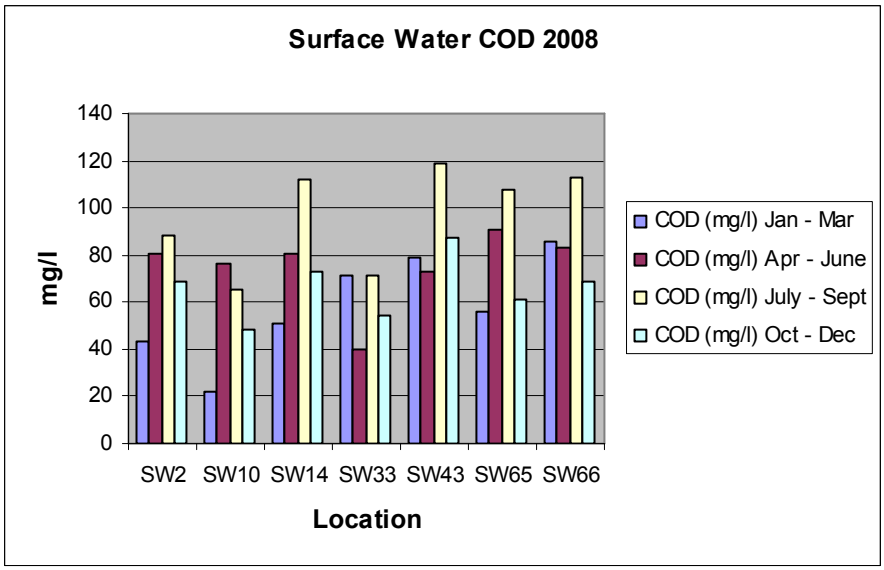
APPENDIX 1

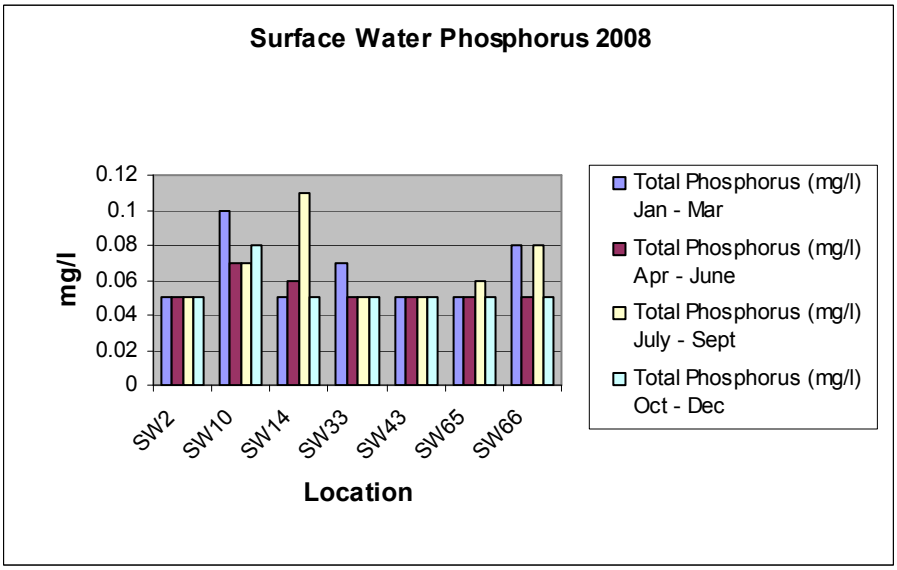
Surface Water Discharge
Monitoring Results
Bogs

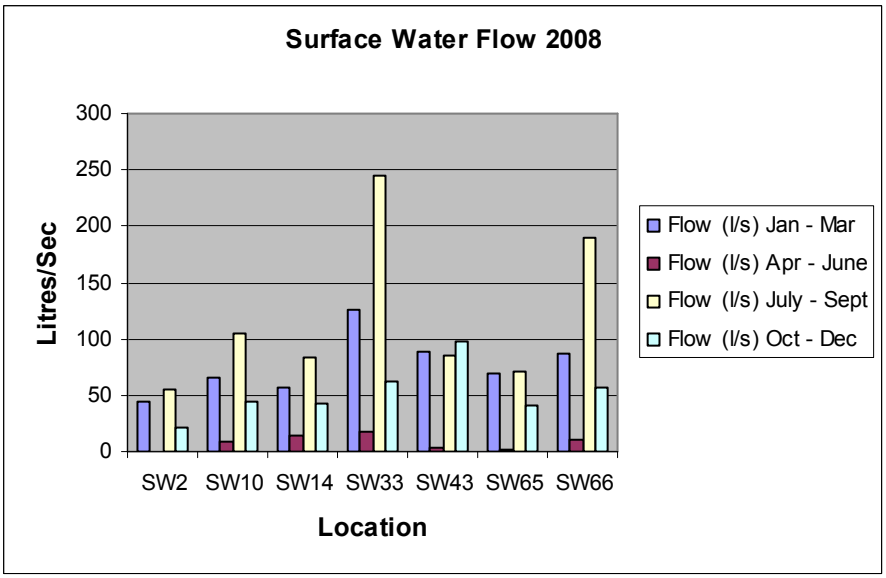

Surface Water pH 2008
pH Units
10
9
8
7
6
5
4
3
2
1
0
SW2
SW10
SW14
SW33
SW43
SW65
SW66
Location
pH (units) Jan - Mar
pH (units) Apr - June
pH (units) July - Sept
pH (units) Oct - Dec


Surface Water SS 2008
mg/l
60
50
40
30
20
10
0
SW2
SW10
SW14
SW33
SW43
SW65
SW66
Location
Suspended Solids (mg/l) Jan - Mar
Suspended Solids (mg/l) Apr - June
Suspended Solids (mg/l) July - Sept
Suspended Solids (mg/l) Oct - Dec


Surface Water Ammonia 2008
mg/l
3.5
3
2.5
2
1.5
1
0.5
0
SW2
SW10
SW14
SW33
SW43
SW65
SW66
Location
Ammonia as N (mg/l) Jan - Mar
Ammonia as N (mg/l) Apr - June
Ammonia as N (mg/l) July - Sept
Ammonia as N (mg/l) Oct - Dec


Surface Water COD 2008
140
120
100
80
60
40
20
0
mg/l
SW2
SW10
SW14
SW33
SW43
SW65
SW66
Location
COD (mg/l) Jan - Mar
COD (mg/l) Apr - June
COD (mg/l) July - Sept
COD (mg/l) Oct - Dec


Surface Water Phosphorus 2008
0.12
0.1
0.08
0.06
0.04
0.02
0
mg/l
SW2
SW10
SW14
SW33
SW43
SW65
SW66
Location
Total Phosphorus (mg/l) Jan - Mar
Total Phosphorus (mg/l) Apr - June
Total Phosphorus (mg/l) July - Sept
Total Phosphorus (mg/l) Oct - Dec


Surface Water Flow 2008
300
250
200
150
100
50
0
Litres/Sec
SW2
SW10
SW14
SW33
SW43
SW65
SW66
Location
Flow (l/s) Jan - Mar
Flow (l/s) Apr - June
Flow (l/s) July - Sept
Flow (l/s) Oct - Dec

APPENDIX 2

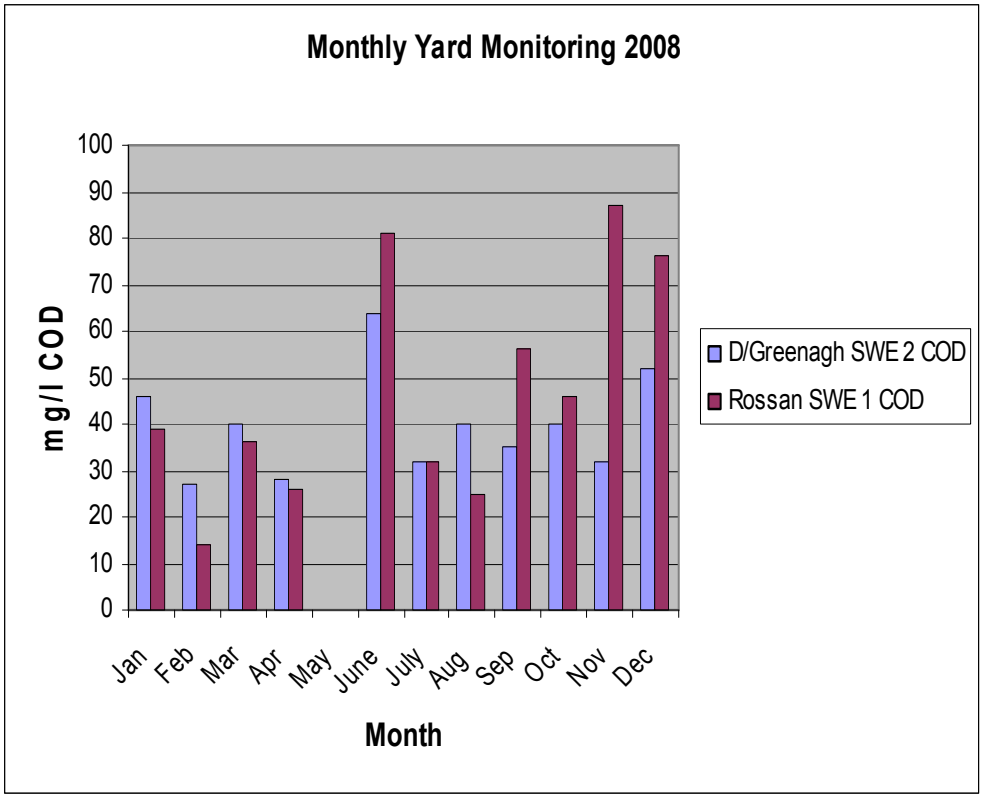
Surface Water Discharge
Monitoring Results
Yards

Yard Discharge Results 2008

Licence: P0501-01

Works: Derrygreenagh

Month	D/Greenagh SWE 2 COD	Rossan SWE 1 COD
Jan	46	39
Feb	27	14
Mar	40	36
Apr	28	26
May	0	0
June	64	81
July	32	32
Aug	40	25
Sep	35	56
Oct	40	46
Nov	32	87
Dec	52	76



APPENDIX 3

Surface Water Discharge Monitoring Results Composite

Month				Parameters							Daily Totals		
January	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2	7.9	63	0.03	0.06	11	162	154	0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5					0	0		0				0.00	0.00
6					0	0		0				0.00	0.00
7					0	0		0				0.00	0.00
8					0	0		0				0.00	0.00
9	7.4	125	0.41	0.14	63	366	128	0				0.00	0.00
10					0	0		0				0.00	0.00
11					0	0		0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14					0	0		0				0.00	0.00
15					0	0		0				0.00	0.00
16	7.4	56	0.77	0.05	6	382	107	0				0.00	0.00
17					5	222		0				0.00	0.00
18					5	304		0				0.00	0.00
19					23	326		0				0.00	0.00
20					0	0		0				0.00	0.00
21					0	0		0				0.00	0.00
22					0	0		0				0.00	0.00
23	7.3	66	0.64	0.05	25	326	162	0				0.00	0.00
24					5	346		0				0.00	0.00
25					0	0		0				0.00	0.00
26					5	206		0				0.00	0.00
27					0	0		0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00
30	7.7	75	0.74	0.14	78	407	103	0				0.00	0.00
31					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
Feb	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2					0	0		0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5					0	0		0				0.00	0.00
6	7.6	59	0.6	0.06	5	328	151	0				0.00	0.00
7					5	380		0				0.00	0.00
8					5	380		0				0.00	0.00
9					7	402		0				0.00	0.00
10					6	436		0				0.00	0.00
11					7	440		0				0.00	0.00
12					5	430		0				0.00	0.00
13	8	61	0.78	0.05	5	446	83	0				0.00	0.00
14					5	442		0				0.00	0.00
15					11	446		0				0.00	0.00
16					14	444		0				0.00	0.00
17					13	430		0				0.00	0.00
18					11	424		0				0.00	0.00
19					5	448		0				0.00	0.00
20	8.1	46	0.93	0.05	12	74	78	0				0.00	0.00
21					5	454		0				0.00	0.00
22					5	450		0				0.00	0.00
23					18	454		0				0.00	0.00
24					5	438		0				0.00	0.00
25					7	448		0				0.00	0.00
26					5	444		0				0.00	0.00
27	8.2	78	1.76	0.06	5	308	170	0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
March	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2					0	0		0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5	7.6	65	0.95	0.05	5	432	92	0				0.00	0.00
6					5	456		0				0.00	0.00
7					5	445		0				0.00	0.00
8					5	440		0				0.00	0.00
9					5	412		0				0.00	0.00
10					5	436		0				0.00	0.00
11					5	292		0				0.00	0.00
12	8.1	48	0.77	0.05	5	320	149	0				0.00	0.00
13					5	370		0				0.00	0.00
14					5	350		0				0.00	0.00
15					0	0		0				0.00	0.00
16					0	0		0				0.00	0.00
17					0	0		0				0.00	0.00
18					0	0		0				0.00	0.00
19	7.9	45	0.84	0.05	5	430	107	0				0.00	0.00
20						0		0				0.00	0.00
21					0	0		0				0.00	0.00
22					0	0		0				0.00	0.00
23					0	0		0				0.00	0.00
24					0	0		0				0.00	0.00
25					0	0		0				0.00	0.00
26	7.9	41	0.83	0.05	9	428	72	0				0.00	0.00
27					0	0		0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00
30					0	0		0				0.00	0.00
31					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
April	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2	7.6	42	0.7	0.05	5	410	90	0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5					0	0		0				0.00	0.00
6					0	0		0				0.00	0.00
7					0	0		0				0.00	0.00
8					0	0		0				0.00	0.00
9	7.7	31	0.85	0.06	5	476	64	0				0.00	0.00
10					0	0		0				0.00	0.00
11					0	0		0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14					0	0		0				0.00	0.00
15					0	0		0				0.00	0.00
16	7.9	51	0.88	0.1	7	468	51	0				0.00	0.00
17					0	0		0				0.00	0.00
18					0	0		0				0.00	0.00
19					0	0		0				0.00	0.00
20					0	0		0				0.00	0.00
21					0	0		0				0.00	0.00
22					0	0		0				0.00	0.00
23	7.8	51	0.83	0.05	5	454	54	0				0.00	0.00
24					0	0		0				0.00	0.00
25					0	0		0				0.00	0.00
26					0	0		0				0.00	0.00
27					0	0		0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00
30	8	42	0.8	0.05	6	470	61	0				0.00	0.00

Month				Parameters							Daily Totals		
May	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					6	462		0				0.00	0.00
2					0	0		0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5					0	0		0				0.00	0.00
6					0	0		0				0.00	0.00
7	7.8	14	0.83	0.05	5	494	49	0				0.00	0.00
8					0	0		0				0.00	0.00
9					0	0		0				0.00	0.00
10					0	0		0				0.00	0.00
11					0	0		0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14	7.8	47	0.76	0.05	5	484	51	0				0.00	0.00
15					8	478		0				0.00	0.00
16					8	484		0				0.00	0.00
17					0	0		0				0.00	0.00
18					0	0		0				0.00	0.00
19					0	0		0				0.00	0.00
20					0	0		0				0.00	0.00
21	7.8	45	0.8	0.05	9	484	48	0				0.00	0.00
22					0	0		0				0.00	0.00
23					0	0		0				0.00	0.00
24					0	0		0				0.00	0.00
25					0	0		0				0.00	0.00
26					0	0		0				0.00	0.00
27					0	0		0				0.00	0.00
28	7.6	40	0.85	0.05	6	458	56	0				0.00	0.00
29					0	0		0				0.00	0.00
30					0	0		0				0.00	0.00
31					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
June	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2					0	0		0				0.00	0.00
3					0	0		0				0.00	0.00
4	7.6	43	0.79	0.05	6	492	55	0				0.00	0.00
5					0	0		0				0.00	0.00
6					0	0		0				0.00	0.00
7					0	0		0				0.00	0.00
8					0	0		0				0.00	0.00
9					0	0		0				0.00	0.00
10					0	0		0				0.00	0.00
11	7.7	34	0.71	0.05	5	506	51	0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14					0	0		0				0.00	0.00
15					0	0		0				0.00	0.00
16					0	0		0				0.00	0.00
17					0	0		0				0.00	0.00
18	7.7	45	0.79	0.06	6	510	57	0				0.00	0.00
19					0	0		0				0.00	0.00
20					0	0		0				0.00	0.00
21					0	0		0				0.00	0.00
22					0	0		0				0.00	0.00
23					0	0		0				0.00	0.00
24					0	0		0				0.00	0.00
25	7.7	37	0.88	0.05	11	445	128	0				0.00	0.00
26					0	0		0				0.00	0.00
27					0	0		0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00
30					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
July	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2	7.5	34	0.74	0.05	5	380	138	0				0.00	0.00
3					5	440		0				0.00	0.00
4					0	0		1120608				0.00	0.00
5					5	136		366569				1.83	49.85
6					5	170		1780704				8.90	302.72
7					0	0		-972950				0.00	0.00
8					0	0		372151				0.00	0.00
9					0	0		1352678				0.00	0.00
10					5	426	132	513760				2.57	218.86
11					0	0		551370				0.00	0.00
12					0	0		1257293				0.00	0.00
13					0	0		279141				0.00	0.00
14					0	0		220225				0.00	0.00
15					0	0		63210				0.00	0.00
16	7.5	41	0.77	0.05	5	482	71	449643	18.44	0.35	0.02	2.25	216.73
17					0	0		13738				0.00	0.00
18					0	0		0				0.00	0.00
19					0	0		0				0.00	0.00
20					0	0		7258				0.00	0.00
21					0	0		640751				0.00	0.00
22					0	0		597732				0.00	0.00
23	7.6	34	0.75	0.05	5	468	57	147				0.00	0.07
24					5	482		33713				0.17	16.25
25					5	476		0				0.00	0.00
26					5	478		910224				4.55	435.09
27					5	514		5460739				27.30	2806.82
28					5	444		5774458				28.87	2563.86
29					7	484		6599232				46.19	3194.03
30	7.5	89	0.75	0.05	9	198	306	6290784	559.88	4.72	0.31	56.62	1245.58
31					0	0		10465630				0.00	0.00

Month				Parameters							Daily Totals		
August	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	307		15497570				77.49	4757.75
2					5	444		14747620				73.74	6547.94
3					5	404		12766460				63.83	5157.65
4					5	302		9846144				49.23	2973.54
5					5	444		10649660				53.25	4728.45
6	7.9	34	0.58	0.05	5	448	111	10136450	344.64	5.88	0.51	50.68	4541.13
7					6	280		9986976				59.92	2796.35
8					5	398		11891230				59.46	4732.71
9					5	267		10463900				52.32	2793.86
10					5	210		13351390				66.76	2803.79
11					5	312		20601220				103.01	6427.58
12					5	202		14118620				70.59	2851.96
13	7.7	61	0.37	0.13	5	304	220	34271420	2090.56	12.68	4.46	171.36	10418.51
14					0	0		37278140				0.00	0.00
15					5	388		36426240				182.13	14133.38
16					6	182		27656640				165.94	5033.51
17					5	272		45598470				227.99	12402.78
18					5	394		43219010				216.10	17028.29
19					5	364		34852030				174.26	12686.14
20	7.7	38	0.51	0.05	5	452	139	34177250	1298.74	17.43	1.71	170.89	15448.12
21					5	479		23145700				115.73	11086.79
22					5	462		21283780				106.42	9833.11
23					5	482		21225890				106.13	10230.88
24					12	446		18050690				216.61	8050.61
25					5	486		16625950				83.13	8080.21
26					5	500		19783010				98.92	9891.51
27	7.9	40	0.4	0.05	5	484	91	22033730	881.35	8.81	1.10	110.17	10664.33
28					0	0		21666530				0.00	0.00
29					0	0		20207230				0.00	0.00
30					0	0		18766080				0.00	0.00
31					0	0		19082300				0.00	0.00

Month				Parameters							Daily Totals		
Sept	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		19068480				0.00	0.00
2					0	0		19068480				0.00	0.00
3	7.5	36	0.64	0.15	5	448	148	19068480	686.47	12.20	2.86	95.34	8542.68
4					0	0		19068480				0.00	0.00
5					0	0		19068480				0.00	0.00
6					0	0		19068480				0.00	0.00
7					0	0		19068480				0.00	0.00
8					0	0		19068480				0.00	0.00
9					0	0		19068480				0.00	0.00
10	7.5	79	0.55	0.05	8	312	182	19068480	1506.41	10.49	0.95	152.55	5949.37
11					5	310		19068480				95.34	5911.23
12					5	378		20390400				101.95	7707.57
13					5	408		24368260				121.84	9942.25
14					5	246		22717150				113.59	5588.42
15					5	306		26777950				133.89	8194.05
16					5	380		33215620				166.08	12621.94
17	7.8	58	0.7	0.1	5	366	120	26395200	1530.92	18.48	2.64	131.98	9660.64
18					5	450		23877500				119.39	10744.88
19					5	476		17934050				89.67	8536.61
20					5	460		15965860				79.83	7344.30
21					5	432		15931300				79.66	6882.32
22					5	462		16224190				81.12	7495.58
23					5	460		17862340				89.31	8216.68
24	7.9	38	0.76	0.05	5	452	77	17383680	660.58	13.21	0.87	86.92	7857.42
25					5	468		4192301				20.96	1962.00
26					5	473		4835894				24.18	2287.38
27					5	468		4687805				23.44	2193.89
28					5	478		658238				3.29	314.64
29					5	478		830140				4.15	396.81
30					5	452		812908				4.06	367.43

Month				Parameters							Daily Totals		
Oct	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	8	43	0.46	0.05	5	448	80	6091978	261.96	2.80	0.30	30.46	2729.21
2					5	478		8754912				43.77	4184.85
3					5	476		12936670				64.68	6157.85
4					5	212		13692670				68.46	2902.85
5					5	316		6732720				33.66	2127.54
6					5	380		19927300				99.64	7572.37
7					5	330		14079740				70.40	4646.31
8	8	53	0.61	0.08	5	374	175	14538530	770.54	8.87	1.16	72.69	5437.41
9					3	315		19195490				57.59	6046.58
10					5	280		14367460				71.84	4022.89
11					5	422		19511710				97.56	8233.94
12					5	356		26411620				132.06	9402.54
13					5	406		21846240				109.23	8869.57
14					8	228		17695580				141.56	4034.59
15	7.8	58	0.56	0.05	5	277	166	26214620	1520.45	14.68	1.31	131.07	7261.45
16					5	394		23126690				115.63	9111.92
17					5	414		23325410				116.63	9656.72
18					5	416		22367230				111.84	9304.77
19					5	426		19728580				98.64	8404.38
20					5	370		14862530				74.31	5499.14
21					5	406		12807940				64.04	5200.02
22	7.9	47	0.69	0.05	5	422	114	19338050	908.89	13.34	0.97	96.69	8160.66
23					5	238		20763650				103.82	4941.75
24					0	0		24671520				0.00	0.00
25					5	135		20383490				101.92	2751.77
26					5	320		24066720				120.33	7701.35
27					5	384		26296700				131.48	10097.93
28					5	382		22864030				114.32	8734.06
29	7.4	64	0.51	0.05	5	210	210	22244540	1423.65	11.34	1.11	111.22	4671.35
30					5	322		25005890				125.03	8051.90
31					5	382		22142590				110.71	8458.47

Month				Parameters							Daily Totals		
Nov	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	438		22825150				114.13	9997.42
2					5	430		20832770				104.16	8958.09
3					5	450		20489760				102.45	9220.39
4					5	446		18984670				94.92	8467.16
5	7.9	62	0.61	0.05	5	458	84	18653760	1156.53	11.38	0.93	93.27	8543.42
6					0	0		17241980				0.00	0.00
7					0	0		13118980				0.00	0.00
8					0	0		11704610				0.00	0.00
9					0	0		15496700				0.00	0.00
10					0	0		28270950				0.00	0.00
11					0	0		25072420				0.00	0.00
12	7.5	51	0.59	0.05	9	260	197	28772060	1467.38	16.98	1.44	258.95	7480.74
13					5	80		25129440				125.65	2010.36
14					5	266		22465730				112.33	5975.88
15					5	362		19172160				95.86	6940.32
16					5	232		23727170				118.64	5504.70
17					5	319		27406080				137.03	8742.54
18					5	376		26125630				130.63	9823.24
19	7.8	41	0.53	0.07	5	404	127	26568860	1089.32	14.08	1.86	132.84	10733.82
20					0	0		25160540				0.00	0.00
21					5	378		21066910				105.33	7963.29
22					5	304		21897220				109.49	6656.75
23					5	248		22629890				113.15	5612.21
24					5	282		22014720				110.07	6208.15
25					5	354		26317440				131.59	9316.37
26	7.7	45	0.57	0.05	5	362	126	23692610	1066.17	13.50	1.18	118.46	8576.72
27					5	384		22896860				114.48	8792.39
28					5	370		14167010				70.84	5241.79
29					5	444		8286624				41.43	3679.26
30					5	446		8312371				41.56	3707.32

Month				Parameters							Daily Totals		
Dec	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	450		13605410				68.03	6122.43
2					5	440		16498940				82.49	7259.53
3	7.8	52	0.62	0.05	5	434	77	14498780	753.94	8.99	0.72	72.49	6292.47
4					7	292		14383010				100.68	4199.84
5					5	204		23753090				118.77	4845.63
6					5	342		16056580				80.28	5491.35
7					5	460		23091260				115.46	10621.98
8					5	470		21281180				106.41	10002.15
9					5	262		23352190				116.76	6118.27
10	7.7	53	0.68	0.05	8	424	103	22392290	1186.79	15.23	1.12	179.14	9494.33
11					0	0		20888930				0.00	0.00
12					6	122		21048770				126.29	2567.95
13					5	192		30432670				152.16	5843.07
14					5	386		31702750				158.51	12237.26
15					5	364		28144800				140.72	10244.71
16					5	393		24983430				124.92	9818.49
17	7.4	71	0.67	0.05	5	394	115	24205830	1718.61	16.22	1.21	121.03	9537.10
18					5	378		23683100				118.42	8952.21
19					5	344		24808900				124.04	8534.26
20					5	290		23981180				119.91	6954.54
21					5	122		25607230				128.04	3124.08
22	7.7	34	0.44	0.05	5	266	138	25671170	872.82	11.30	1.28	128.36	6828.53
23					5	486		25512190				127.56	12398.92
24					5	498		23836030				119.18	11870.34
25					0	0		22821700				0.00	0.00
26					5	514		22345630				111.73	11485.65
27					5	537		19186850				95.93	10303.34
28					5	548		8465213				42.33	4638.94
29	7.8	51	0.18	0.05	5	450	125	21423740	1092.61	3.86	1.07	107.12	9640.68
30					0	0		20276350				0.00	0.00
31					0	0		19760640				0.00	0.00

APPENDIX 4

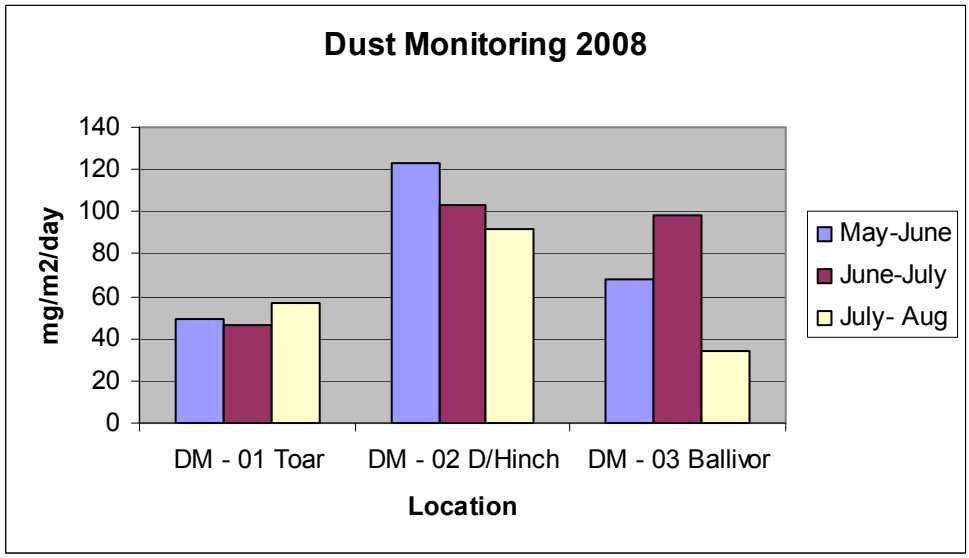
Dust Monitoring Results.

Dust Monitoring Results 2008

Licence:P0501-01

Works: Derrygreenagh

Sample Period	DM - 01 Toar	DM - 02 D/Hinch	DM - 03 Ballivor
May-June	49	123	68
June-July	46	103	98
July- Aug	57	92	34



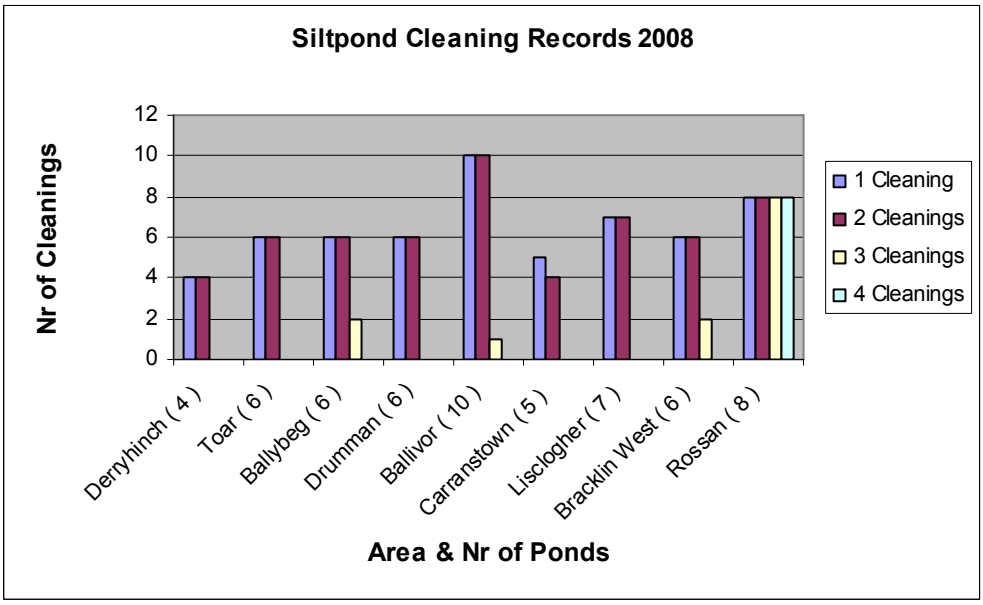
APPENDIX 5

De-silting Programme Review.

Siltpond Cleaning Programme 2008

IPPC Licence: P0501-01
Works: Derrygreenagh

Bog Area & Nr Ponds	1 Cleaning	2 Cleanings	3 Cleanings	4 Cleanings
Derryhinch (4)	4	4		
Toar (6)	6	6		
Ballybeg (6)	6	6	2	
Drumman (6)	6	6		
Ballivor (10)	10	10	1	
Carranstown (5)	5	4		
Lisclogher (7)	7	7		
Bracklin West (6)	6	6	2	
Rossan (8)	8	8	8	8



APPENDIX 6

AER & PRTR Data

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Annual Environmental Report 2009
P0501-01

March 2010

Bord na Móna today operates 5 main subsidiary companies in more than 20 locations throughout Ireland, the UK and USA. The principal businesses are in the Energy, Resource Recovery, Horticulture, Home Heating and Wastewater Treatment and Air Pollution Abatement markets. The company also engages in an extensive rehabilitation program to develop its peat lands in an environmentally sustainable manner.

Bord na Móna has long recognised the need to diversify its activities in order to secure a sustainable future. In this context we identified the energy and resource recovery sectors as appropriate areas of growth and development, given our assets, strengths and skills. Significant challenges face Ireland in meeting the country's needs to provide secure sustainable energy and manage waste while minimising the impact on the environment.

Bord na Móna is in a strong position to contribute to dealing with these challenges. We have a unique mixture of assets, experience and innovation which will enable us to cross-link our activities in energy, water and resource recovery to provide products and services which will meet Ireland's needs. We also have the capacity to become an exemplar for others to follow in these fields.
With this background we have scoped out a new vision for the future sustainable development of Bord na Móna.

Following on from our vision, we have developed a new mission for Bord na Móna which the Company is committed to achieving.
In 1934 the Turf Development Board was formed to ‘develop and improve the turf industry.' The experience of fuel shortages during the war re-enforced the Irish State's commitment to developing the country's bogs. In 1944 the TDB was asked to devise and submit a comprehensive programme, the outcome was the transformation in 1946 of the TDB into Bord na Móna. The Board was given a mandate to increase the use of peat as a fuel and in energy production. Markets for the use of moss peat in horticulture were also developed.
In 1990 Bord na Móna implemented a divisionalised and decentralised structure, designed to delegate responsibility downwards ensuring a sharper focus on each profit centre and a greater spirit of enterprise.

Group Vision

The vision statement defines the Company's purpose, in terms of its values.
Values are guiding beliefs about how things should be done.
The vision statement communicates both the purpose and values of Bord na Móna.
For employees, it gives direction about how they are expected to behave and inspires them to give their best. Shared with customers, it shapes the customers' understanding of why they should work with Bord na Móna.

Bord na Móna will seek solutions that optimise the creative energy and potential of the organisation, driven by long term goals and the organisation's vision and mission.
In this context our devolved business units will align their vision and strategic planning with the global direction provided.

Consistent with our vision, innovation will once again return to the core of everything we do. We will capitalise on opportunities to cross fertilise our unique range of skills and technologies that add value and are socially and environmentally sustainable.
Greater focus will be placed on managing and developing our land assets in a responsible and sustainable manner. Our award winning initiatives at Lough Boora (Co. Offaly) and Oweninny (Co Mayo), provide shining examples of what can be achieved

Group Mission

We conduct our affairs with openness, honesty and integrity.
We are Ireland's leading environmentally responsible integrated utility service provider encompassing electricity, heating solutions, resource recovery, water, horticulture and related services.
We capitalise on international opportunities where we have a competitive advantage.
We achieve continuing growth through superior customer service, outstanding quality and innovation delivered through the excellence and commitment of our people.
We engage in sustainable profitable business in the communities we serve, which is rewarding and challenging for employees and other stakeholders.

Contents

3.0 Management of the Activity

3.1 Environmental Management Programme Report

3.2 Environmental Management Programme Proposal

3.3 Environmental Expenditure

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

4.2 Bunding Programme

4.3 Boiler Combustion Efficiency

4.4 Resource Consumption Summary

4.5 Report on de-silting Programme

4.6 Bog Development and Operational Programme

4.7 Bog Rehabilitation Report

4.8 Archaeological Report

5.0 Summary

Appendix 1: Emissions to Water Monitoring Results. (Bogs)

Appendix 2: Emissions to Water Monitoring Results. (Yards)

Appendix 3: Emissions to Water Monitoring Results. (Composite)

Appendix 4: Emissions to Air Monitoring Results.

Appendix 5: De-silting Programme Review

Appendix 6: AER & PRTR Data

1.0 Introduction

1.1 IPPC Licence No 501-01

1.2 Name & Location of Site

Name:	Bord na Mona Energy Limited.
Address:	Derrygreenagh Works, Rochfortbridge, Mullingar, Co. Westmeath
Telephone No:	044 9222181
Contact Name:	Eamonn Mulhall
Position:	Resource Manager
National Grid Reference:	E249450 N 238140

1.3 Description of Activities

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:
Milling.
Harrowing.
Ridging.
Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

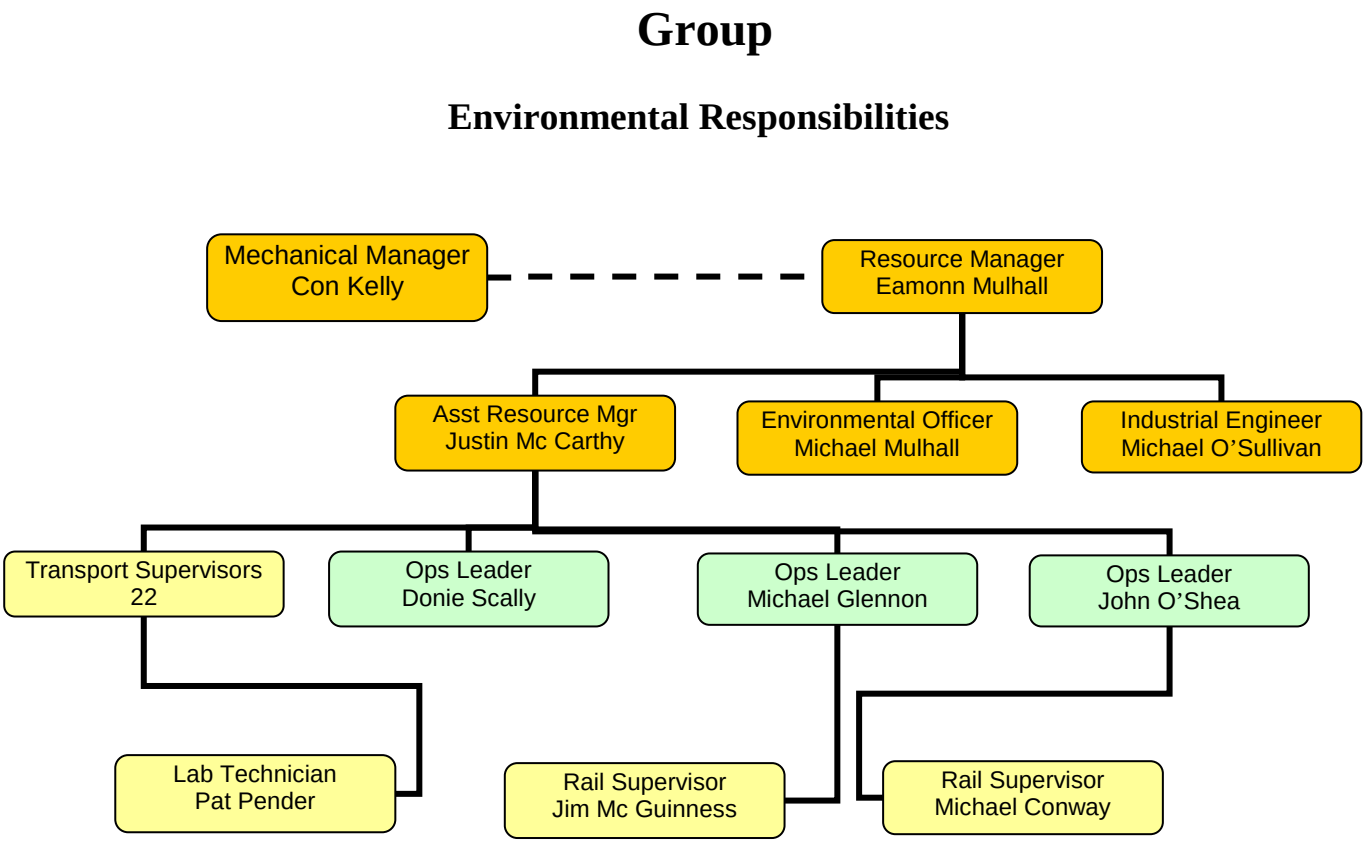
Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways or via road to one of the following locations.
Power station
Horticultural Factory.
Briquette Factory.

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.



1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its business in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

Discharge to water.
Emissions to atmosphere.
Waste disposal.
Use of natural resources.
Noise, vibration, odour, dust and visual effects.
Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its Contents are brought to the attention of all employees.

2.0 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

Surface Waters

Comment

Surface water monitoring was carried out four times during the reporting period. In total analysis was carried out at twelve different locations. As the locations were changed after the first quarter monitoring event, monitoring occurred initially at the original six locations of, Derryhinch @ SW1, Drumman @ SW6, Toar @ SW14, Bracklin @ SW30, Carranstown @ SW32 and Rossan @ SW43. These were subsequently changed to six new locations, some within the same bog but at different emission points. The new locations are as follows, Derryhinch @ SW4, Ballybeg @ SW12, Bracklin @ SW26, Carranstown @ SW31, Rossan @ SW46 and Carrick @ SWA. As the latter is a comparatively new pond it was given a letter as opposed to a number for identification purposes. The parameters measured during each sampling event were as follows.
Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD.
In general results were constant across all parameters at each monitoring location. November was the wettest month with 175.7mm of rainfall recorded and February the driest with 22.9 mm recorded. Flow rates appear to have had no adverse effect on suspended solids results.
The quarterly grab sampling programme proved to be 100% compliant for the year as was the 2006, 2007 & 2008 regimes.

pH values were between 8.3 and 6, with emission limit values being of the range 6 and 9. The graph clearly shows the newly selected monitoring locations being of a lower pH base than those previously being monitored.

Suspended solids varied from 5mg/l to 52mg/l and would depend on activities (piping, ditching) etc in the catchments at the time of sampling. Although above the ELV of 35mg/l, the 52mg/l result is allowed under condition 3.2.1 (ii) and does not constitute a non-compliance.

Ammonia values ranged from 0.04 mg/l and 2.32 mg/l.The I/PV for A3 waters is of the range 4mg/l. It is however not unusual for surface waters emanating from production peatlands to be slightly elevated. Overall ammonia levels are slightly down on 2008 figures. It is too soon as to speculate if the new locations are areas of lower ammonia.

COD values ranged from 32 mg/l to 148 mg/l. With the exception of SW15 trends appear to be indicating a downward pattern. The I/PV for A3 waters is of the range 40mg/l. As with ammonia future results and trends will be analysed, with the trigger level of 100 mg/l set to initiate investigation. Reduced flow and increased temperature most definitely impinge on COD results.

Flow rates at the new monitoring locations showed a marked increase from the previous locations. This was part of the justification for changing the monitoring points as the previous location at times proved difficult to get a flow record. As expected flow rates were elevated in the last two quarters due to exceptionally high and prolonged periods of rainfall.

Total Phosphorus results were consistent across all locations during the monitoring period.

As mentioned in the 2008 AER, a proposal for the changing of the sampling locations was submitted to the Agency for approval during the reporting period. This proposal was accepted and the sampling locations were changed post the first quarter monitoring event.
At the request of the Agency, analysis trends are now demonstrated graphically with results from 2006 to the present included in the graphs.

Surface Water Results are attached in Appendix 1.

2.1.2 Yard Discharges

Yard Runoff

Comment

Yard runoff monitoring took place at two locations during the reporting period. Derrygreenagh @ SWE 2 and Rossan @ SWE 1. Sampling frequency was monthly and COD was the parameter requiring analysis. Results were very satisfactory for the period at Derrygreenagh, with results consistently well below trigger levels. At Rossan following a particularly elevated result of 941 mg/l, cleaning of the interceptor took place. This led to a marked improvement in COD results, with the final two monitoring results being very satisfactory.
Although not having a specific licence emission limit value, a trigger level of 100 mg/l has been set in relation to COD results, along with the weekly visual inspections.

Sampling will continue at the same locations during 2010.

Yard Emission Results are attached in Appendix 2.

2.1.3 Composite Sampler Report

Composite Sampling

Comment

The composite sampler has been operating at Toar Bog SW15 during the reporting period.
The parameters measured were Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD, with Suspended solids being the only parameter with an emission limit value of (35mg/l). The sampler has been operating reasonably well during the reporting period, with the exception of a brief period between early November and mid December, when due to serious flooding the flow data component of the sampler became dislodged and washed away. This was subsequently replaced and flow data recording is operational again.
In general results were satisfactory with no non-compliance's being recorded for the period.
The composite sampler will remain at this location for the foreseeable future.

Composite Sampler Results are contained in Appendix 3.

2.1.4 Emissions to Water Non-compliance's

Emissions to Water Non-Compliances 2009

Licence: P0501-01
Works: Derrygreenagh

Type	Non-Compliances	Location / SW Nr
Composite	0	
Quarterly Grab	0	
Monthly Yard	1	
Totals	**1**	

There was one non-compliance's in relation to elevated COD emanating from yard runoff at Rossan Workshop. This non compliance was issued by the Agency on foot of a licence audit, as there is no specific licence emission limit value in relation to COD. As mentioned earlier trigger levels of 100 mg/l have been set.

2.2 Emissions to Air

2.2.1 Dust Monitoring

Comment

Dust monitoring was carried out on five occasions between April and August. Each monitoring event lasted between 28 and 32 days and the Bergerhoff method of collection was used.
The monitoring locations were as follows, Toar DM01, Derryhinch DM02 and Ballivor DM03.
All monitoring results were within the emission limit value of 350mg/m^2/day.
Sampling will continue at the same locations during 2010.

Dust monitoring results are contained in appendix 4.

2.2.2 Emissions to Air Non-compliance's

Dust Non-Compliances 2009	
Licence:P0501-01	
Works: Derrygreenagh	
Location / DM Nr	**Non-Compliances**
N/A	0
Total	**0**

Dust results for 2009 were compliant.

2.3 Waste Arisings

2.3.1 Non-Hazardous Waste

Non Hazardous Waste Data 2009				
Licence: P0501-01				
Works: Derrygreenagh				
Type	**Tonnes**	**EWC Code**	**Contractor**	**Licence Nr**
Skips	22.51	20 03 01	AES	053/OY/39/02
Wheelie Bins	6.78	20 03 01	AES	053/OY/39/02
Polyethlene	32.06	02 01 04	Eco Plastics	WFP-CE-08-0005-01
Polyethlene	173.88	02 01 04	Leinster Environmentals	2008/06
Scrap Steel	36.14	17 04 07	AES	053/OY/39/02
Timber Pallets	13.92	15 01 03	AES	053/OY/39/02
Silt Pond Cleanings	151.30	01 01 02	Bord na Mona	IPPC P0501-01
Totals	**436.59**			

Note: Polyethylene and Steel are recycled. Skips go to an AES Mixed Recycling Facility.

2.3.2 Hazardous Waste

Hazardous Waste Data 2009					
Licence:P0501-01					
Works:Derrygreenagh					
Type	**Tonnes**	**EWC Code**	**Contractor**	**Licence Nr**	**Destination**
Waste Oil	32.95	13 02 05	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oil Filters	0.77	16 01 07	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oily Rags	1.01	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Lead Acid Batt	3.58	16 06 01	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Parts Wash	1.92	11 01 13	Safety Kleen, Tallaght, Dublin	99-1	Dublin
Total	**40.23**				

2.4 Energy and Water Consumption

2.4.1 Energy

The table below shows energy consumption for the year. It does not include water as it is only used in offices, canteens and workshops on a domestic basis. It is not used as part of the production process.

Energy Consumption 2009				
Licence: P0501-01				
Works: Derrygreenagh				
Units	**Diesel (Litres)**	**Petrol (Litres)**	**Electricity (Units)**	**Peat Briquettes (Tonnes)**
Totals	581403	0	424311	20
MW Hours	5693.3	0	424.311	100
Total MW Hours	**6217.6**			

Note: The electricity consumption figure was extracted from ESB on line information systems. Some of the consumption figures relate to estimated readings which do not reflect on the exact amount of consumption. Going forward, Bord na Mona are liaising with the supplier, to try and eliminate all estimated readings. This will give a more precise figure in relation to consumption in the future.

2.5 Environmental Incidents and Complaints

2.5.1 Incidents

Environmental Incidents 2009	
Licence: P0501-01	
Works: Derrygreenagh	
	Number
Incidents	1
Requiring corrective action	1
Category	
Water	1
Air	
Procedural	
Miscellaneous	
Total	**1**

There was one environmental incident. This related to the aforementioned elevated COD result at Rossan Oil Interceptor. A corrective action was instigated and the interceptor cleaned out by a licenced contractor. Subsequent results proved to be quite satisfactory.

2.5.2 Complaints

Environmental Complaints 2009	
Licence:P0501-01	
Works: Derrygreenagh	
	Number
Complaints	0
Requiring corrective action	
Category	
Water	
Air	
Procedural	
Miscellaneous	
Total	**0**

No complaints of an environmental nature were received during the reporting period.

3.0 Management of the Activity

3.1 Achievement of Objectives & Targets 2009

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Status** In total 50 employees received environmental training. **Hydraulic Harrows.** Hydraulic harrows will be deployed at dust sensitive locations during the 2009 production season. **Status** No new Hydraulic Harrows were deployed during the 2009 production season. This was due in part to the exceptionally wet weather which curtailed production activity and mitigated against the need for such equipment. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations. **Status** Headland peat was collected as part of the peat lifting process and included in general peat return figures.
Project 2: Waste Management	**Waste Streamlining.** Following the purchase by Bord na Mona of AES Ltd, meetings with that company's management will be ongoing to see how best Bord na Mona's needs can be catered for. Key account managers dedicated to Bord na Mona have been requested and are due to be in place in 2009. **Status** A pilot programme has been put in place at Bord na Mona Boora works. Should this prove successful it will be extended to all Bord na Mona works. The service promises to include the issuing of quarterly reports on waste quantities and types.
Project 3: Minimisation of Suspended Solids.	**On Site Inspections.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation.

	Status In total 50 employees received environmental training.
Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** Continue to introduce rail operated fuel service wagons on a phased basis, with Derrygreenagh works budgeted to receive one wagon during 2009. Increased bund provisions where required, will be provided, in 2009. **Status** One new rail operated fuel service wagon was introduced in 2009. In addition to this two self bunded lock up containers were introduced in 2009. A new self bunded waste oil tank was also commissioned during the reporting period.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing. **Status** In total 205.94 tonnes of polyethylene was sent for recycling in 2009.
Project 6: PCB Directive	**PCB Survey.** Carry out a comprehensive survey of all PCB suspect appliances. Following this, liaise with EPA in deciding a plan of action once a definitive amount of suspect PCB holdings are agreed. **Status** As of December 2009, 75% of all potential Derrygreenagh PCB contained appliances have been sampled, with results indicating no PCB's present to date.

3.2 Environmental Management Programme Proposal 2010

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Continue to train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Hydraulic Harrows.** One Hydraulic harrow will be deployed at Derryhinch bog during the 2010 production season. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations.
Project 2: Waste Management	**Waste Streamlining.** Following the setting up of a pilot project at Boora works in relation to waste management. The extension of the project to other works including Derrygreenagh is planned.
Project 3: Minimisation of Suspended Solids.	**Training.** Continue to train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation.
Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** Increased bund provisions where required, will be provided, in 2010.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.
Project 6: Mini Sod Project	**Carry out Trial.** On a trial basis switch from milled peat to mini sod production at a portion of Drumman bog. Part of this project is to mitigate against dust nuisance, as the area is potentially dust sensitive.
Progect 7: Energy Management	**Internal Meter Reading.** As part of an energy management process a programme of internal meter readings will commence in 2010. The purpose of this exercise is to establish accurate energy consumption as to date a high percentage of electricity bills have been estimated by the supplier.

3.3 Environmental Expenditure

Environmental Expenditure 2009	
Licence:P0501-01	
Works: Derrygreenagh	
Description	**Cost €**
Capital Costs	15,767.00
Silt Control	73,988.50
Analytical & Consultancy Costs	10,656.50
EPA Fees	8,070.00
Bog Rehabilitation	33,696.00
Waste Management	44,238.60
Total	**186,416.60**

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

The Monitoring Locations were changed; post the first quarter monitoring event 2009 and the Agency was informed. The new surface water discharge monitoring locations are now as follows; Derryhinch @ SW4, Ballybeg @ SW15, Bracklin @ SW26, Carranstown @ SW31, Rossan @ SW46 and Carrick @ SWA. As the latter is a comparatively new pond it was given a letter as opposed to a number for identification purposes.

4.2 Bunding Programme

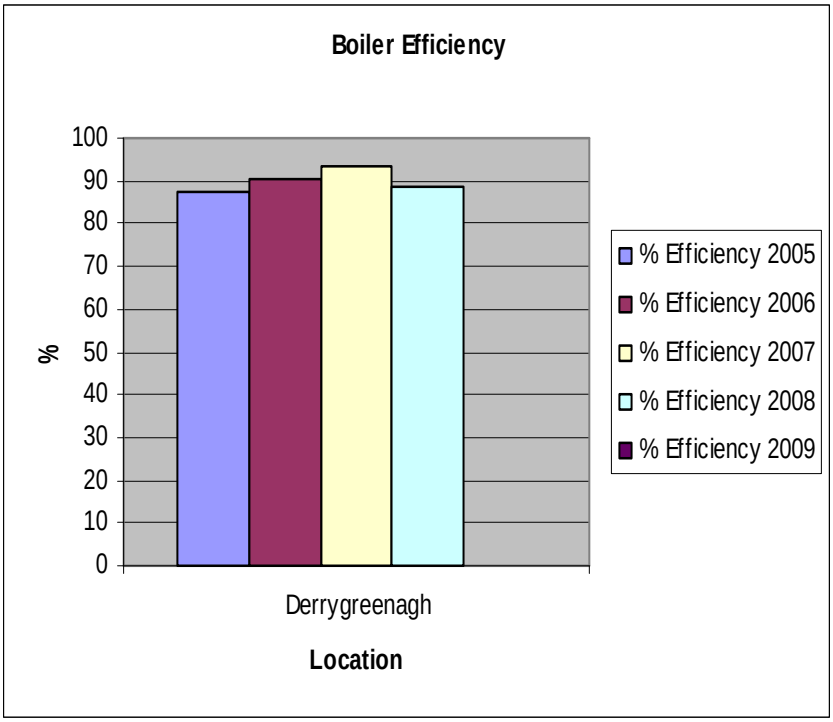
Bund Locations & Numbers Derrygreenagh Works						
IPPC Licence: P0501-01						
Location	**Bund Number**	**Last Tested**	**Status Pass/Fail**	**Next Test Due**	**Last Tested**	**Status Pass/Fail**
Derrygreenagh Main Bund	501-37-01	Dec-06	Pass	Dec-08	Jan-09	Pass
Derrygreenagh Waste Oil Bund	501-37-02	Sep-09	Pass	Sep-11		
Ballivor Factory Bund	501-08-03	Mar-07	Pass	Mar-09	Nov-09	Pass
Rossan Tippler Bund	501-07-04	Feb-07	Pass	Feb-09	Mar-09	Fail

The table above is an overview of the bund testing carried out during 2009. As is evident the Rossan Bund failed its integrity test and remediation works have just been completed in early 2010. Following these repairs a retest was successful.

4.3 Boiler Combustion Efficiency

There is one boiler in the licence area, which is located at Derrygreenagh Workshop. During the reporting period it was replaced with a new boiler. An efficiency test was not carried out due to the fact that the boiler was new. A test will be carried out in 2010 and submitted in that years AER. The table and graph below show previous year's efficiency results.

Boiler Emissions 2009					
Licence: P0501-01					
Works: Derrygreenagh					
Boiler Location	**% Efficiency 2005**	**% Efficiency 2006**	**% Efficiency 2007**	**% Efficiency 2008**	**% Efficiency 2009**
Derrygreenagh	87.2	90.71	93.3	88.9	New Boiler fitted



4.4 Resource consumption summary

Resource Consumption 2009			
Licence: P0501-01			
Works: Derrygreenagh			
Product	**Tonnes Produced**	**Tonnes Sold**	**Customer**
Milled Peat	64,528	140,778	ESB
Moss	37,131	76,331	Horticulture
Turf	120	120	Private
Other	0	0	N/A
Totals	**101,779**	**217,229**	

Proposed Production 2010	
Licence: P0501-01	
Works: Derrygreenagh	
Product	**Proposed Target**
Milled Peat	152,975
Moss	70,000
Turf Private	200
Turf EPL	30,000
Totals	**253,175**

4.5 De-Silting Report

As there was no production in Derryhinch, Drumman and Lisclogher Bogs, peat silt generation was at a minimum. Further to this fortnightly inspections indicated that no pond in these areas ever exceeded the half full stage. Further to this inspections at Ballivor and Carranstown dictated that only the ponds actually cleaned twice warranted such cleaning.

A table and graph of the cleaning schedule is attached in appendix 5.

4.6 Bog Development and Operational Programme

There was some small scale development at Rossan Bog, wich included the preparation of an area of approximately 35 hectares for inclusion in the 2010 production season. An additional silt pond site was constructed to service this additional area.
In Ballivor Bog an area of 30 hectares which had been previously developed but not intensively produced on, was fully reinstated to production status and produced on towards the end of the production season.

4.7 Bog Rehabilitation Report

A clean up of historical polyethylene took place in Rossan Bog. This work involved the bailing for recycling of 141 tonnes of polyethylene cover material. It is proposed to continue with this work during the summer months of 2010.

2008: Following consultation with the National Parks and Wildlife Service, an exercise was carried out, to identify potential areas within the Licence area that may be suitable for management with a biodiversity focus. Following from the initial desktop survey and mapping exercise, key areas of potential biodiversity areas within the Derrygreenagh Bogs were identified. These include Derryarkin wetlands, and Drumman and Ballybeg cutaway areas.

2009: In September 2009, a large-scale baseline ecological survey of all of the Bord na Mona bogs commenced. The survey will target those areas identified during the mapping project in 2008 and will form the basis for development of *Rehabilitation Plans* for all bog areas, while also identifying areas considered as being rich biodiversity. To date, Derryhinch, Drumman and Derryarkin Bogs have been surveyed and mapped and there are selected sites ear-marked for further survey in 2010. Possible rehabilitation measures were outlined and will be further developed as these areas are removed from the peat production process.

Further consultation with the NPWS was carried out in 2009, including a meeting with Padraic Comerford and Val Swann, Regional Management Staff. The outline long-term rehabilitation plans for the Derrygreenagh bogs were discussed and it was agreed to notify the NPWS when potential Biodiversity Areas are identified and more site specific rehabilitation plans drawn up.

4.8 Archaeological Report

There was no archaeology work carried during the reporting period.

5.0 Summary

The Derrygreenagh Group of Bogs endeavour to comply with all environmental issues. In 2009 we were compliant regarding suspended solids at our composite sampler at Toar bog. We were also compliant for the silt pond quarterly sampling events. Silt pond cleaning went reasonable well during the year, most areas were cleaned at least twice and those that weren't were not in production so silt runoff was minimal. Every effort will be made to continue this trend into 2010. Dust sampling was conducted on five occasions during 2009, two more than our licence requires, with no sample over the limit. This was done to help us identify any problems that might occur.

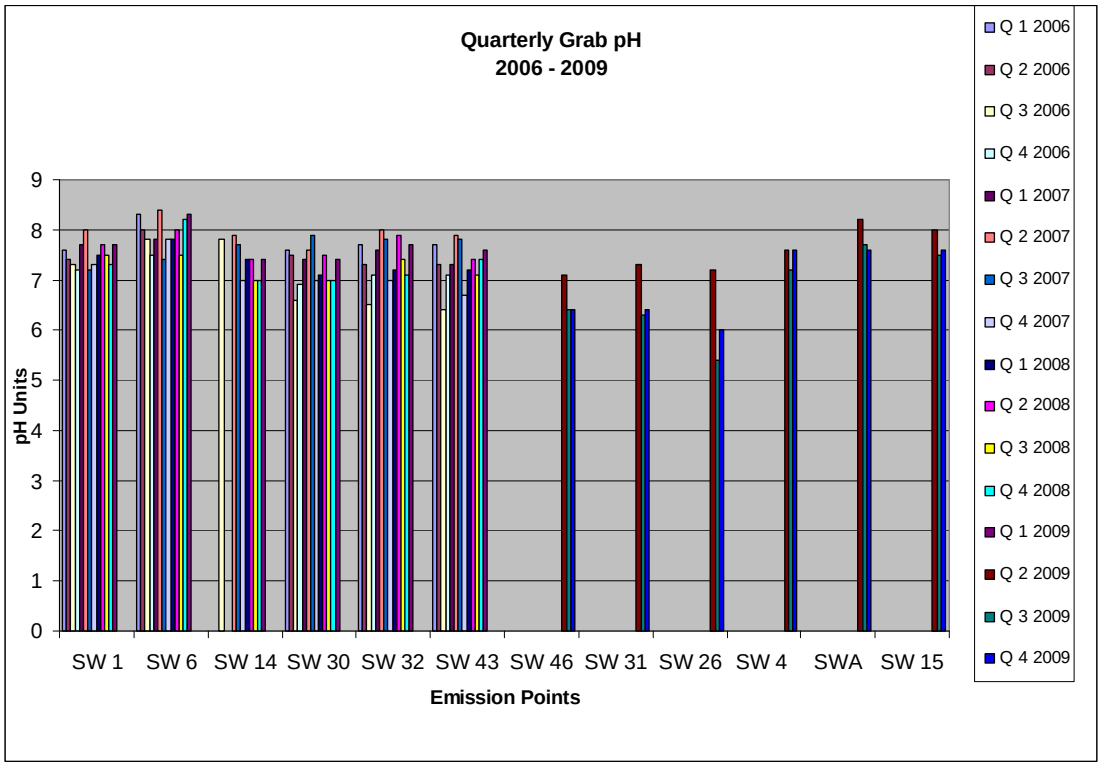
All new seasonal staff were trained in 2009, and this will be repeated in 2010 in relation to any new staff joining the company.

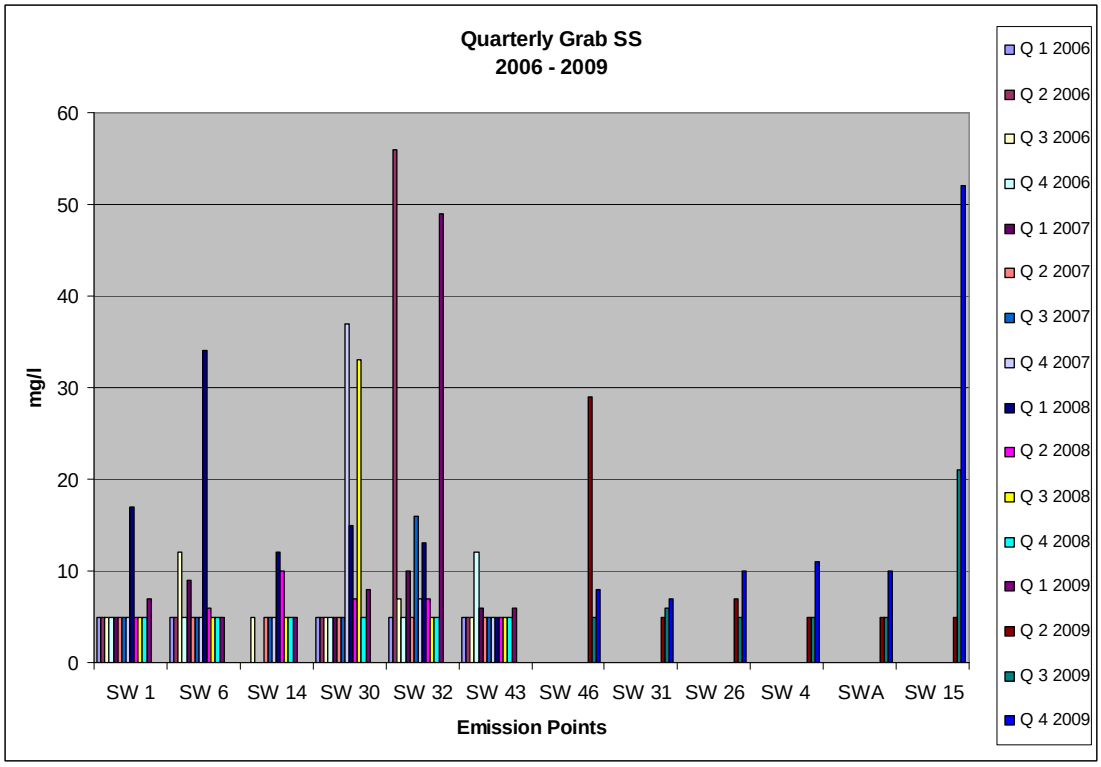
Bord na Mona Energy Ltd are represented on the Management Group of both the Shannon River and Eastern River Basin District Management Systems, set up under the Water Framework Directive, and on the Steering Group of the Catchment Management of the River Barrow.

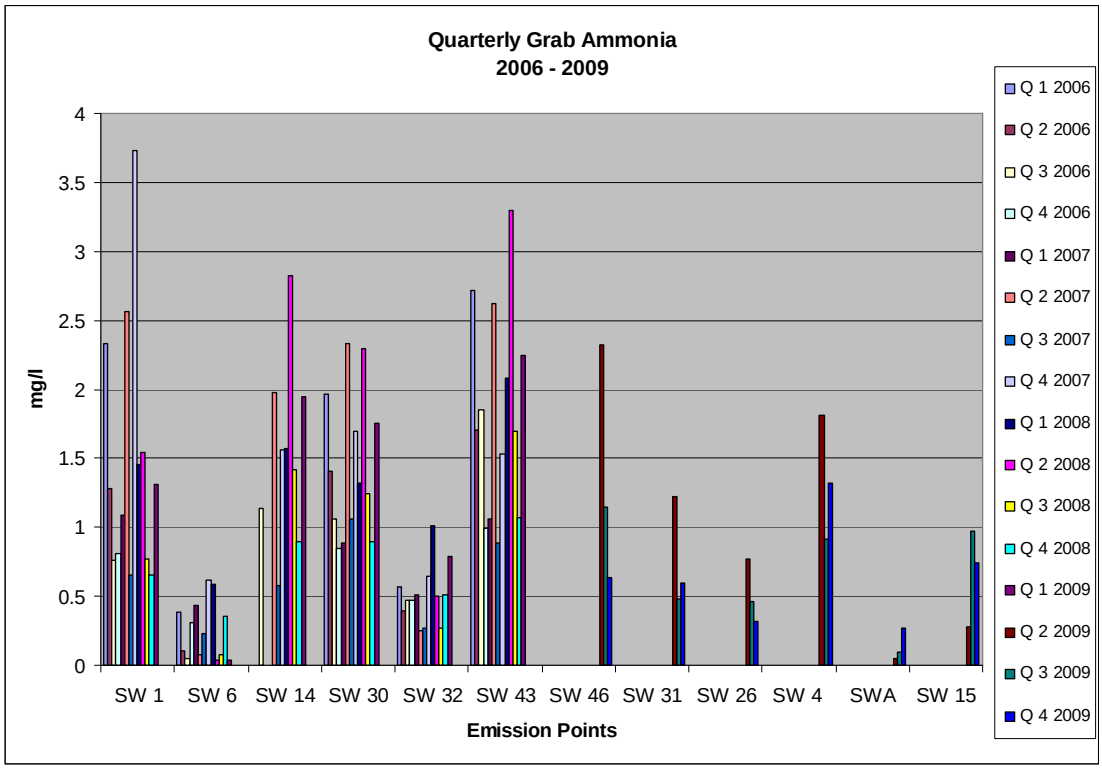
Bord na Mona would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection methods.

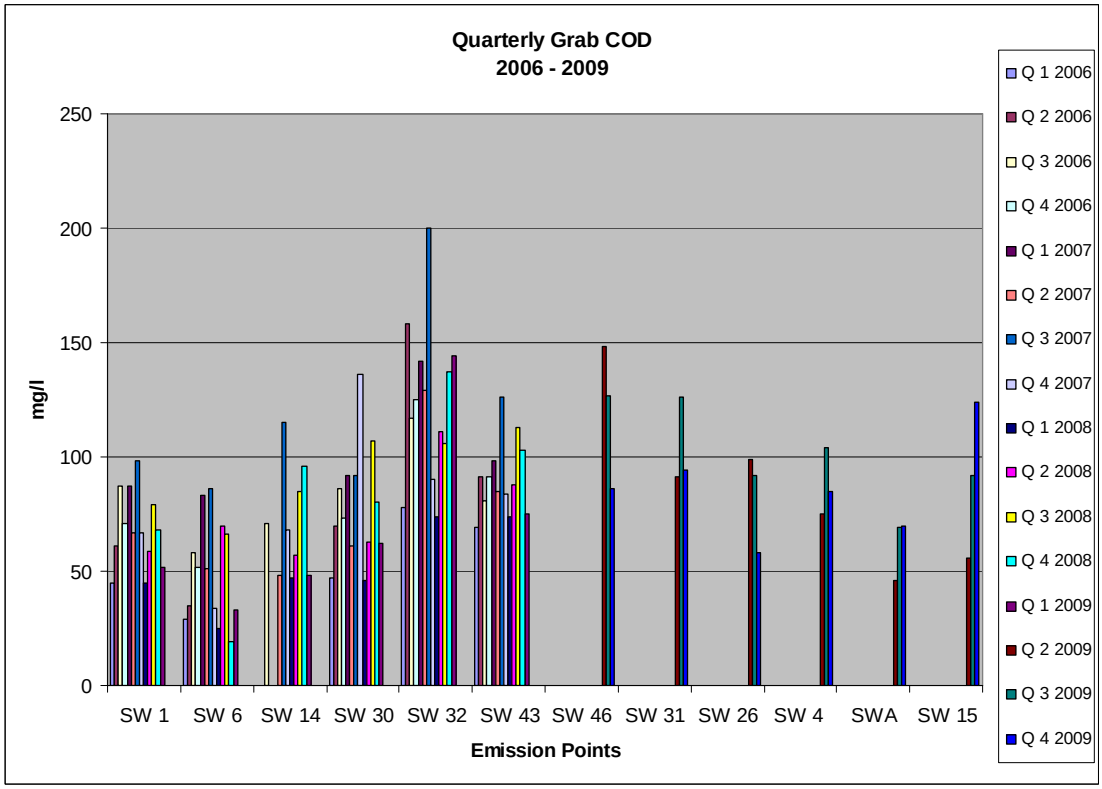
APPENDIX 1

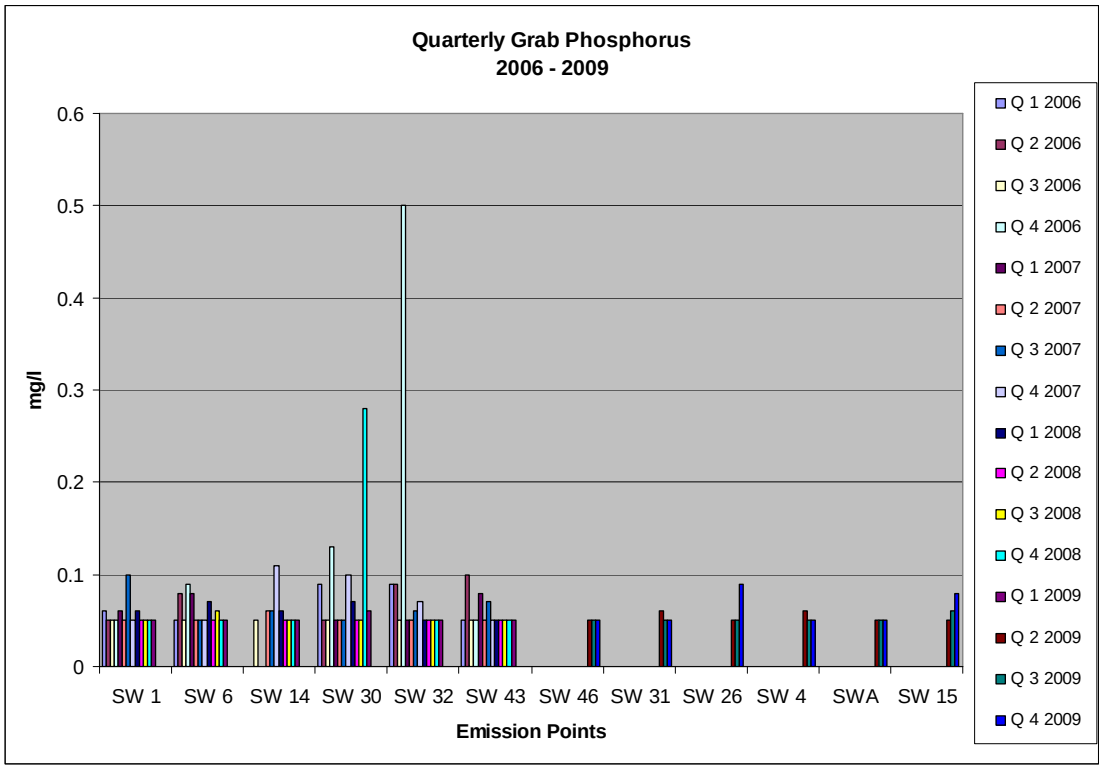
Surface Water Discharge
Monitoring Results
Bogs

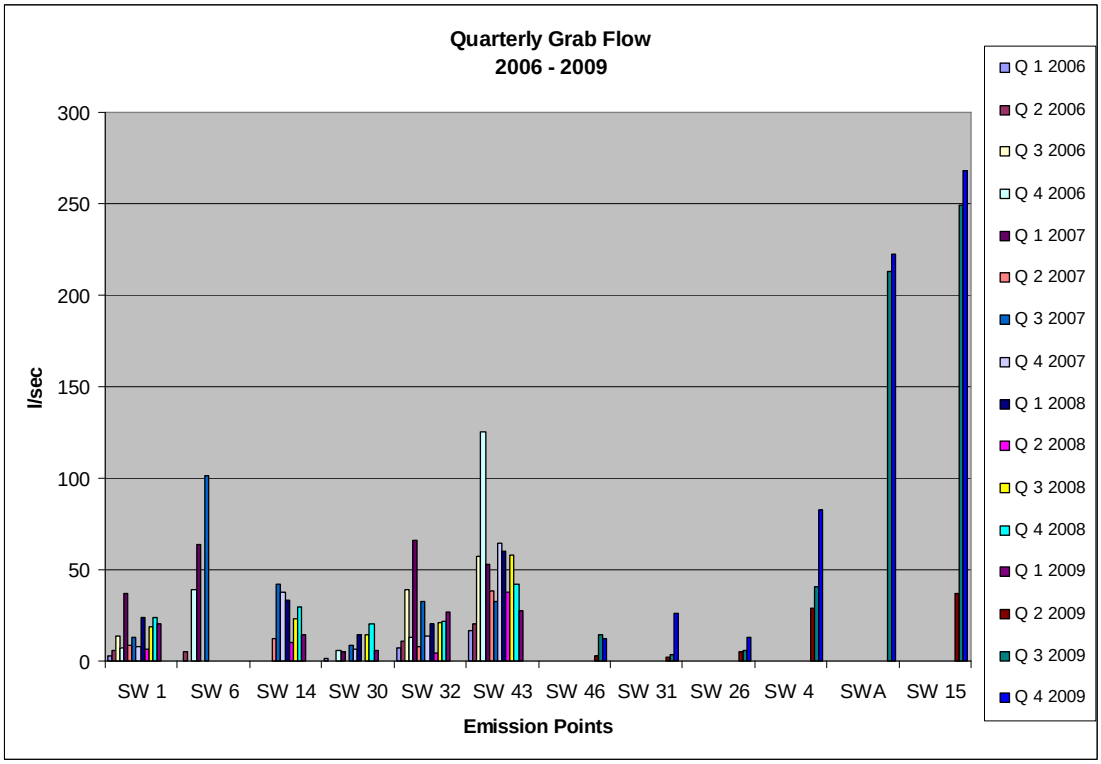

Quarterly Grab pH
2006 - 2009
pH Units
0
1
2
3
4
5
6
7
8
9
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
SW 46
SW 31
SW 26
SW 4
SWA
SW 15
Emission Points
Q 1 2006
Q 2 2006
Q 3 2006
Q 4 2006
Q 1 2007
Q 2 2007
Q 3 2007
Q 4 2007
Q 1 2008
Q 2 2008
Q 3 2008
Q 4 2008
Q 1 2009
Q 2 2009
Q 3 2009
Q 4 2009


Quarterly Grab SS
2006 - 2009
mg/l
0
10
20
30
40
50
60
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
SW 46
SW 31
SW 26
SW 4
SWA
SW 15
Emission Points
Q 1 2006
Q 2 2006
Q 3 2006
Q 4 2006
Q 1 2007
Q 2 2007
Q 3 2007
Q 4 2007
Q 1 2008
Q 2 2008
Q 3 2008
Q 4 2008
Q 1 2009
Q 2 2009
Q 3 2009
Q 4 2009


Quarterly Grab Ammonia
2006 - 2009
mg/l
4
3.5
3
2.5
2
1.5
1
0.5
0
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
SW 46
SW 31
SW 26
SW 4
SWA
SW 15
Emission Points
Q 1 2006
Q 2 2006
Q 3 2006
Q 4 2006
Q 1 2007
Q 2 2007
Q 3 2007
Q 4 2007
Q 1 2008
Q 2 2008
Q 3 2008
Q 4 2008
Q 1 2009
Q 2 2009
Q 3 2009
Q 4 2009

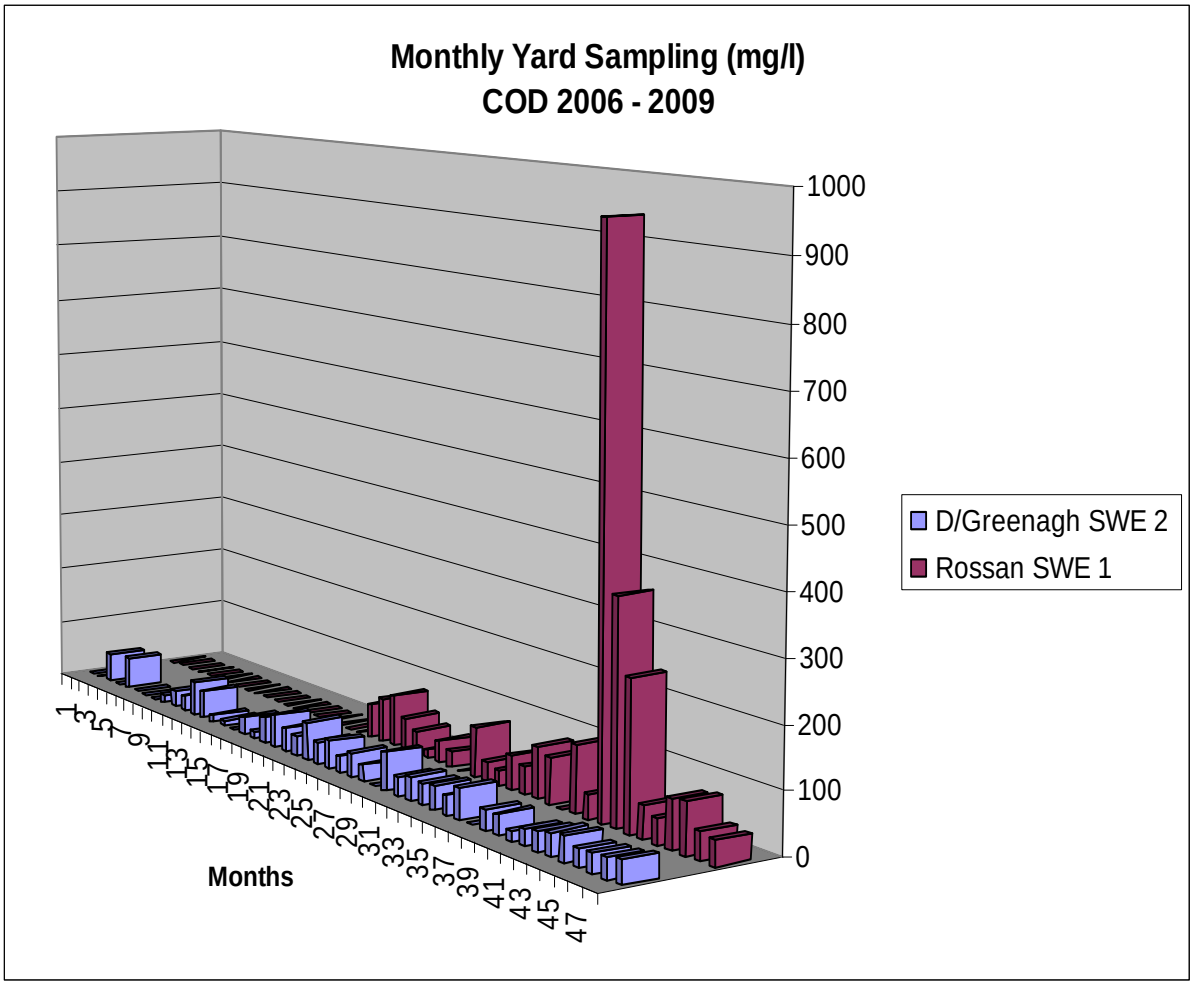

Quarterly Grab COD
2006 - 2009
mg/l
250
200
150
100
50
0
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
SW 46
SW 31
SW 26
SW 4
SWA
SW 15
Emission Points
Q 1 2006
Q 2 2006
Q 3 2006
Q 4 2006
Q 1 2007
Q 2 2007
Q 3 2007
Q 4 2007
Q 1 2008
Q 2 2008
Q 3 2008
Q 4 2008
Q 1 2009
Q 2 2009
Q 3 2009
Q 4 2009


Quarterly Grab Phosphorus
2006 - 2009
mg/l
0.6
0.5
0.4
0.3
0.2
0.1
0
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
SW 46
SW 31
SW 26
SW 4
SWA
SW 15
Emission Points
Q 1 2006
Q 2 2006
Q 3 2006
Q 4 2006
Q 1 2007
Q 2 2007
Q 3 2007
Q 4 2007
Q 1 2008
Q 2 2008
Q 3 2008
Q 4 2008
Q 1 2009
Q 2 2009
Q 3 2009
Q 4 2009


Quarterly Grab Flow
2006 - 2009
l/sec
300
250
200
150
100
50
0
SW 1
SW 6
SW 14
SW 30
SW 32
SW 43
SW 46
SW 31
SW 26
SW 4
SWA
SW 15
Emission Points
Q 1 2006
Q 2 2006
Q 3 2006
Q 4 2006
Q 1 2007
Q 2 2007
Q 3 2007
Q 4 2007
Q 1 2008
Q 2 2008
Q 3 2008
Q 4 2008
Q 1 2009
Q 2 2009
Q 3 2009
Q 4 2009

APPENDIX 2

Surface Water Discharge Monitoring Results
Yards


Monthly Yard Sampling (mg/l)
COD 2006 - 2009
1000
900
800
700
600
500
400
300
200
100
0
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
37
39
41
43
45
47
Months
D/Greenagh SWE 2
Rossan SWE 1

APPENDIX 3

Surface Water Discharge
Monitoring Results
Composite

Month				Parameters							Daily Totals		
January	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		19807200				0.00	0.00
2					0	0		18888770				0.00	0.00
3					0	0		9992160				0.00	0.00
4					0	0		2688682				0.00	0.00
5					0	0		6724426				0.00	0.00
6					0	0		8456140				0.00	0.00
7	7.4	74	2.83	0.11	5	326	107	12890020	953.86	36.48	1.42	64.45	4202.15
8					0	0		10586590				0.00	0.00
9					0	0		10094980				0.00	0.00
10					5	252		8063193				40.32	2031.92
11					5	310		10679900				53.40	3310.77
12					5	100		9847872				49.24	984.79
13					5	224		17974660				89.87	4026.32
14	8.1	74	0.49	0.05	5	288	144	27919300	2066.03	13.68	1.40	139.60	8040.76
15					5	172		21292420				106.46	3662.30
16					5	326		25657340				128.29	8364.29
17					5	222		24496130				122.48	5438.14
18					5	204		24701760				123.51	5039.16
19					5	262		33987170				169.94	8904.64
20					5	316		35074080				175.37	11083.41
21		56	0.54	0.05	5	256	165	30346270	1699.39	16.39	1.52	151.73	7768.65
22					5	268		28616540				143.08	7669.23
23					5	348		33217340				166.09	11559.63
24					5	358		30554500				152.77	10938.51
25					5	358		27012960				135.06	9670.64
26					5	372		28058400				140.29	10437.72
27					5	358		26838430				134.19	9608.16
28	7.9	23	0.48	0.05	5	370	103	26319170	605.34	12.63	1.32	131.60	9738.09
29					0	0		25103520				0.00	0.00
30					0	0		26730430				0.00	0.00
31					0	0		36112610				0.00	0.00

Month				Parameters							Daily Totals		
Feb	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		36112610				0.00	0.00
2					0	0		36112610				0.00	0.00
3					0	0		36112610				0.00	0.00
4	7.5	49	0.43	0.06	5	188	144	36112610	1769.52	15.53	2.17	180.56	6789.17
5					5	388		35453380				177.27	13755.91
6					5	414		30137180				150.69	12476.79
7					5	350		27485570				137.43	9619.95
8					5	394		25702270				128.51	10126.69
9					6	428		24951460				149.71	10679.22
10					5	412		24989470				124.95	10295.66
11	7.8	44	0.61	0.05	5	278	80	24426140	1074.75	14.90	1.22	122.13	6790.47
12					5	348		23729760				118.65	8257.96
13					5	352		23762590				118.81	8364.43
14					5	407		23531040				117.66	9577.13
15					5	426		22973760				114.87	9786.82
16					5	374		22401790				112.01	8378.27
17					5	438		21934370				109.67	9607.25
18	8	17	0.68	0.05	5	408	68	21571490	366.72	14.67	1.08	107.86	8801.17
19					5	433		21106660				105.53	9139.18
20					5	456		20802530				104.01	9485.95
21					5	468		20290180				101.45	9495.80
22					5	446		19974820				99.87	8908.77
23					5	454		19696610				98.48	8942.26
24					5	438		19573920				97.87	8573.38
25	7.1	40	0.72	0.05	5	450	77	19471970	778.88	14.02	0.97	97.36	8762.39
26					5	462		19131550				95.66	8838.78
27					5	458		19097860				95.49	8746.82
28					5	454		18988990				94.94	8621.00

Month				Parameters							Daily Totals		
March	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	454		19027870				95.14	8638.65
2					5	446		17681760				88.41	7886.06
3					5	454		16505860				82.53	7493.66
4	7.6	49	0.73	0.05	5	452	71	18988130	930.42	13.86	0.95	94.94	8582.63
5					10	256		16026340				160.26	4102.74
6					12	496		13211420				158.54	6552.86
7					9	504		6115133				55.04	3082.03
8					12	472		6082387				72.99	2870.89
9					7	398		6150298				43.05	2447.82
10					10	488		6041347				60.41	2948.18
11	7.8	59	0.57	0.06	13	536	57	6090768	359.36	3.47	0.37	79.18	3264.65
12					0	0		6051974				0.00	0.00
13					0	0		6027350				0.00	0.00
14					0	0		3681158				0.00	0.00
15					0	0		5863795				0.00	0.00
16					0	0		9554976				0.00	0.00
17					0	0		5179248				0.00	0.00
18	7.4	43	0.84	0.05	13	526	63	4839869	208.11	4.07	0.24	62.92	2545.77
19					9	468		4839869				43.56	2265.06
20					0	0		5185382				0.00	0.00
21					0	0		8219577				0.00	0.00
22					0	0		7461504				0.00	0.00
23					12	442		7544534				90.53	3334.68
24					10	500		6689693				66.90	3344.85
25	8.1	47	0.67	0.05	18	464	60	6317050	296.90	4.23	0.32	113.71	2931.11
26					0	0		4775155				0.00	0.00
27					0	0		6236179				0.00	0.00
28					0	0		6136646				0.00	0.00
29					0	0		5055264				0.00	0.00
30					0	0		4968518				0.00	0.00
31					0	0		5664163				0.00	0.00

Month				Parameters							Daily Totals		
April	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	8.3	55	0.45	0.05	7	510	69	5212166	286.67	2.35	0.26	36.49	2658.20
2					13	480		10041410				130.54	4819.88
3					5	444		16293310				81.47	7234.23
4					5	452		17354300				86.77	7844.14
5					5	466		17604860				88.02	8203.86
6					5	478		16959460				84.80	8106.62
7					9	378		15972770				143.75	6037.71
8	8.4	28	0.46	0.05	5	433	66	17197060	481.52	7.91	0.86	85.99	7446.33
9					5	435		16924030				84.62	7361.95
10					6	388		17343940				104.06	6729.45
11					5	452		18168190				90.84	8212.02
12					5	440		17236800				86.18	7584.19
13					5	490		16993150				84.97	8326.64
14					5	484		17600540				88.00	8518.66
15	8.1	47	0.62	0.05	5	450	70	17407010	818.13	10.79	0.87	87.04	7833.15
16					5	460		17292960				86.46	7954.76
17					5	440		17325790				86.63	7623.35
18					5	454		17276540				86.38	7843.55
19					5	465		16980190				84.90	7895.79
20					5	462		16823810				84.12	7772.60
21					5	504		16535230				82.68	8333.76
22	8.3	20	0.49	0.05	5	464	60	16350340	327.01	8.01	0.82	81.75	7586.56
23					5	478		16251840				81.26	7768.38
24					5	248		16919710				84.60	4196.09
25					0	0		21053950				0.00	0.00
26					0	0		34028640				0.00	0.00
27					0	0		35293540				0.00	0.00
28					0	0		35293540				0.00	0.00
29	7.3	75	0.57	0.05	16	212	211	35293540	2647.02	20.12	1.76	564.70	7482.23
30					5	332		28766020				143.83	9550.32

Month				Parameters							Daily Totals		
May	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	430		29016580				145.08	12477.13
2					5	470		23944030				119.72	11253.69
3					5	498		22856260				114.28	11382.42
4					5	452		21973250				109.87	9931.91
5					5	483		21526560				107.63	10397.33
6	7.9	41	0.39	0.05	6	486	69	20966690	859.63	8.18	1.05	125.80	10189.81
7					5	456		20938180				104.69	9547.81
8					5	485		20627140				103.14	10004.16
9					5	504		20696260				103.48	10430.92
10					8	508		19916060				159.33	10117.36
11					5	510		19302620				96.51	9844.34
12					13	496		19420990				252.47	9632.81
13	7.5	46	0.61	0.05	7	482	65	19598980	901.55	11.96	0.98	137.19	9446.71
14					12	360		18965660				227.59	6827.64
15					6	390		16855780				101.13	6573.75
16					5	392		19098720				95.49	7486.70
17					6	440		20417180				122.50	8983.56
18					6	324		20624540				123.75	6682.35
19					6	324		21052220				126.31	6820.92
20	7.7	41	0.38	0.06	7	398	123	22673950	929.63	8.62	1.36	158.72	9024.23
21					5	402		23228640				116.14	9337.91
22					5	410		21741700				108.71	8914.10
23					5	416		21457440				107.29	8926.30
24					5	444		21172320				105.86	9400.51
25					5	450		20539870				102.70	9242.94
26					5	438		20329920				101.65	8904.50
27	7.7	48	0.51	0.05	5	432	72	20272900	973.10	10.34	1.01	101.36	8757.89
28					22	364		19947170				438.84	7260.77
29					0	0		19798560				0.00	0.00
30					0	0		19127230				0.00	0.00
31					0	0		18500830				0.00	0.00

Month				Parameters							Daily Totals		
June	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		19087490				0.00	0.00
2					0	0		1575590				0.00	0.00
3	7.5	39	0.68	0.05	5	464	61	7412515	289.09	5.04	0.37	37.06	3439.41
4					0	0		7375363				0.00	0.00
5					0	0		11495520				0.00	0.00
6					0	0		250232				0.00	0.00
7					0	0		98220				0.00	0.00
8					0	0		117685				0.00	0.00
9					0	0		3641242				0.00	0.00
10	8.2	42	0.19	0.06	11	448	63	3661546	153.78	0.70	0.22	40.28	1640.37
11					10	378		8377171				83.77	3166.57
12					18	406		9494496				170.90	3854.77
13					5	446		5988643				29.94	2670.93
14					15	416		17199650				257.99	7155.05
15					17	460		17935780				304.91	8250.46
16					10	460		16256160				162.56	7477.83
17	7.9	73	0.44	0.05	20	222	186	16898110	1233.56	7.44	0.84	337.96	3751.38
18					10	484		31408130				314.08	15201.53
19					13	423		23865410				310.25	10095.07
20					15	442		385603				5.78	170.44
21					11	464		10267780				112.95	4764.25
22					18	456		13151810				236.73	5997.23
23					17	462		17915040				304.56	8276.75
24					6	460		17534880				105.21	8066.04
25	8.3	45	0.04	0.05	9	354	80	17831230	802.41	0.71	0.89	160.48	6312.26
26					9	290		15675550				141.08	4545.91
27					6	386		19761410				118.57	7627.90
28					6	448		15929570				95.58	7136.45
29					0	0		10069920				0.00	0.00
30					0	0		5593363				0.00	0.00

Month				Parameters							Daily Totals		
July	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	7.7	47	0.48	0.05	12	408	99	846608	39.79	0.41	0.04	10.16	345.42
2					0	0		100915	0.00	0.00	0.00	0.00	0.00
3					0	0		3909600	0.00	0.00	0.00	0.00	0.00
4					0	0		2975357	0.00	0.00	0.00	0.00	0.00
5					0	0		8443267	0.00	0.00	0.00	0.00	0.00
6					0	0		3855600	0.00	0.00	0.00	0.00	0.00
7					0	0		4476730	0.00	0.00	0.00	0.00	0.00
8	7.5	54	0.73	0.05	6	444	123	1489536	80.43	1.09	0.07	8.94	661.35
9					0	0		4684867	0.00	0.00	0.00	0.00	0.00
10					0	0		3573590	0.00	0.00	0.00	0.00	0.00
11					0	0		24097	0.00	0.00	0.00	0.00	0.00
12					0	0		74416	0.00	0.00	0.00	0.00	0.00
13					10	308		11213860	0.00	0.00	0.00	112.14	3453.87
14					13	237		2850077	0.00	0.00	0.00	37.05	675.47
15	7.8	64	0.69	0.05	12	289	199	16186180	1035.92	11.17	0.81	194.23	4677.81
16					0	0		19868540	0.00	0.00	0.00	0.00	0.00
17					0	0		884045	0.00	0.00	0.00	0.00	0.00
18					0	0		180559	0.00	0.00	0.00	0.00	0.00
19					0	0		105805	0.00	0.00	0.00	0.00	0.00
20					0	0		0	0.00	0.00	0.00	0.00	0.00
21					0	0		0	0.00	0.00	0.00	0.00	0.00
22	7.5	51	0.74	0.11	6	434	125	0	0.00	0.00	0.00	0.00	0.00
23					0	0		0	0.00	0.00	0.00	0.00	0.00
24					0	0		0	0.00	0.00	0.00	0.00	0.00
25					0	0		0	0.00	0.00	0.00	0.00	0.00
26					0	0		0	0.00	0.00	0.00	0.00	0.00
27					0	0		0	0.00	0.00	0.00	0.00	0.00
28					0	0		0	0.00	0.00	0.00	0.00	0.00
29	7.4	61	0.6	0.05	6	334	177	0	0.00	0.00	0.00	0.00	0.00
30					0	314		45809	0.00	0.00	0.00	0.00	14.38
31					0	404		884822	0.00	0.00	0.00	0.00	357.47

Month				Parameters							Daily Totals		
August	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	246		0				0.00	0.00
2					0	328		10230				0.00	3.36
3					0	302		5737				0.00	1.73
4					0	312		17				0.00	0.01
5	7.6	52	0.57	0.05	0	464	76	0				0.00	0.00
6					12	458		4009				0.05	1.84
7					6	482		1734307				10.41	835.94
8					5	482		3782333				18.91	1823.08
9					5	462		3532637				17.66	1632.08
10					8	442		3432326				27.46	1517.09
11					10	442		3483475				34.83	1539.70
12	8.3	35	0.16	0.05	12	442	73	2948919	103.21	0.47	0.15	35.39	1303.42
13					16	674		3166992				50.67	2134.55
14					13	590		2866407				37.26	1691.18
15					5	596		2886624				14.43	1720.43
16					9	474		3590266				32.31	1701.79
17					11	494		3067545				33.74	1515.37
18					0	0		2910730				0.00	0.00
19	7.4	85	0.5	0.05	28	272	239	2842906	241.65	1.42	0.14	79.60	773.27
20					0	0		3632256				0.00	0.00
21					5	186		3113942				15.57	579.19
22					5	356		-1850342				-9.25	-658.72
23					5	345		-3810326				-19.05	-1314.56
24					6	344		-2212704				-13.28	-761.17
25	7.6	67	0.6	0.05	5	386	142	-2512944	-168.37	-1.51	-0.13	-12.56	-970.00
26					0	0		4658170				0.00	0.00
27					0	0		8894016				0.00	0.00
28					0	0		9174816				0.00	0.00
29					0	0		6564413				0.00	0.00
30					0	0		4133203				0.00	0.00
31					0	0		5488819				0.00	0.00

Month				Parameters							Daily Totals		
Sept	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		9474624				0.00	0.00
2	7.2	61	0.48	0.05	6	280	242	9474624	577.95	4.55	0.47	56.85	2652.89
3					5	384		9474624				47.37	3638.26
4					5	410		10221980				51.11	4191.01
5					7	396		8439207				59.07	3341.93
6					5	414		6922887				34.61	2866.08
7					9	444		4624128				41.62	2053.11
8					22	450		5170176				113.74	2326.58
9	7.5	51	0.55	0.05	12	446	93	3861734	196.95	2.12	0.19	46.34	1722.33
10					12	424		3976042				47.71	1685.84
11					17	418		3575578				60.78	1494.59
12					0	0		2514240				0.00	0.00
13					0	0		1834790				0.00	0.00
14					0	0		-480635				0.00	0.00
15					0	0		158864				0.00	0.00
16	7.4	43	0.66	0.05	5	472	73	1110154	47.74	0.73	0.06	5.55	523.99
17					0	0		692470				0.00	0.00
18					0	0		123025				0.00	0.00
19					0	0		-206574				0.00	0.00
20					0	0		1608941				0.00	0.00
21					0	0		2206742				0.00	0.00
22					0	0		1573603				0.00	0.00
23	7.5	31	0.64	0.05	7	494	174	417139	12.93	0.27	0.02	2.92	206.07
24					0	0		1423181				0.00	0.00
25					0	0		634116				0.00	0.00
26					0	0		261256				0.00	0.00
27					0	0		224199				0.00	0.00
28					0	0		276998				0.00	0.00
29					0	0		403998				0.00	0.00
30	7.5	53	0.64	0.05	7	528	68	292261	15.49	0.19	0.01	2.05	154.31

Month				Parameters							Daily Totals		
Oct	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		449107				0.00	0.00
2					0	0		804444				0.00	0.00
3					0	0		495020				0.00	0.00
4					9	478		110376				0.99	52.76
5					5	486		1337472				6.69	650.01
6					5	426		682301				3.41	290.66
7	8.1	38	0.31	0.06	9	464	71	1518739	57.71	0.47	0.09	13.67	704.69
8					12	434		1595462				19.15	692.43
9					8	412		1190678				9.53	490.56
10					9	418		1963440				17.67	820.72
11					7	396		2331245				16.32	923.17
12					6	444		2438208				14.63	1082.56
13					5	450		2074291				10.37	933.43
14	8.1	51	0.34	0.05	10	456	80	1823213	92.98	0.62	0.09	18.23	831.39
15					9	440		1887322				16.99	830.42
16					5	430		1817942				9.09	781.72
17					11	464		1599091				17.59	741.98
18					9	472		1849478				16.65	872.95
19					10	470		1824509				18.25	857.52
20	8.1	54	0.48	0.05	11	452	80	1993075	107.63	0.96	0.10	21.92	900.87
21					7	326		2195856				15.37	715.85
22					8	350		2470435				19.76	864.65
23					5	226		8542195				42.71	1930.54
24					5	328		4823280				24.12	1582.04
25					5	316		4615661				23.08	1458.55
26					7	193		5988643				41.92	1155.81
27					5	346		3555792				17.78	1230.30
28	7.4	53	0.59	0.05	7	334	139	2762035	146.39	1.63	0.14	19.33	922.52
29					16	320		4285613				68.57	1371.40
30					7	312		792668				5.55	247.31
31					27	204		3723322				100.53	759.56

Month				Parameters							Daily Totals		
Nov	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		5273251				0.00	0.00
2					0	0		2009059				0.00	0.00
3					0	0		-2008454				0.00	0.00
4	7.3	72	0.66	0.05	18	192	153	-5835801	-420.18	-3.85	-0.29	-105.04	-1120.47
5					0	0		-6501254				0.00	0.00
6					0	0		0				0.00	0.00
7					0	0		0				0.00	0.00
8					0	0		0				0.00	0.00
9					0	0		0				0.00	0.00
10					0	0		0				0.00	0.00
11	7.2	59	0.45	0.05	28	266	164	0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14					0	0		0				0.00	0.00
15					0	0		0				0.00	0.00
16					0	0		0				0.00	0.00
17					0	0		0				0.00	0.00
18	7.1	80	0.7	0.05	5	174	189	0				0.00	0.00
19					0	0		0				0.00	0.00
20					0	0		0				0.00	0.00
21					0	0		0				0.00	0.00
22					0	0		0				0.00	0.00
23					0	0		0				0.00	0.00
24					0	0		0				0.00	0.00
25	7.3	73	0.44	0.05	12	266	168	0				0.00	0.00
26					0	0		0				0.00	0.00
27					0	0		0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00
30					0	0		0				0.00	0.00

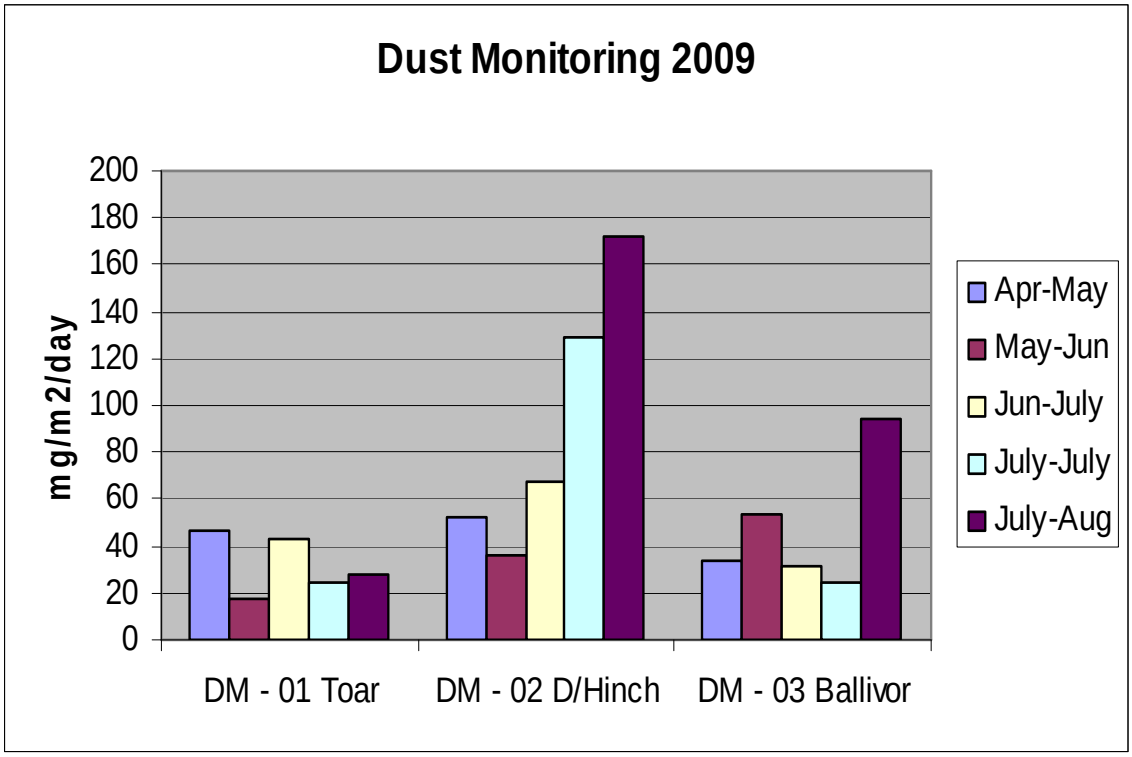
Month				Parameters							Daily Totals		
Dec	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2009		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2	7.3	50	0.62	0.05	5	408	109	0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5					0	0		0				0.00	0.00
6					0	0		0				0.00	0.00
7					0	0		0				0.00	0.00
8					0	0		0				0.00	0.00
9	7.4	44	0.58	0.05	5	426	114	0				0.00	0.00
10					0	0		0				0.00	0.00
11					0	0		0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14					0	0		0				0.00	0.00
15					6	310		0				0.00	0.00
16	7.4	54	0.68	0.05	5	136	102	2563661	138.44	1.74	0.13	12.82	348.66
17					0	0		3629750				0.00	0.00
18					0	0		3421181				0.00	0.00
19					0	0		1210291				0.00	0.00
20					0	0		749123				0.00	0.00
21					0	0		769219				0.00	0.00
22					0	0		976752				0.00	0.00
23	7.4	46	0.76	0.05	5	464	73	352313	16.21	0.27	0.02	1.76	163.47
24					0	0		-47434				0.00	0.00
25					0	0		-45576				0.00	0.00
26					0	0		-48436				0.00	0.00
27					0	0		-40003				0.00	0.00
28					0	0		-44142				0.00	0.00
29					0	0		-37437				0.00	0.00
30	7.1	49	0.25	0.05	23	204	136	-29756	-1.46	-0.01	0.00	-0.68	-6.07
31					0	0		1060342				0.00	0.00

APPENDIX 4

Dust Monitoring Results.

Dust Monitoring Results 2009
Licence:P0501-01
Works: Derrygreenagh

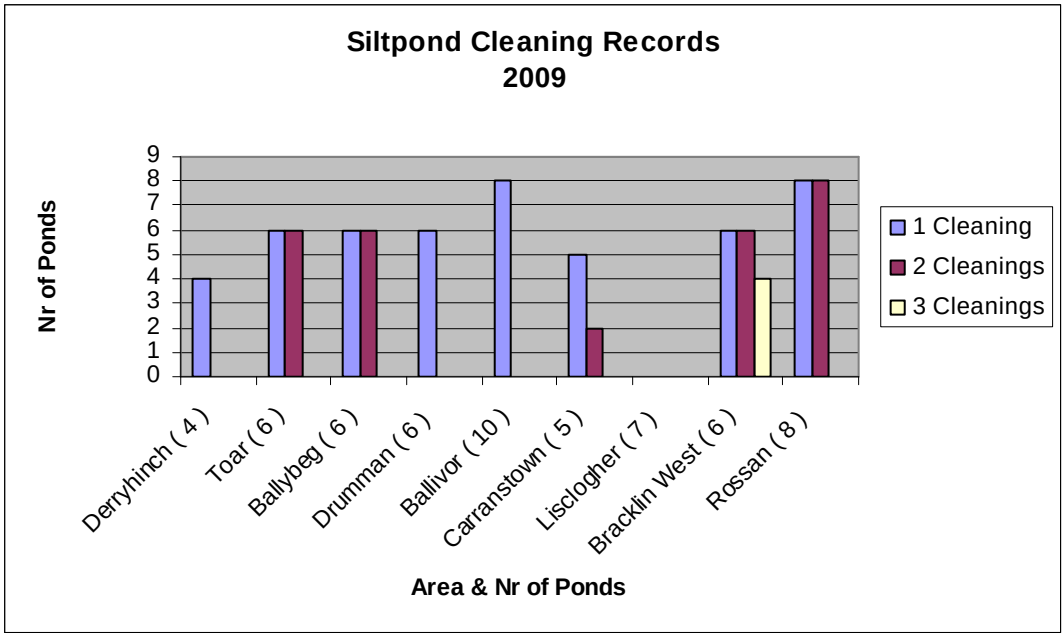
Sample Period	DM - 01 Toar	DM - 02 D/Hinch	DM - 03 Ballivor
Apr-May	46	52	34
May-Jun	18	36	53
Jun-July	43	68	31
July-July	25	129	25
July-Aug	28	172	94



APPENDIX 5

De-silting Programme Review.

Siltpond Cleaning Programme				
IPPC Licence: P0501-01				
Works: Derrygreenagh				
Bog Area & Nr Ponds	**1 Cleaning**	**2 Cleanings**	**3 Cleanings**	**4 Cleanings**
Derryhinch (4)	4			
Toar (6)	6	6		
Ballybeg (6)	6	6		
Drumman (6)	6			
Ballivor (10)	8			
Carranstown (5)	5	2		
Lisclogher (7)	0			
Bracklin West (6)	6	6	4	
Rossan (8)	8	8		



APPENDIX 6

AER & PRTR Data

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Annual Environmental Report 2010
P0501-01

March 2011

Bord na Móna today operates 5 main subsidiary companies in more than 20 locations throughout Ireland, the UK and USA. The principal businesses are in the Energy, Resource Recovery, Horticulture, Home Heating and Wastewater Treatment and Air Pollution Abatement markets. The company also engages in an extensive rehabilitation program to develop its peat lands in an environmentally sustainable manner.

Bord na Móna has long recognised the need to diversify its activities in order to secure a sustainable future. In this context we identified the energy and resource recovery sectors as appropriate areas of growth and development, given our assets, strengths and skills. Significant challenges face Ireland in meeting the country's needs to provide secure sustainable energy and manage waste while minimising the impact on the environment.

Bord na Móna is in a strong position to contribute to dealing with these challenges. We have a unique mixture of assets, experience and innovation which will enable us to cross-link our activities in energy, water and resource recovery to provide products and services which will meet Ireland's needs. We also have the capacity to become an exemplar for others to follow in these fields.
With this background we have scoped out a new vision for the future sustainable development of Bord na Móna.

Following on from our vision, we have developed a new mission for Bord na Móna which the Company is committed to achieving.
In 1934 the Turf Development Board was formed to ‘develop and improve the turf industry.' The experience of fuel shortages during the war re-enforced the Irish State's commitment to developing the country's bogs. In 1944 the TDB was asked to devise and submit a comprehensive programme, the outcome was the transformation in 1946 of the TDB into Bord na Móna. The Board was given a mandate to increase the use of peat as a fuel and in energy production. Markets for the use of moss peat in horticulture were also developed.
In 1990 Bord na Móna implemented a divisionalised and decentralised structure, designed to delegate responsibility downwards ensuring a sharper focus on each profit centre and a greater spirit of enterprise.

Group Vision

The vision statement defines the Company's purpose, in terms of its values.
Values are guiding beliefs about how things should be done.
The vision statement communicates both the purpose and values of Bord na Móna.
For employees, it gives direction about how they are expected to behave and inspires them to give their best. Shared with customers, it shapes the customers' understanding of why they should work with Bord na Móna.

Bord na Móna will seek solutions that optimise the creative energy and potential of the organisation, driven by long term goals and the organisation's vision and mission.
In this context our devolved business units will align their vision and strategic planning with the global direction provided.

Consistent with our vision, innovation will once again return to the core of everything we do. We will capitalise on opportunities to cross fertilise our unique range of skills and technologies that add value and are socially and environmentally sustainable.
Greater focus will be placed on managing and developing our land assets in a responsible and sustainable manner. Our award winning initiatives at Lough Boora (Co. Offaly) and Oweninny (Co Mayo), provide shining examples of what can be achieved

Group Mission

We conduct our affairs with openness, honesty and integrity.
We are Ireland's leading environmentally responsible integrated utility service provider encompassing electricity, heating solutions, resource recovery, water, horticulture and related services.
We capitalise on international opportunities where we have a competitive advantage.
We achieve continuing growth through superior customer service, outstanding quality and innovation delivered through the excellence and commitment of our people.
We engage in sustainable profitable business in the communities we serve, which is rewarding and challenging for employees and other stakeholders.

Contents

3.0 Management of the Activity

3.1 Environmental Management Programme Report

3.2 Environmental Management Programme Proposal

3.3 Environmental Expenditure

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

4.2 Bunding Programme

4.3 Boiler Combustion Efficiency

4.4 Resource Consumption Summary

4.5 Report on de-silting Programme

4.6 Bog Development and Operational Programme

4.7 Bog Rehabilitation Report

4.8 Archaeological Report

5.0 Summary

Appendix 1: Emissions to Water Monitoring Results. (Bogs)

Appendix 2: Emissions to Water Monitoring Results. (Yards)

Appendix 3: Emissions to Water Monitoring Results. (Composite)

Appendix 4: Emissions to Air Monitoring Results.

Appendix 5: De-silting Programme Review

1.0 Introduction

1.1 IPPC Licence No 501-01

1.2 Name & Location of Site

Name:	Bord na Mona Energy Limited.
Address:	Derrygreenagh Works, Rochfortbridge, Mullingar, Co. Westmeath
Telephone No:	044 9222181
Contact Name:	Eamonn Mulhall
Position:	Resource Manager
National Grid Reference:	E249450 N 238140

1.3 Description of Activities

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:
Milling.
Harrowing.
Ridging.
Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

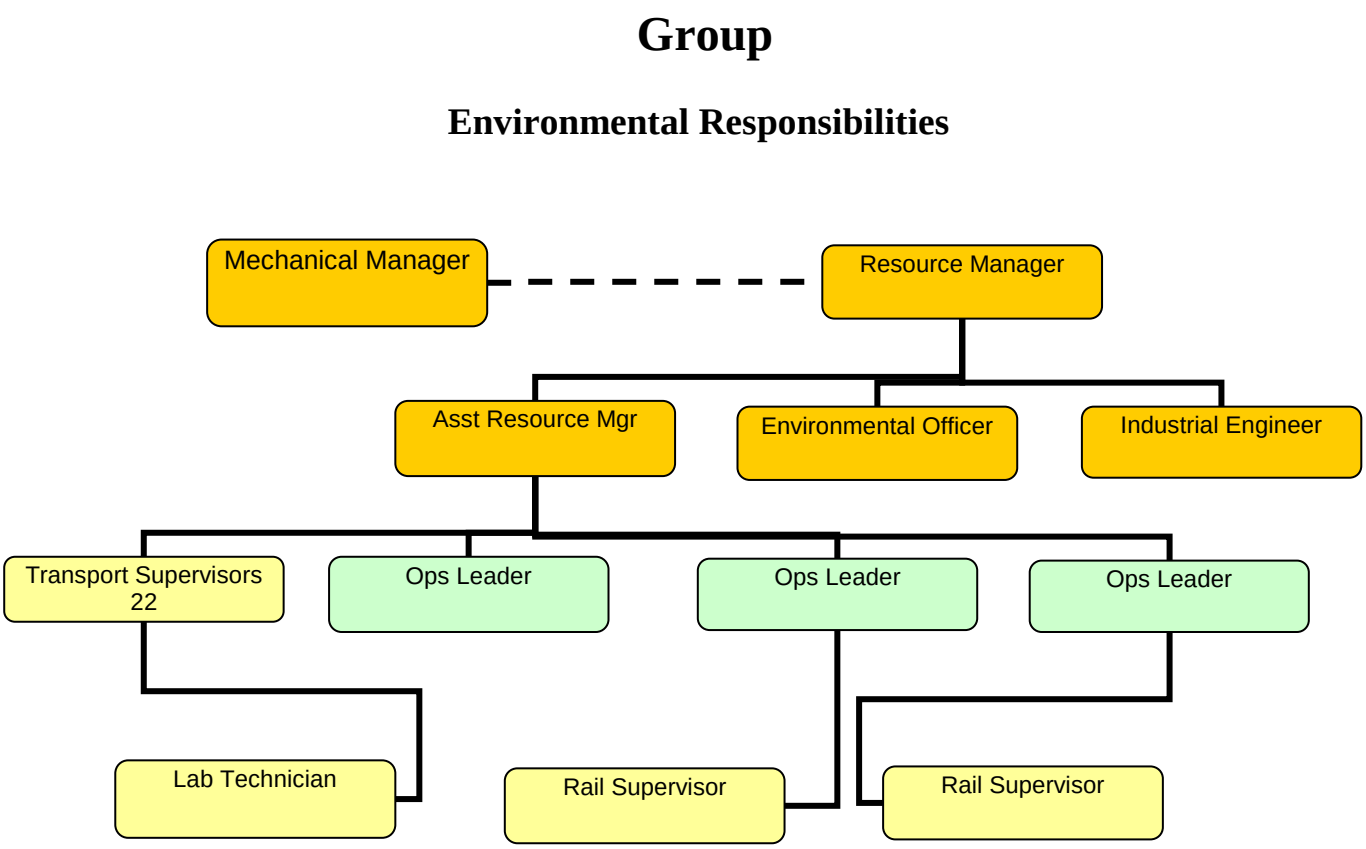
Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways or via road to one of the following locations.
Power station
Horticultural Factory.
Briquette Factory.

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.



1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its business in an environmentally sensitive value.

Bord na Mona Energy Limited operates an environmental management system specifically addressing the following impacts.

Discharge to water.
Emissions to atmosphere.
Waste disposal.
Use of natural resources.
Noise, vibration, odour, dust and visual effects.
Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its Contents are brought to the attention of all employees.

2.0 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

Surface Waters

Comment

Surface water monitoring was carried out four times during the reporting period. In total analysis was carried out at six different locations. The locations are as follows, Derryhinch @ SW4, Ballybeg @ SW15, Bracklin @ SW26, Carranstown @ SW31, Rossan @ SW46 and Carrick @ SWA. As the latter is a comparatively new pond it was given a letter as opposed to a number for identification purposes. The parameters measured during each sampling event were as follows.
Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD.
In general results were constant across all parameters at each monitoring location. September was the wettest month with 169.3mm of rainfall recorded and April the driest with 37.3 mm recorded. Flow rates appear to have had no adverse effect on suspended solids results.
The quarterly grab sampling programme was 96% compliant for the year, which is down on previous years which were fully compliant. This was due to one non-compliance discussed below.

pH values were between 6.5 and 8.1, with emission limit values being of the range 6 and 9. pH values of waters emanating from production peatlands appear to remain constant and in line with background levels. On average pH values were 0.1 pH units below 2009 levels.

Suspended solids varied from 5mg/l to 115mg/l and would depend on activities (piping, ditching) etc in the catchments at the time of sampling. As mentioned above the 115 mg/l result did constitute a non-compliance and was reported to the Agency. Investigations showed that drainage works were being carried out upstream of the sample point at the time of sampling. Although there was one non-compliance in 2010 in relation to suspended solids, the average figure was down on 2009.

Ammonia values ranged from 0.07 mg/l and 2.4 mg/l.The I/PV for A3 waters is of the range 4mg/l. It is however not unusual for surface waters emanating from production peatlands to be slightly elevated. Overall ammonia levels are slightly up on 2009 figures. With the average being 1.6 mg/l in 2010 as opposed to 0.93 mg/l in 2009.

COD values ranged from 37 mg/l to 135 mg/l. Results at SW15 indicate an overall reduction, with the average COD level below 2009 levels. Overall COD results were below 2009 levels also. The I/PV for A3 waters is of the range 40mg/l. Four results were above the Bord na Mona set trigger level of 100 mg/l, however investigations should no evidence of any contributory factors causing such results. Reduced flow and increased temperature most definitely impinge on COD results.

Flow rates were well down on 2009 sampling events. This in part is dependent on the climatic conditions on the chosen day of sampling. Also 2010 was a dryer year overall with 875 mm of rainfall recorded as opposed to 1052 mm in 2009. April was the driest month with 37.3mm and September the wettest with 169.3mm of rainfall recorded.

Total Phosphorus results were consistently low and ranged from 0.05 mg/l to 0.16 mg/l. On average the total phosphorus result was higher than 2009, the difference being minute (0.014 mg/l).

The sampling locations will remain the same during 2011.
At the request of the Agency, analysis results are now demonstrated in both tabular and graphical format.

Surface Water Results are attached in Appendix 1.

2.1.2 Yard Discharges

Yard Runoff

Comment

Yard runoff monitoring took place at two locations during the reporting period. Derrygreenagh @ SWE 2 and Rossan @ SWE 1. Sampling frequency was monthly and COD was the parameter requiring analysis. Results were very satisfactory for the period at both locations; with results consistently well below trigger levels with the exception of the September result at Derrygreenagh which exceeded trigger levels. Investigations found machinery had been washed down immediately prior to sampling, subsequent results were very satisfactory. Overall the average result at each location was well below those of 2009.
Although not having a specific licence emission limit value, a trigger level of 100 mg/l has been set in relation to COD results, along with the weekly visual inspections.

Sampling will continue at the same locations during 2011.

Yard Emission Results are attached in Appendix 2.

2.1.3 Composite Sampler Report

Composite Sampling

Comment

The composite sampler has been operating at Toar Bog SW15 during the reporting period.The parameters measured were Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD, with Suspended solids being the only parameter with an emission limit value of (35mg/l). The sampler worked well during the reporting period. At the direction of the Agency the sampler was calibrated by an independent contractor. Due to extremely low temperatures the sampler and indeed the outfall on which the sampler is situated became frozen during parts of November

and December. In general results were satisfactory with no non-compliance's being recorded for the period. Analysis of the 2009 results compared with the 2010 results indicate no great difference in results in relation to pH, Ammonia and Phosphorus, with slightly lower COD and higher Suspended Solids in 2010.
The composite sampler will remain at this location for the foreseeable future.

Composite Sampler Results are contained in Appendix 3.

2.1.4 Emissions to Water Non-compliance's

Emissions to Water Non-Compliances 2010		
Licence: P0501-01		
Works: Derrygreenagh		
Type	**Non-Compliances**	**Location / SW Nr**
Composite	0	
Quarterly Grab	1	Ballybeg SW 15
Monthly Yard	0	
Totals	**1**	

There was one non-compliance's in relation to elevated suspended solids as a result of quarterly grab sampling. A corrective action was submitted and was to the satisfaction of the Agency.

2.2 Emissions to Air

2.2.1 Dust Monitoring

Comment

Dust monitoring was carried out on five occasions between April and September. Each monitoring event lasted between 28 and 32 days and the Bergerhoff method of collection was used.
The monitoring locations were as follows, Toar DM01, Derryhinch DM02 and Ballivor DM03.
All monitoring results were within the emission limit value of 350mg/m^2/day.
Sampling will continue at the same locations during 2011.

Dust monitoring results are contained in appendix 4.

2.2.2 Emissions to Air Non-compliance's

Dust Non-Compliances 2010	
Licence:P0501-01	
Works: Derrygreenagh	
Location / DM Nr	**Non-Compliances**
N/A	
Total	**0**

Dust results for 2010 were fully compliant.

2.3 Waste Arisings

2.3.1 Non-Hazardous Waste

Non Hazardous Waste Data 2010				
Licence: P0501-01				
Works: Derrygreenagh				
Type	**Tonnes**	**EWC Code**	**Contractor**	**Licence Nr**
Skips	17.46	20 03 01	AES	053/OY/39/02
Wheelie Bins	6.27	20 03 01	AES	053/OY/39/02
Polyethlene	122.78	02 01 04	Eco Plastics	WFP-CE-08-0005-01
Polyethlene	60.00	02 01 04	Leinster Environmentals	205/2005
Scrap Steel	28.02	17 04 07	AES	053/OY/39/02
Timber Pallets	7.12	15 01 03	AES	053/OY/39/02
Silt Pond Cleanings	222.46	01 01 02	Bord na Mona	IPPC P0501-01
Peat Screenings	0.00	01 01 02	Bord na Mona	IPPC P0501-01
Totals	**464.11**			

Note: Polyethylene and Steel are recycled. Skips go to an AES Mixed Recycling Facility.

2.3.2 Hazardous Waste

Hazardous Waste Data 2010					
Licence: P0501-01					
Works: Derrygreenagh					
Type	**Tonnes**	**EWC Code**	**Contractor**	**Licence Nr**	**Destination**
Waste Oil	11.60	13 02 05	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oil Filters	0.91	16 01 07	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oily Rags	0.39	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Waste Grease	0.40	13 08 99	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Lead Acid Batt	2.97	16 06 01	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Parts Wash	1.51	11 01 13	Safety Kleen, Tallaght, Dublin	99-1	Dublin
Waste Paint	1.56	15 01 10	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Total	**19.34**				

2.4 Energy and Water Consumption

2.4.1 Energy

The table below shows energy consumption for the year. It does not include water as it is only used in offices, canteens and workshops on a domestic basis. It is not used as part of the production process.

Energy Consumption 2010				
Licence: P0501-01				
Works: Derrygreenagh				
Units	**Diesel (Litres)**	**Petrol (Litres)**	**Electricity (Units)**	**Peat Briquettes (Tonnes)**
Totals	827357.03	0	421733	20
MW Hours	8142.5	0	421.733	100
Total MW Hours	**8664.2**			

Note: Bord na Mona have in the reporting period, established an Energy Management Team. The goal of the team is to reduce overall energy consumption by implementing an array of energy saving initiatives. Bord na Mona Mountdillon, P0504-01 has been selected as a location where the energy standard EN 16001 is to be implemented. Should this prove successful, the standard will be introduced at all Bord na Mona facilities.

2.5 Environmental Incidents and Complaints

2.5.1 Incidents

Environmental Incidents 2010	
Licence: P0501-01	
Works: Derrygreenagh	
	Number
Incidents	1
Requiring corrective action	1
Category	
Water	1
Air	
Procedural	0
Miscellaneous	0
Total	**1**

There was one environmental incident. This related to a bog fire at Derryarkin bog, the Agency was informed.

2.5.2 Complaints

Environmental Complaints 2010	
Licence:P0501-01	
Works: Derrygreenagh	
	Number
Complaints	0
Requiring corrective action	0
Category	
Water	0
Air	0
Procedural	0
Miscellaneous	
Total	**0**

No complaints of an environmental nature were received during the reporting period.

3.0 Management of the Activity

3.1 Achievement of Objectives & Targets 2010

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Status** In total 82 employees received environmental training. **Hydraulic Harrows.** One Hydraulic harrow will be deployed at Derryhinch bog during the 2010 production season. **Status** No new Hydraulic Harrows were deployed during the 2010 production season. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations. **Status** Headland peat was collected as part of the peat lifting process and included in general peat return figures.

Project 2: Waste Management	**Waste Streamlining.** Following the purchase by Bord na Mona of AES Ltd, meetings with that company's management will be ongoing to see how best Bord na Mona's needs can be catered for. Key account managers dedicated to Bord na Mona have been requested and are due to be in place in 2010. **Status** Ongoing The service included the co-ordination of all waste streams ensuring the correct waste stream was dealt with by the appropriate waste provider. The service also included the issuing of quarterly reports.
Project 3: Minimisation of Suspended Solids.	**On Site Inspections.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Status** In total 82 employees received environmental training.
Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** Increased bund provisions where required, will be provided, in 2010. **Status** A new bunded lockup oil store was provided at Derryhinch Bog. An oil spill kit was provided at Ballivor Bog. In addition to this additional containment booms were purchased and are held in storage as backup to existing stocks.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing. **Status** In total 182.78 tonnes of polyethylene was sent for recycling in 2010.
Project 6: Mini Sod Project	**Carry out Trial.** On a trial basis switch from milled peat to mini sod production at a portion of Drumman bog. Part of this project is to mitigate against dust nuisance, as the area is potentially dust sensitive. **Status** This project didn't take place as the location proved to be unsuitable.

3.2 Environmental Management Programme Proposal 2011

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Continue to train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. The training programme will be revised in 2011. **Hydraulic Harrows.** Hydraulic harrows will be deployed at Derryhinch, Ballivor and Rossan bog during the 2011 production season. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations.
Project 2: Waste Management	**Waste Streamlining.** Waste streamlining is a project we are particularly interested in pursuing and hope to reduce wastes in the future and be more efficient in dealing with all aspects of waste management
Project 3: Minimisation of Suspended Solids.	**Training.** Continue to train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. The training programme will be revised in 2011.
Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** Increased bund provisions where required, will be provided, in 2011.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.
Progect 6: Energy Management	**Review of Energy Aspects** As part of an energy management process, a review of energy aspects will take place identifying the significant energy users of the licensee.

3.3 Environmental Expenditure

Environmental Expenditure 2010	
Licence:P0501-01	
Works: Derrygreenagh	
Description	**Cost €**
Capital Costs	26,720.00
Silt Control	91,420.00
Analytical & Consultancy Costs	9,553.00
EPA Fees	12,584.00
Bog Rehabilitation	84,528.00
Waste Management	36,353.00
Total	**261,158.00**

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

It is proposed to continue monitoring at the same locations in 2011 as were monitored in 2010. Should it be deemed necessary for any reason during the coming year additional monitoring will be initiated. Safe access to all monitoring locations will be maintained. Currently Bord na Mona are reviewing all silt ponds for upgrade, installation of weirs, flap valves etc in line with the requirements of the South Eastern & Eastern River Basin Management Plans.

4.2 Bunding Programme

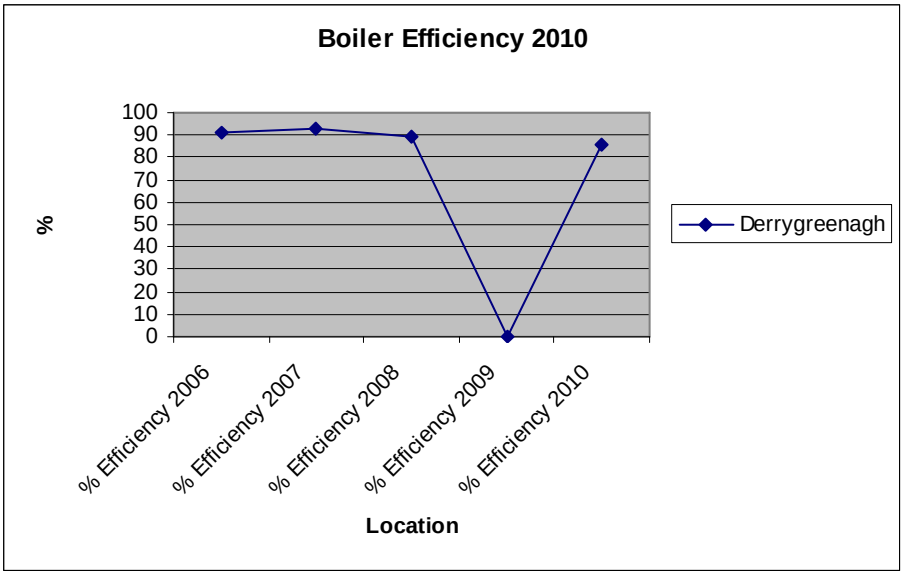
Bund Locations & Numbers Derrygreenagh Works					
IPPC Licence: P0501-01					
Location	**Bund Number**	**Last Tested**	**Status Pass/Fail**	**Repair Date**	**Next Test Due**
Derrygreenagh Main Bund	501-37-01	Jan-11	Pass	N/A	Jan-13
Derrygreenagh Waste Oil Bund	501-37-02	Jan-11	Pass	N/A	Jan-13
Ballivor Factory Bund	501-08-03	Nov-09	Pass	N/A	Nov-11
Rossan Tippler Bund	501-07-04	Feb-10	Pass	N/A	Feb-12

As is evident from the table, no bunds in the licence area required testing during 2010. The next due date for testing is November 2011 at Balivor Factory Bund.

4.3 Boiler Combustion Efficiency

As mentioned in the 2009 AER a new boiler had been fitted at Derrygreenagh which was not tested. A test was carried out in 2010 the results of which are included in the table below along with results from the boiler that was previously at the site.

Boiler Efficiency Test 2010					
Licence: P0501-01					
Works: Derrygreenagh					
Boiler Location	**% Efficiency 2006**	**% Efficiency 2007**	**% Efficiency 2008**	**% Efficiency 2009**	**% Efficiency 2010**
Derrygreenagh	90.71	93.3	88.9	New Boiler fitted	86



4.4 Resource consumption summary

Resource Consumption 2010			
Licence: P0501-01			
Works: Derrygreenagh			
Product	**Tonnes Produced**	**Tonnes Sold**	**Customer**
Milled Peat	190,896	124,718	ESB
Moss	84,853	65,634	Horticulture
Turf	5000	1000	Fuels
Turf	66	66	Private
Totals	**280,815**	**191,418**	N/A

Proposed Production 2011	
Licence: P0501-01	
Works: Derrygreenagh	
Product	**Proposed Target**
Milled Peat	128,246
Moss	70,000
Turf Private	66
Turf Fuels	0
Totals	**198,312**

4.5 De-Silting Report

Silt pond cleaning went well during the reporting period with all ponds being cleaned twice with the exception of Lisclogher where the ponds were cleaned once. This was due to the fact that there is no activity at the location and fortnightly inspections demonstrated the ponds there to be continuously empty.
The inspections would also have dictated which ponds required additional cleanings.

A table and graph of the cleaning schedule is attached in appendix 5.

4.6 Bog Development and Operational Programme

There was some small scale development in Carranstown Bog (Ballivor Group). Works included the reinstatement of production bog which had been out of production for 15 years. Existing silt ponds are servicing the area which extends to approximately 35 hectares. This work will continue during 2011 with production planned for the back end of the 2011 season.

4.7 Bog Rehabilitation Report

2010: Sites surveyed in the Derrygreenagh Group include Derryhinch, Drumman, Derryarkin and Ballybeg. Habitat maps and reports have been outlined for all sites and draft rehabilitation plans will be developed in 2011 for all bog areas surveyed to date. Rehabilitation trials to determine the effectiveness of seeding and fertilisers were established on Drumman Bog. These will be monitored over the coming years. The ecology survey will continue for Derrygreenagh in 2011. Consultation with local community groups, NPWS and Offaly Heritage Forum is ongoing.
The clearance of historical polyethylene continued at Rossan bog. A total of 50.6 tonnes was removed for recycling. Clearance works will continue during summer 2011. It is estimated that the site will be cleared of historic polyethylene by the years end.

4.8 Archaeological Report

There was no archaeology work carried during the reporting period.

5.0 Summary

The Derrygreenagh Group of Bogs endeavour to comply with all environmental issues. In 2010 we had no non-compliance regarding suspended solids at our composite sampler at Toar bog. Although we had a non compliance during a quarterly grab sampling event in Ballybeg, silt pond cleaning went reasonable well this year. All areas were cleaned at least twice except for Lisclogher which is not in production so silt runoff was minimal. Every effort will be made to continue this trend into 2011. Dust sampling was conducted on five occasions again this year, two more than our licence requires, with no sample over the limit. This along with the provision of specialist machinery in the coming year should further aid us in our endeavours to minimise dust emissions. Staff training in Environmental Management took place this year with 82 people trained. This will continue in the coming year, with the current training programme being revised.

There were no complaints received during 2010. Waste streamlining is a project we are particularly interested in pursuing and hope to reduce wastes in the future and be more efficient in dealing with all aspects of waste management.Bord na Mona Energy Ltd are represented on the Management Group of both the Shannon River and Eastern River Basin District Management Systems, set up under the Water Framework Directive, and on the Steering Group of the Catchment Management of the River Barrow.

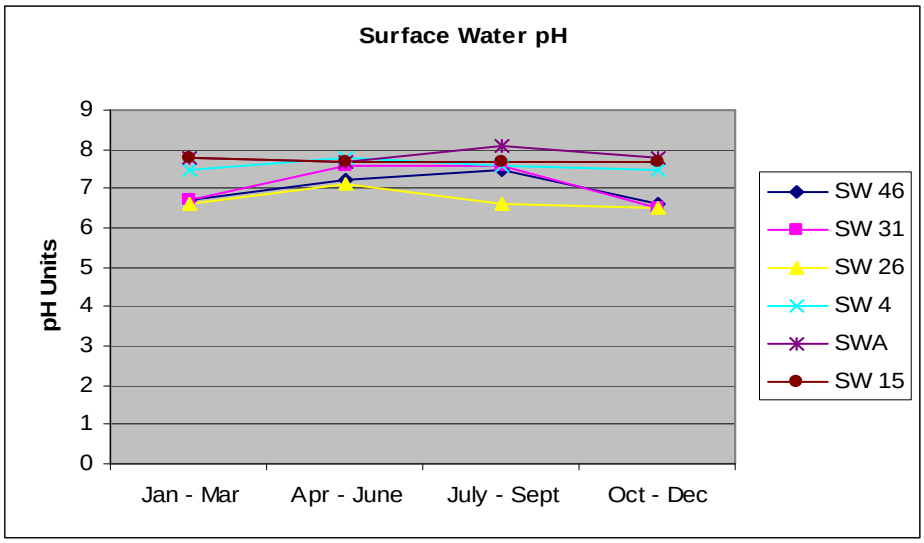
Bord na Mona would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection methods.

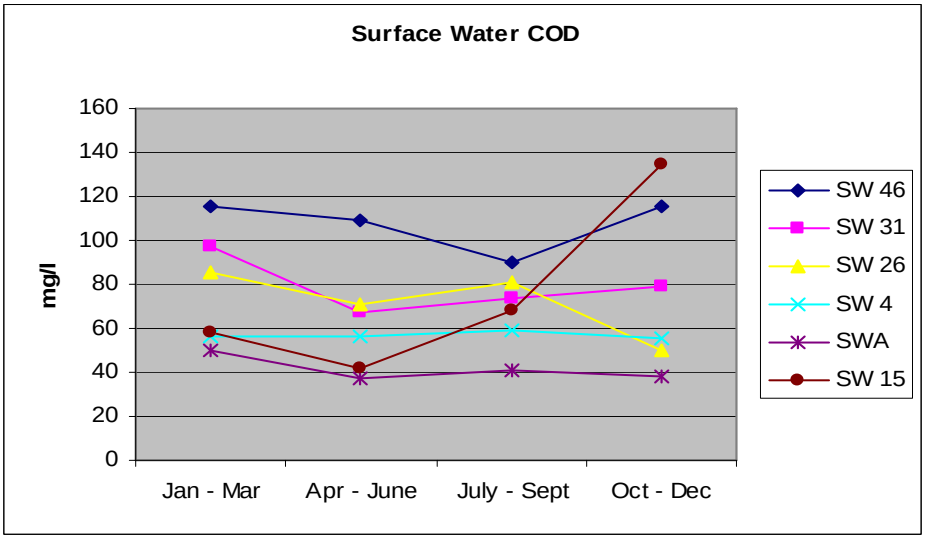
APPENDIX 1

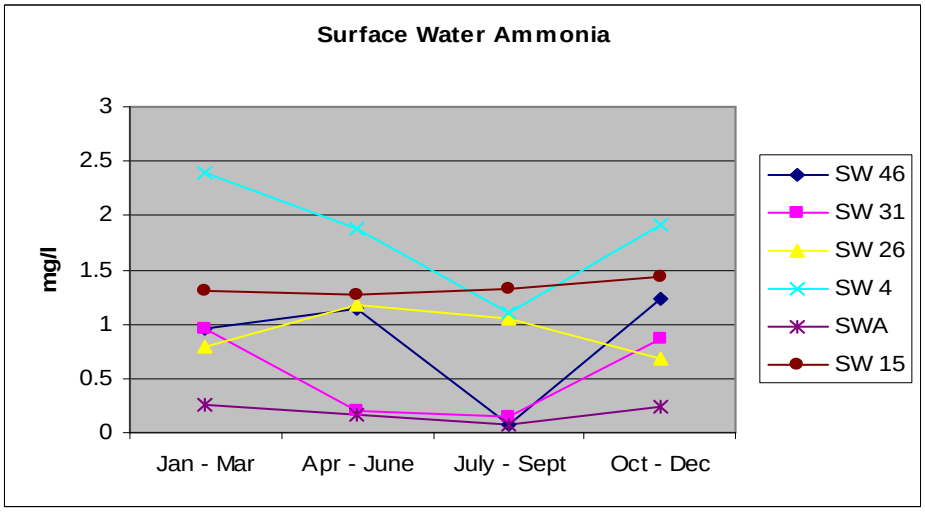
Surface Water Discharge
Monitoring Results
Bogs

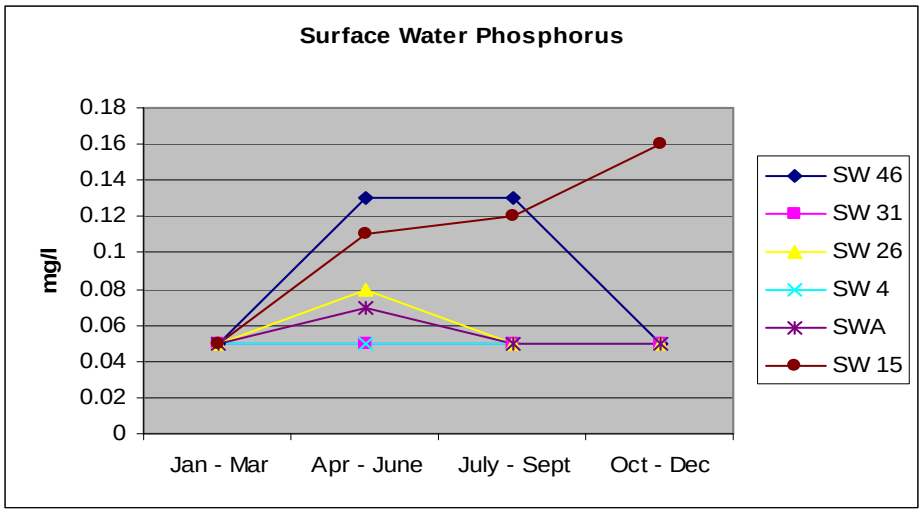
BNM Group:	Derrygreenagh		2010	
IPC Licence No.	501			
pH (units)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	6.7	7.2	7.5	6.6
SW 31	6.7	7.6	7.6	6.5
SW 26	6.6	7.1	6.6	6.5
SW 4	7.5	7.8	7.6	7.5
SWA	7.8	7.7	8.1	7.8
SW 15	7.8	7.7	7.7	7.7
COD (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	115	109	90	115
SW 31	97	67	74	79
SW 26	85	71	81	50
SW 4	56	56	59	55
SWA	50	37	41	38
SW 15	58	42	68	135
Ammonia as N (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	0.96	1.14	0.07	1.24
SW 31	0.95	0.21	0.14	0.87
SW 26	0.8	1.17	1.05	0.69
SW 4	2.4	1.87	1.11	1.91
SWA	0.26	0.16	0.08	0.24
SW 15	1.31	1.27	1.32	1.44
Total Phosphorus (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	0.05	0.13	0.13	0.05
SW 31	0.05	0.05	0.05	0.05
SW 26	0.05	0.08	0.05	0.05
SW 4	0.05	0.05	0.05	0.05
SWA	0.05	0.07	0.05	0.05
SW 15	0.05	0.11	0.12	0.16

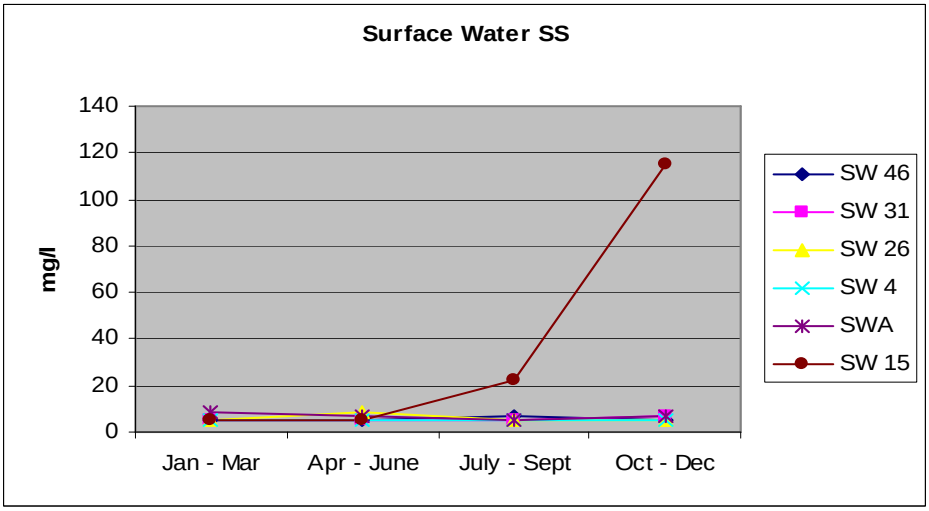
Suspended Solids (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	5	5	7	5
SW 31	5	5	5	7
SW 26	5	9	5	5
SW 4	5	5	5	5
SWA	9	7	5	7
SW 15	5	5	22	115
Total Solids (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	192	290	328	162
SW 31	220	202	154	68
SW 26	115	332	214	96
SW 4	398	274	374	350
SWA	470	544	420	418
SW 15	436	514	492	500
Colour (pt Co Units)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	337	338	212	415
SW 31	367	165	207	330
SW 26	241	158	325	199
SW 4	160	113	140	143
SWA	95	66	56	80
SW 15	85	72	89	71
Flow (l/s)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	10	2.6	4.6	7.5
SW 31	1.5	1.9	1.5	6.3
SW 26	6.2	2.6	3.4	9.5
SW 4	16.1	6.1	2.6	14.5
SWA	0	1.7	2.2	6.2
SW 15	37	24.4	22.6	10.3

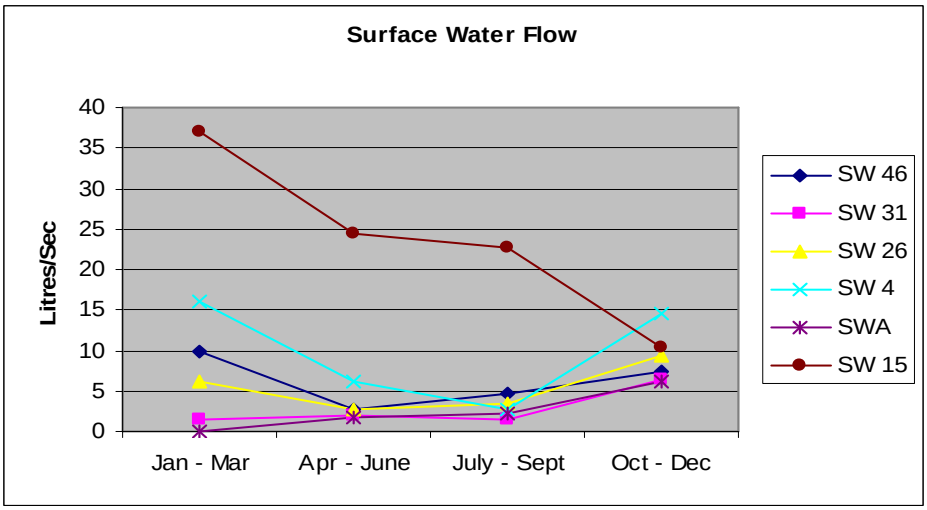

Surface Water pH
pH Units
9
8
7
6
5
4
3
2
1
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SWA
SW 15


Surface Water COD
mg/l
160
140
120
100
80
60
40
20
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SWA
SW 15


Surface Water Ammonia
mg/l
3
2.5
2
1.5
1
0.5
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SWA
SW 15


Surface Water Phosphorus
mg/l
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SWA
SW 15


Surface Water SS
mg/l
140
120
100
80
60
40
20
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SWA
SW 15

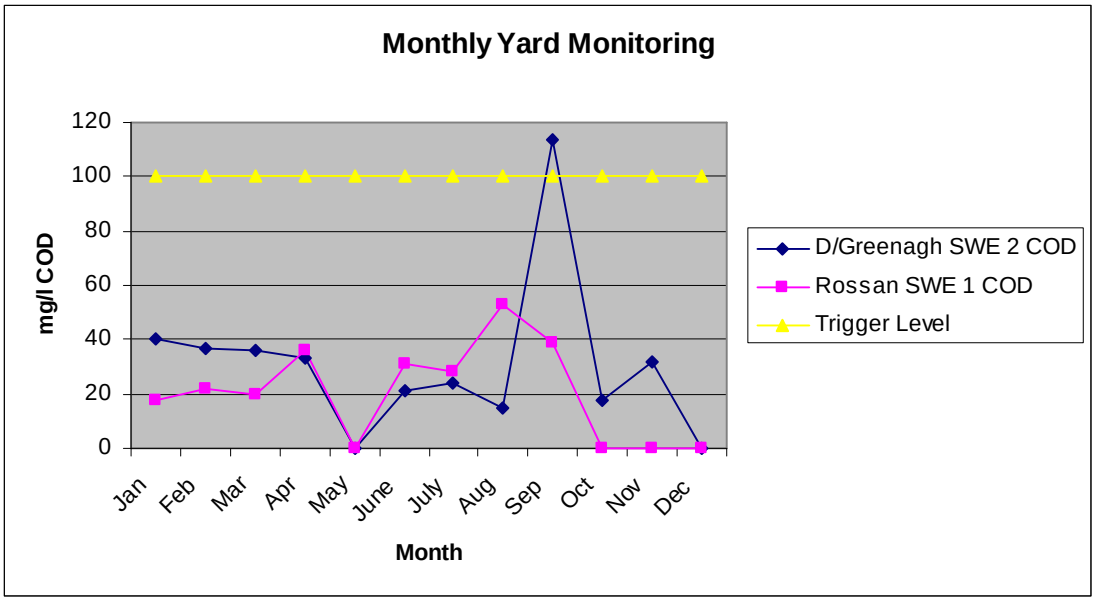

Surface Water Flow
Litres/Sec
40
35
30
25
20
15
10
5
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SWA
SW 15

APPENDIX 2

Surface Water Discharge
Monitoring Results
Yards

Yard Discharge Results 2010		
Licence: P0501-01		
Works: Derrygreenagh		
Month	**D/Greenagh SWE 2 COD**	**Rossan SWE 1 COD**
Jan	40	18
Feb	37	22
Mar	36	20
Apr	33	36
May	0	0
June	21	31
July	24	28
Aug	15	53
Sep	114	39
Oct	18	0
Nov	32	0
Dec	0	0

Note: 0 denotes no flow at emission point on day of sampling



APPENDIX 3

Surface Water Discharge
Monitoring Results
Composite

Month				Parameters							Daily Totals		
January	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		3072211				0.00	0.00
2					0	0		1883434				0.00	0.00
3					0	0		1427846				0.00	0.00
4					0	0		1292717				0.00	0.00
5					0	0		1190851				0.00	0.00
6	7.6	73	0.78	0.05	5	463	71	1180742	86.19	0.92	0.06	5.90	546.68
7					0	0		1128816				0.00	0.00
8					0	0		1042675				0.00	0.00
9					0	0		993341				0.00	0.00
10					0	0		968285				0.00	0.00
11					0	0		902794				0.00	0.00
12					0	0		798103				0.00	0.00
13	7.3	44	0.56	0.06	5	212	108	867110	38.15	0.49	0.05	4.34	183.83
14					19	206		1688170				32.08	347.76
15					5	188		3035232				15.18	570.62
16					12	192		4706554				56.48	903.66
17					5	154		7739366				38.70	1191.86
18					5	170		1796256				8.98	305.36
19					5	174		1671840				8.36	290.90
20	7.8	55	1.82	0.05	5	196	130	1442794	79.35	2.63	0.07	7.21	282.79
21					24	194		1520640				36.50	295.00
22					5	176		3463085				17.32	609.50
23					5	316		10881220				54.41	3438.47
24					5	356		8046346				40.23	2864.50
25					14	322		7047821				98.67	2269.40
26					5	368		6588259				32.94	2424.48
27	7.8	52	0.69	0.05	5	276	89	6201273	322.47	4.28	0.31	31.01	1711.55
28					5	368		5983459				29.92	2201.91
29					5	358		5950541				29.75	2130.29
30					6	410		5771779				34.63	2366.43
31					10	320		5286125				52.86	1691.56

Month				Parameters							Daily Totals		
Feb	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					24	404		4960483				119.05	2004.04
2					22	414		4914000				108.11	2034.40
3	7.5	57	0.65	0.05	5	338	153	5378832	306.59	3.50	0.27	26.89	1818.05
4					5	328		6936969				34.68	2275.33
5					12	181		7537363				90.45	1364.26
6					18	378		12522820				225.41	4733.63
7					18	442		7610544				136.99	3363.86
8					16	426		6567264				105.08	2797.65
9					5	424		6219158				31.10	2636.92
10	7.4	41	0.72	0.05	6	428	77	6087312	249.58	4.38	0.30	36.52	2605.37
11					11	468		5337533				58.71	2497.97
12					7	400		5087491				35.61	2035.00
13					6	400		5012928				30.08	2005.17
14					7	454		4893523				34.25	2221.66
15					5	442		4706813				23.53	2080.41
16					7	414		4756406				33.29	1969.15
17	7.6	37	0.75	0.05	6	458	71	4669834	172.78	3.50	0.23	28.02	2138.78
18					6	434		4519238				27.12	1961.35
19					17	468		5850317				99.46	2737.95
20					18	412		7057498				127.03	2907.69
21					11	452		6229008				68.52	2815.51
22					34	440		6349018				215.87	2793.57
23					10	442		6096557				60.97	2694.68
24	7.5	51	0.76	0.05	8	353	106	6028474	307.45	4.58	0.30	48.23	2128.05
25					8	414		6713367				53.71	2779.33
26					10	380		7066656				70.67	2685.33
27					11	396		7119619				78.32	2819.37
28					9	440		6810480				61.29	2996.61

Month				Parameters							Daily Totals		
March	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					9	416		6506957				58.56	2706.89
2					8	396		6040311				48.32	2391.96
3	7.6	47	0.8	0.05	8	406	77	5247936	246.65	4.20	0.26	41.98	2130.66
4					12	106		5190999				62.29	550.25
5					10	94		3606163				36.06	338.98
6					10	92		4808247				48.08	442.36
7					9	456		3561322				32.05	1623.96
8					23	460		4427309				101.83	2036.56
9					13	430		3826656				49.75	1645.46
10	7.8	48	0.78	0.05	12	430	73	3337286	160.19	2.60	0.17	40.05	1435.03
11					8	216		2819923				22.56	609.10
12					7	451		3992544				27.95	1800.64
13					7	448		4841424				33.89	2168.96
14					8	484		4899830				39.20	2371.52
15					7	426		4744137				33.21	2021.00
16					6	454		5473267				32.84	2484.86
17	7.5	27	0.79	0.05	9	440	60	4841078	130.71	3.82	0.24	43.57	2130.07
18					7	448		5467910				38.28	2449.62
19					8	448		5438448				43.51	2436.42
20					11	460		5194886				57.14	2389.65
21					11	451		6386429				70.25	2880.28
22					9	464		5281459				47.53	2450.60
23					8	474		5101315				40.81	2418.02
24	7.4	55	0.7	0.05	10	442	86	4601319	253.07	3.22	0.23	46.01	2033.78
25					8	244		5588093				44.70	1363.49
26					11	50		5579280				61.37	278.96
27					8	304		6741274				53.93	2049.35
28					10	98		6500563				65.01	637.06
29					8	346		6574090				52.59	2274.64
30					6	50		7700400				46.20	385.02
31	7.2	60	0.57	0.06	6	68	155	10964320	657.86	6.25	0.66	65.79	745.57

Month				Parameters							Daily Totals		
April	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					8	244		8590061				68.72	2095.97
2					11	50		8698752				95.69	434.94
3					8	304		9655200				77.24	2935.18
4					10	98		8973504				89.74	879.40
5					8	346		7971264				63.77	2758.06
6					6	50		7479821				44.88	373.99
7	7.2	60	0.57	0.06	6	68	155	8503747	510.22	4.85	0.51	51.02	578.25
8					7	446		4274986				29.92	1906.64
9					5	460		6481210				32.41	2981.36
10					5	468		7791379				38.96	3646.37
11					5	460		7266499				36.33	3342.59
12					5	498		6659971				33.30	3316.67
13	7.5	32	0.68	0.05	5	500	67	6386083	204.35	4.34	0.32	31.93	3193.04
14					7	466		6411225				44.88	2987.63
15					6	462		6082819				36.50	2810.26
16					8	462		5815411				46.52	2686.72
17					6	458		5459098				32.75	2500.27
18					5	462		5361639				26.81	2477.08
19					6	478		5175619				31.05	2473.95
20					7	454		5030467				35.21	2283.83
21	8.1	40	0.08	0.05	5	460	63	4872787	194.91	0.39	0.24	24.36	2241.48
22					8	490		4610909				36.89	2259.35
23					8	375		4511808				36.09	1691.93
24					7	478		4835808				33.85	2311.52
25					6	468		5255712				31.53	2459.67
26					5	474		4911667				24.56	2328.13
27					7	482		4568918				31.98	2202.22
28	7.9	39	0.47	0.05	8	456	67	4344883	169.45	2.04	0.22	34.76	1981.27
29					7	456		4460746				31.23	2034.10
30					6	466		4350931				26.11	2027.53

Month				Parameters							Daily Totals		
May	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					6	462		4458240				26.75	2059.71
2					7	449		4487443				31.41	2014.86
3					7	436		4373914				30.62	1907.03
4					7	464		4157050				29.10	1928.87
5	7.8	43	0.65	0.06	7	460	62	3992458	171.68	2.60	0.24	27.95	1836.53
6					6	454		4035312				24.21	1832.03
7					5	464		4276368				21.38	1984.23
8					6	466		4203273				25.22	1958.73
9					5	456		3935520				19.68	1794.60
10					7	456		3995568				27.97	1821.98
11					5	444		3906663				19.53	1734.56
12	7.8	35	0.5	0.05	6	462	69	3991853	139.71	2.00	0.20	23.95	1844.24
13					6	462		3973277				23.84	1835.65
14					7	457		3748982				26.24	1713.28
15					0	0		2103926				0.00	0.00
16					6	472		536466				3.22	253.21
17					7	480		815970				5.71	391.67
18					7	462		1655078				11.59	764.65
19	7.9	39	0.33	0.06	5	454	66	2643926	103.11	0.87	0.16	13.22	1200.34
20					5	398		2117923				10.59	842.93
21					6	396		1929917				11.58	764.25
22					5	408		2107469				10.54	859.85
23					9	420		3206045				28.85	1346.54
24					6	444		3114893				18.69	1383.01
25					7	450		2869344				20.09	1291.20
26	7.6	41	0.74	0.05	8	470	61	2910125	119.32	2.15	0.15	23.28	1367.76
27					9	418		2838758				25.55	1186.60
28					15	452		3715114				55.73	1679.23
29					8	434		3002314				24.02	1303.00
30					5	434		1467418				7.34	636.86
31					8	444		2765750				22.13	1227.99

Month				Parameters							Daily Totals		
June	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					10	348		2313187				23.13	804.99
2	7.5	42	0.61	0.05	10	468	67	3894480	163.57	2.38	0.19	38.94	1822.62
3					11	408		3318192				36.50	1353.82
4					12	390		3221165				38.65	1256.25
5					16	258		2731968				43.71	704.85
6					14	466		3358455				47.02	1565.04
7					14	466		3291494				46.08	1533.84
8					16	162		2365286				37.84	383.18
9	7.5	46	0.22	0.12	15	454	80	1080173	49.69	0.24	0.13	16.20	490.40
10					13	430		2000160				26.00	860.07
11					16	428		4040842				64.65	1729.48
12					16	420		3961958				63.39	1664.02
13					12	420		3348778				40.19	1406.49
14					12	416		3462393				41.55	1440.36
15					8	441		3265920				26.13	1440.27
16	7.5	38	0.56	0.05	5	470	76	3197664	121.51	1.79	0.16	15.99	1502.90
17					16	426		3412800				54.60	1453.85
18					14	440		4103222				57.45	1805.42
19					15	430		4451155				66.77	1914.00
20					13	422		3968266				51.59	1674.61
21					11	430		3710621				40.82	1595.57
22	8.1	44	0.15	0.05	15	430	69	3634762	159.93	0.55	0.18	54.52	1562.95
23					10	416		3399322				33.99	1414.12
24					15	428		3054845				45.82	1307.47
25					16	441		3147466				50.36	1388.03
26					12	440		3234298				38.81	1423.09
27					8	438		3167597				25.34	1387.41
28					7	462		2543184				17.80	1174.95
29					13	468		2281478				29.66	1067.73
30	8.2	44	0.55	0.05	7	390	54	2626549	115.57	1.44	0.13	18.39	1024.35

Month				Parameters							Daily Totals		
July	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					15	383		2114381				31.72	809.81
2					0	0		-348399				0.00	0.00
3					0	0		-1084406				0.00	0.00
4					0	0		-604083				0.00	0.00
5					0	0		-610986				0.00	0.00
6					0	0		-1053043				0.00	0.00
7	7.6	29	0.49	0.05	5	494	67	-765573	-22.20	-0.38	-0.04	-3.83	-378.19
8					12	406		1702685				20.43	691.29
9					10	402		3183235				31.83	1279.66
10					5	257		3230237				16.15	830.17
11					6	288		6631373				39.79	1909.84
12					5	380		-16967230				-84.84	-6447.5
13					7	420		5030899				35.22	2112.98
14	8.1	50	0.68	0.05	5	442	81	4573670	228.68	3.11	0.23	22.87	2021.56
15					10	415		3065040				30.65	1271.99
16					8	252		6737299				53.90	1697.80
17					11	350		16458340				181.04	5760.42
18					5	342		6092237				30.46	2083.55
19					8	254		7724419				61.80	1962.00
20					0	0		8428147				0.00	0.00
21	7.2	60	0.5	0.05	13	246	168	3539376	212.36	1.77	0.18	46.01	870.69
22					5	276		5096909				25.48	1406.75
23					9	386		7327843				65.95	2828.55
24					11	422		7350221				80.85	3101.79
25					14	442		6579619				92.11	2908.19
26					13	462		5022864				65.30	2320.56
27					12	166		4217011				50.60	700.02
28	7.3	44	0.76	0.05	7	480	71	4680202	205.93	3.56	0.23	32.76	2246.50
29					22	428		3943987				86.77	1688.03
30					20	440		4808247				96.16	2115.63
31					8	434		4408906				35.27	1913.47

Month				Parameters							Daily Totals		
August	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					24	454		4366742				104.80	1982.50
2					9	447		4352314				39.17	1945.48
3					7	466		4210618				29.47	1962.15
4	7.5	38	0.77	0.05	8	448	91	4282675	162.74	3.30	0.21	34.26	1918.64
5					9	426		5701622				51.31	2428.89
6					12	480		2292710				27.51	1100.50
7					11	474		274571				3.02	130.15
8					11	470		298927				3.29	140.50
9					9	494		290511				2.61	143.51
10					10	504		280860				2.81	141.55
11	7.5	51	0.45	0.05	9	506	66	205788	10.50	0.09	0.01	1.85	104.13
12					16	422		-2389133				-38.23	-1008.2
13					21	414		158613				3.33	65.67
14					20	414		251640				5.03	104.18
15					14	412		255891				3.58	105.43
16					8	428		275322				2.20	117.84
17					9	423		100647				0.91	42.57
18	7.5	46	0.45	0.05	8	460	66	236183	10.86	0.11	0.01	1.89	108.64
19					6	442		-235889				-1.42	-104.26
20					9	448		12882				0.12	5.77
21					6	462		2373926				14.24	1096.75
22					6	468		1528502				9.17	715.34
23					6	446		2064960				12.39	920.97
24					7	430		1594685				11.16	685.71
25	7.5	39	0.59	0.05	7	454	72	506434	19.75	0.30	0.03	3.55	229.92
26					12	444		-182174				-2.19	-80.89
27					5	460		1427069				7.14	656.45
28					6	456		2436048				14.62	1110.84
29					10	453		2444688				24.45	1107.44
30					5	462		1444867				7.22	667.53
31					7	462		2181168				15.27	1007.70

Month				Parameters							Daily Totals		
Sept	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	8	38	0.41	0.05	5	474	72	1266883	48.14	0.52	0.06	6.33	600.50
2					8	462		1700870				13.61	785.80
3					11	130		1415837				15.57	184.06
4					5	158		1198195				5.99	189.31
5					5	269		711565				3.56	191.41
6					6	276		1419379				8.52	391.75
7					16	422		37552900				600.85	15847.32
8	8.2	30	0.41	0.05	7	436	60	33387550	1001.63	13.69	1.67	233.71	14556.97
9					5	280		18648580				93.24	5221.60
10					5	234		15991780				79.96	3742.08
11					5	314		19771780				98.86	6208.34
12					5	328		15556320				77.78	5102.47
13					5	412		13430880				67.15	5533.52
14					5	150		11521440				57.61	1728.22
15	7.6	49	0.49	0.05	5	340	154	22928830	1123.51	11.24	1.15	114.64	7795.80
16					6	452		14360540				86.16	6490.96
17					5	458		10394780				51.97	4760.81
18					6	456		8677152				52.06	3956.78
19					6	414		8817120				52.90	3650.29
20					5	392		10446620				52.23	4095.08
21					6	436		9265536				55.59	4039.77
22	7.9	50	0.06	0.05	6	346	140	8697024	434.85	0.52	0.43	52.18	3009.17
23					0	0		11979360				0.00	0.00
24					0	0		9977472				0.00	0.00
25					0	0		-558706				0.00	0.00
26					0	0		-448286				0.00	0.00
27					0	0		413925				0.00	0.00
28					0	0		399038				0.00	0.00
29	7.4	32	0.56	0.05	5	452	74	386156	12.36	0.22	0.02	1.93	174.54
30					5	436		2022256				10.11	881.70

Month				Parameters							Daily Totals		
Oct	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	444		7140442				35.70	3170.36
2					6	440		7127568				42.77	3136.13
3					7	428		4063910				28.45	1739.35
4					8	406		3730320				29.84	1514.51
5					11	410		-456564				-5.02	-187.19
6	7.4	34	0.31	0.05	5	442	73	-418971	-14.25	-0.13	-0.02	-2.09	-185.19
7					5	456		-443828				-2.22	-202.39
8					6	412		1457741				8.75	600.59
9					8	434		4285785				34.29	1860.03
10					6	452		5835283				35.01	2637.55
11					5	470		4584730				22.92	2154.82
12					9	460		2824935				25.42	1299.47
13	7.4	51	0.56	0.05	6	466	65	4158346	212.08	2.33	0.21	24.95	1937.79
14					11	478		5248281				57.73	2508.68
15					10	480		3395779				33.96	1629.97
16					0	0		3357763				0.00	0.00
17					0	0		674637				0.00	0.00
18					0	0		30655				0.00	0.00
19					0	0		160324				0.00	0.00
20	7.5	46	0.56	0.05	6	484	69	96310	4.43	0.05	0.00	0.58	46.61
21					5	400		-234455				-1.17	-93.78
22					7	380		550748				3.86	209.28
23					5	354		1156723				5.78	409.48
24					7	352		2747002				19.23	966.94
25					7	310		2025216				14.18	627.82
26					7	311		2068934				14.48	643.44
27	7.4	51	0.5	0.05	5	320	139	3316205	169.13	1.66	0.17	16.58	1061.19
28					22	206		3948566				86.87	813.40
29					17	210		2597443				44.16	545.46
30					28	208		15665180				438.63	3258.36
31					0	0		10242720				0.00	0.00

Month				Parameters							Daily Totals		
Nov	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		-381335				0.00	0.00
2					0	0		973987				0.00	0.00
3	7.2	61	0.42	0.05	12	196	223	-399298	-24.36	-0.17	-0.02	-4.79	-78.26
4					0	0		-652942				0.00	0.00
5					0	0		-384100				0.00	0.00
6					0	0		-501803				0.00	0.00
7					0	0		-465627				0.00	0.00
8					0	0		-404352				0.00	0.00
9					0	0		-555276				0.00	0.00
10	7.3	62	0.54	0.05	5	320	158	-460927	-28.58	-0.25	-0.02	-2.30	-147.50
11					0	0		-379028				0.00	0.00
12					0	0		-466387				0.00	0.00
13					0	0		-449479				0.00	0.00
14					0	0		-496325				0.00	0.00
15					0	0		-382674				0.00	0.00
16					0	0		-320250				0.00	0.00
17	7.4	48	0.59	0.05	7	244	136	-302435	-14.52	-0.18	-0.02	-2.12	-73.79
18					0	0		-515506				0.00	0.00
19					0	0		-473204				0.00	0.00
20					0	0		-406391				0.00	0.00
21					0	0		-328000				0.00	0.00
22					0	0		-300059				0.00	0.00
23					0	0		-284144				0.00	0.00
24	7.5	40	0.58	0.05	5	408	80	-274026	-10.96	-0.16	-0.01	-1.37	-111.80
25					0	0		-260876				0.00	0.00
26					0	0		-245419				0.00	0.00
27					0	0		-239423				0.00	0.00
28					0	0		-230740				0.00	0.00
29					0	0		-221054				0.00	0.00
30					0	0		-209183				0.00	0.00

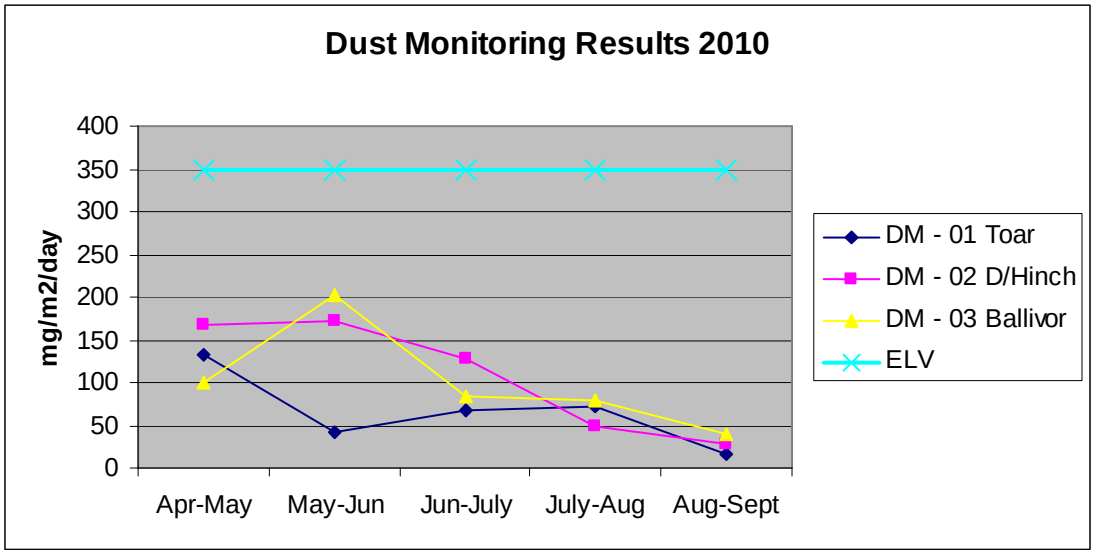
Month				Parameters							Daily Totals		
Dec	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	7.6	40	0.49	0.05	5	466	70	-211429	-8.46	-0.10	-0.01	-1.06	-98.53
2					0	0		-202712				0.00	0.00
3					0	0		-197052				0.00	0.00
4					0	0		-193683				0.00	0.00
5					0	0		-194530				0.00	0.00
6					0	0		-189890				0.00	0.00
7					0	0		-186244				0.00	0.00
8					0	0		-182736				0.00	0.00
9	7.4	52	0.69	0.05	5	412	75	-180317	-9.38	-0.12	-0.01	-0.90	-74.29
10					0	0		-174632				0.00	0.00
11					0	0		2428186				0.00	0.00
12					0	0		5484327				0.00	0.00
13					0	0		4083350				0.00	0.00
14					0	0		3161117				0.00	0.00
15	7.4	35	0.56	0.05	5	326	69	2871590	100.51	1.61	0.14	14.36	936.14
16					0	0		2817418				0.00	0.00
17					0	0		5963846				0.00	0.00
18					0	0		7921411				0.00	0.00
19					0	0		6719846				0.00	0.00
20					0	0		2852841				0.00	0.00
21					0	0		1303690				0.00	0.00
22					0	0		4183920				0.00	0.00
23	7.4	36	0.63	0.05	6	315	73	4125859	148.53	2.60	0.21	24.76	1299.65
24					5	390		4124995				20.62	1608.75
25					5	418		4515005				22.58	1887.27
26					5	396		5090169				25.45	2015.71
27					6	386		5104253				30.63	1970.24
28					6	402		27202180				163.21	10935.28
29	7.2	49	0.52	0.06	6	398	129	23855900	1168.94	12.41	1.43	143.14	9494.65
30					5	278		16781470				83.91	4665.25
31					5	296		13734970				68.67	4065.55

0: Insufficient amount of sample due to low flow or technical fault.

APPENDIX 4

Dust Monitoring Results.

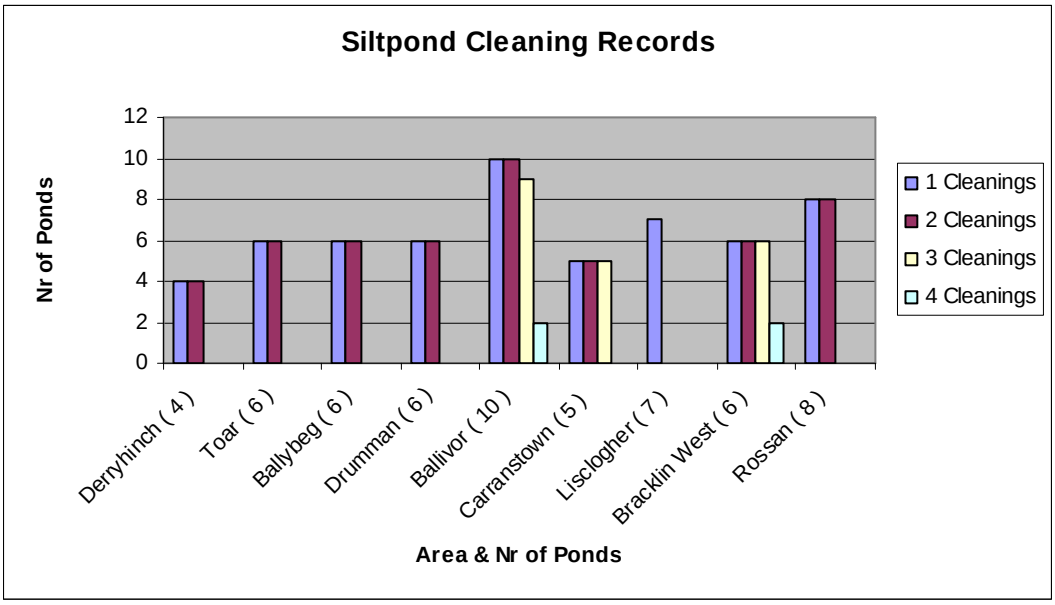
Dust Monitoring Results 2010			
Licence:P0501-01			
Works: Derrygreenagh			
Sample Period	**DM - 01 Toar**	**DM - 02 D/Hinch**	**DM - 03 Ballivor**
Apr-May	133	167	100
May-Jun	42	172	202
Jun-July	67	128	83
July-Aug	72	50	78
Aug-Sept	17	28	39



APPENDIX 5

De-silting Programme Review.

Siltpond Cleaning Programme 2010				
IPPC Licence: P0501-01				
Works: Derrygreenagh				
Bog Area & Nr Ponds	**1 Cleanings**	**2 Cleanings**	**3 Cleanings**	**4 Cleanings**
Derryhinch (4)	4	4		
Toar (6)	6	6		
Ballybeg (6)	6	6		
Drumman (6)	6	6		
Ballivor (10)	10	10	9	2
Carranstown (5)	5	5	5	
Lisclogher (7)	7			
Bracklin West (6)	6	6	6	2
Rossan (8)	8	8		



BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Annual Environmental Report 2011
P0501-01

March 2012

Bord na Móna today operates 5 main subsidiary companies in more than 20 locations throughout Ireland, the UK and USA. The principal businesses are in the Energy, Resource Recovery, Horticulture, Home Heating and Wastewater Treatment and Air Pollution Abatement markets. The company also engages in an extensive rehabilitation program to develop its peat lands in an environmentally sustainable manner.

Bord na Móna has long recognised the need to diversify its activities in order to secure a sustainable future. In this context we identified the energy and resource recovery sectors as appropriate areas of growth and development, given our assets, strengths and skills. Significant challenges face Ireland in meeting the country's needs to provide secure sustainable energy and manage waste while minimising the impact on the environment.

Bord na Móna is in a strong position to contribute to dealing with these challenges. We have a unique mixture of assets, experience and innovation which will enable us to cross-link our activities in energy, water and resource recovery to provide products and services which will meet Ireland's needs. We also have the capacity to become an exemplar for others to follow in these fields.
With this background we have scoped out a new vision for the future sustainable development of Bord na Móna.

Following on from our vision, we have developed a new mission for Bord na Móna which the Company is committed to achieving.
In 1934 the Turf Development Board was formed to ‘develop and improve the turf industry.' The experience of fuel shortages during the war re-enforced the Irish State's commitment to developing the country's bogs. In 1944 the TDB was asked to devise and submit a comprehensive programme, the outcome was the transformation in 1946 of the TDB into Bord na Móna. The Board was given a mandate to increase the use of peat as a fuel and in energy production. Markets for the use of moss peat in horticulture were also developed.
In 1990 Bord na Móna implemented a divisionalised and decentralised structure, designed to delegate responsibility downwards ensuring a sharper focus on each profit centre and a greater spirit of enterprise.

Group Vision

The vision statement defines the Company's purpose, in terms of its values.
Values are guiding beliefs about how things should be done.
The vision statement communicates both the purpose and values of Bord na Móna.
For employees, it gives direction about how they are expected to behave and inspires them to give their best. Shared with customers, it shapes the customers' understanding of why they should work with Bord na Móna.

Bord na Móna will seek solutions that optimise the creative energy and potential of the organisation, driven by long term goals and the organisation's vision and mission.
In this context our devolved business units will align their vision and strategic planning with the global direction provided.

Consistent with our vision, innovation will once again return to the core of everything we do. We will capitalise on opportunities to cross fertilise our unique range of skills and technologies that add value and are socially and environmentally sustainable.
Greater focus will be placed on managing and developing our land assets in a responsible and sustainable manner. Our award winning initiatives at Lough Boora (Co. Offaly) and Oweninny (Co Mayo), provide shining examples of what can be achieved

Group Mission

We conduct our affairs with openness, honesty and integrity.
We are Ireland's leading environmentally responsible integrated utility service provider encompassing electricity, heating solutions, resource recovery, water, horticulture and related services.
We capitalise on international opportunities where we have a competitive advantage.
We achieve continuing growth through superior customer service, outstanding quality and innovation delivered through the excellence and commitment of our people.
We engage in sustainable profitable business in the communities we serve, which is rewarding and challenging for employees and other stakeholders.

Contents

1.0 Introduction

1.1 IPPC Licence No 501-01

1.2 Name & Location of Site

Name:	Bord na Mona Energy Limited.
Address:	Derrygreenagh Works, Rochfortbridge, Mullingar, Co. Westmeath
Telephone No:	044 9222181
Contact Name:	Eamonn Mulhall
Position:	Resource Manager
National Grid Reference:	E249450 N 238140

1.3 Description of Activities

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:
Milling.
Harrowing.
Ridging.
Harvesting.

Milling.
Special milling machines work there way along the fields, milling approximately 15mm of peat of the top of the bog in a pass.

Harrowing
In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging
The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting
During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

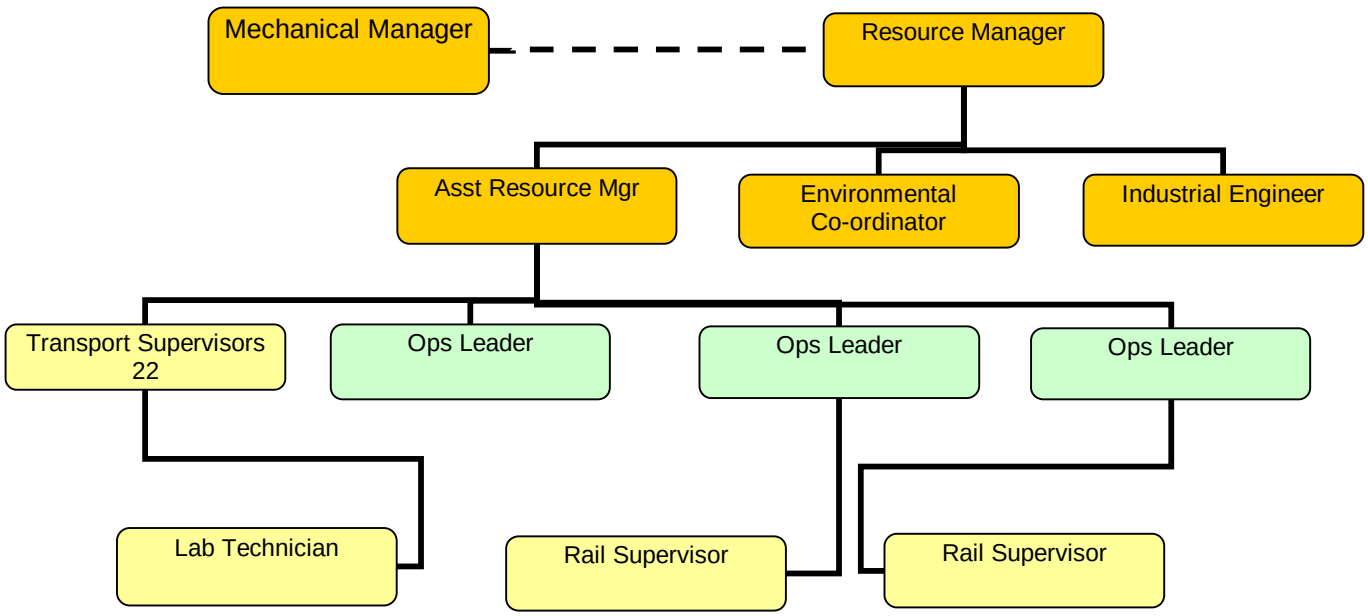
The milled peat is then transported via the existing network of peatland railways or via road to one of the following locations.
Power station
Horticultural Factory.
Briquette Factory.

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.

Group

Environmental Responsibilities



1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Derrygreenagh,Rochfortbridge,Mullingar,Co-Westmeath.

Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its business in an environmentally sensitive value.

Bord na Mona Energy Limited operates an environmental management system specifically addressing the following impacts.

Discharge to water.
Emissions to atmosphere.
Waste disposal.
Use of natural resources.
Noise, vibration, odour, dust and visual effects.
Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its Contents are brought to the attention of all employees.

2.0 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

Surface Waters

Comment

Surface water monitoring was carried out four times during the reporting period. In total analysis was carried out at six different locations. The locations are as follows, Derryhinch @ SW4, Ballybeg @ SW13, Bracklin @ SW26, Carranstown @ SW31, Rossan @ SW46 and Carrick @ SW4A. The parameters measured during each sampling event were as follows.
Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD.
In general results were constant across all parameters at each monitoring location. October was the wettest month with 123.5 mm of rainfall recorded and March the driest with 29.4 mm recorded. Flow rates appear to have had no adverse effect on suspended solids results.
The quarterly grab sampling programme was 100% compliant for the year, which is an improvement on 2010 which was 96% compliant.

pH values were between 6.6 and 8.1, with emission limit values being of the range 6 and 9. pH values of waters emanating from production peatlands appear to remain constant and in line with background levels. On average pH values were 0.05 pH units higher than 2010 levels.

Suspended solids varied from 5mg/l to 24mg/l and would depend on activities (piping, ditching) etc in the catchments at the time of sampling. The average range for suspended solids was 6.2mg/l which was down on the 2010 average.

Ammonia values ranged from 0.04 mg/l and 2.48 mg/l.The I/PV for A3 waters is of the range 4mg/l. It is however not unusual for surface waters emanating from production peatlands to be slightly elevated. Overall ammonia levels are slightly down on 2010 figures with the average being 1.16 mg/l in 2011 as opposed to 1.6 mg/l in 2010.

COD values ranged from 30 mg/l to 123 mg/l. Overall COD results were below 2010 levels. The I/PV for A3 waters is of the range 40mg/l. Only one result was above the Bord na Mona set trigger level of 100 mg/l, however investigations showed no evidence of any contributory factors causing such result. That particular result was identified during the third quarter monitoring event in August, when reduced flow and increased temperature impinge on COD results.

Flow rates were slightly up on 2010 sampling events. This in part is dependent on the climatic conditions on the chosen day of sampling. However total rainfall for 2011 only varied by 9mm compared with 2010. March was the driest month with 29.4mm and October the wettest with 123.5mm of rainfall recorded.

Total Phosphorus results were consistently low and ranged from 0.05 mg/l to 0.49 mg/l. On average the total phosphorus result was higher than 2010, the difference being minute (0.00375 mg/l).

The sampling locations will remain the same during 2012.
At the request of the Agency, analysis results are now demonstrated in both tabular and graphical format.

Surface Water Results are attached in Appendix 1.

2.1.2 Yard Discharges

Yard Runoff

Comment

Yard runoff monitoring took place at two locations during the reporting period. Derrygreenagh @ SWE 2 and Rossan @ SWE 1. Sampling frequency was monthly and COD was the parameter requiring analysis. Results were very satisfactory for the period at both locations; with results consistently well below trigger levels with the exception of the February and August result at Rossan which exceeded trigger levels. Investigations found machinery had been washed down immediately prior to the February sampling event and rainwater had been evacuated from the main bund prior to the August sampling event, subsequent results were very satisfactory. Overall the average result at each location was slightly above those of 2010.
Although not having a specific licence emission limit value, a trigger level of 100 mg/l has been set in relation to COD results, along with the weekly visual inspections. Sampling will continue at the same locations during 2012.

Yard Emission Results are attached in Appendix 2.

2.1.3 Composite Sampler Report

Composite Sampling

Comment

The composite sampler has been operating at Toar Bog SW15 during the reporting period. The parameters measured were Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD, with Suspended solids being the only parameter with an emission limit value of (35mg/l). The sampler worked well during the reporting period and was calibrated by an Water Technology Ltd during the reporting period. In general results were satisfactory with no non-compliance's being recorded for the period. Analysis of the 2010 results compared with the 2011 results indicate no great difference in results in relation to pH, Ammonia, Phosphorus, COD and Suspended Solids. The composite sampler was to be relocated during 2012 to another area as suggested by the Agency. A proposal outlining same was to be submitted to the Agency for approval, however this may change as intensive production is due to recommence at its current location.
Composite Sampler Results are contained in Appendix 3.

2.1.4 Emissions to Water Non-compliance's

Emissions to Water Non-Compliances 2011		
Licence: P0501-01		
Works: Derrygreenagh		
Type	**Non-Compliances**	**Location / SW Nr**
Composite	0	N/A
Quarterly Grab	0	N/A
Monthly Yard	0	N/A
Totals	**0**	

There were no non-compliance's in relation to emissions to water during the reporting period.

2.2 Emissions to Air

2.2.1 Dust Monitoring

Comment

Dust monitoring was carried out on five occasions between April and September. Each monitoring event lasted between 28 and 32 days and the Bergerhoff method of collection was used.
The monitoring locations were as follows: Toar DM01, Derryhinch DM02 and Ballivor DM03. There was one non-compliance during the May-June monitoring event at DM02 and the Agency was informed. That particular result being 406mg/m^2/day against a licence limit of 350mg/m^2/day.

Sampling will continue at the same locations during 2012.

Dust monitoring results are contained in appendix 4.

2.2.2 Emissions to Air Non-compliance's

Dust Non-Compliances 2011	
Licence:P0501-01	
Works: Derrygreenagh	
Location / DM Nr	**Non-Compliances**
DM-02	1
Total	**1**

There was one dust non-compliance during the reporting period and the Agency was informed. No complaints of a dust nature were received at the time.

2.3 Waste Arisings

2.3.1 Non-Hazardous Waste

Non Hazardous Waste Data 2011

Licence: P0501-01

Works: Derrygreenagh

Type	Tonnes	EWC Code	Contractor	Licence Nr
Skips	73.59	20 03 01	AES	WP-OY-08-601-01
Wheelie Bins	6.27	20 03 01	AES	WP-OY-08-601-01
Polyethlene	120.10	02 01 04	Leinster Environmentals	WP 2008/06
Scrap Steel	64.92	17 04 07	AES	WP-OY-08-601-01
Timber Pallets	10.20	15 01 03	AES	WP-OY-08-601-01
Silt Pond Cleanings	228.84	01 01 02	Bord na Mona	IPPC P0501-01
Totals	**503.92**			

Note: Polyethylene and Steel are recycled. Skips go to an AES Mixed Recycling Facility.

2.3.2 Hazardous Waste

Hazardous Waste Data 2011

Licence: P0501-01

Works: Derrygreenagh

Type	Tonnes	EWC Code	Contractor	Licence Nr	Destination
Waste Oil	40.22	13 02 05	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oil Filters	1.15	16 01 07	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oily Rags	1.50	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Lead Acid Batt	0.77	16 06 01	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Alkaline Batteries	0.045	20 01 33	KMK Metals Tullamore	W0113-03	Tullamore
Dry Solid Oily Waste	0.580	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Parts Wash	1.38	11 01 13	Safety Kleen, Tallaght, Dublin	99-1	Dublin
Waste Paint	0.31	08 01 11	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Total	**45.95**				

2.4 Energy and Water Consumption

2.4.1 Energy

Energy Consumption 2011				
Licence: P0501-01				
Works: Derrygreenagh				
Units	**Diesel (Litres)**	**Petrol (Litres)**	**Electricity (Units)**	**Peat Briquettes (Tonnes)**
Totals	904218.4	0	0	20
MW Hours	9187.8	0	0	103
Total MW Hours	**9290.8**			

Note: Due to issues with Electric Ireland's web site which is outside Bord Na Mona's control, accurate electrical consumption figures were not available. We are informed that this will be resolved in the coming weeks.

2.5 Environmental Incidents and Complaints

2.5.1 Incidents

Environmental Incidents 2011	
Licence: P0501-01	
Works: Derrygreenagh	
	Number
Incidents	2
Requiring corrective action	2
Category	
Water	
Air	2
Procedural	
Miscellaneous	
Total	**2**

There were two environmental incidents during the reporting period. One related to a dust complaint at Ballybeg bog in April and the other was the above mentioned dust non-compliance in June. On both occasions the Agency was informed.

2.5.2 Complaints

Environmental Complaints 2011	
Licence:P0501-01	
Works: Derrygreenagh	
	Number
Complaints	1
Requiring corrective action	1
Category	
Water	0
Air	1
Procedural	0
Miscellaneous	
Total	1

There was one complaint of an environmental nature during the reporting period and the Agency was informed.

3.0 Management of the Activity

3.1 Achievement of Objectives & Targets 2011

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Status** In total 165 employees received environmental training. **Hydraulic Harrows.** One Hydraulic harrow will be deployed at Derryhinch bog during the 2011 production season. **Status** New Hydraulic harrows were deployed at Derryhinch and Ballivor bogs during the 2011 production season. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations. **Status** Headland peat was collected as part of the peat lifting process and included in general peat return figures.
Project 2:	**Waste Streamlining.**

Waste Management	AES Ltd, a subsidiary of Bord na Mona handles all elements of Bord na Mona's waste. Key account managers dedicated to Bord na Mona are in place. **Status** Ongoing The service included the co-ordination of all waste streams ensuring the correct waste stream was dealt with by the appropriate waste provider. The service also included the issuing of quarterly reports.
Project 3: Minimisation of Suspended Solids.	**On Site Inspections.** Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. **Status** In total 165 employees received environmental training.
Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** Increased bund provisions where required, will be provided, in 2011. **Status** Addition barrel bunds were purchased and deployed at the waste oil tank in Derrygreenagh. In addition to this additional containment booms were purchased and are held in storage as backup to existing stocks.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing. **Status** In total 120.1 tonnes of polyethylene was sent for recycling in 2011.
Project 6: Energy Management	**Review of Energy Aspects** As part of an energy management process, a review of energy aspects will continue to take place identifying the significant energy users of the licensee. **Status** Energy management is ongoing with the energy standard EN 50001 currently being implemented at Bord na Mona Mountdillon. Should this be successful it will be extended to all Bord na Mona locations.

3.2 Environmental Management Programme Proposal 2012

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	**Training.** Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona Training Specialists. This new training programme includes Environmental Compliance _ IPPC, Biodiversity, Archaeology and Energy Management. **Hydraulic Harrows.** Hydraulic harrows will be deployed at Derryhinch, Ballivor and Rossan bog during the 2011 production season. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations.
Project 2: Waste Management	**Waste Streamlining.** Waste streamlining is a project we are particularly interested in pursuing and hope to reduce wastes in the future and be more efficient in dealing with all aspects of waste management
Project 3: Minimisation of Suspended Solids.	**Training.** Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona Training Specialists. This new training programme includes Environmental Compliance - IPPC, Biodiversity, Archaeology and Energy Management.
Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** Increased bund provisions where required will be provided in 2012.
Project 5: Collection storage and reuse of polyethylene.	**Identify Recyclers.** Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.
Project 6: Energy Management	**Review of Energy Aspects** As part of an energy management process, a review of energy aspects will take place identifying the significant energy users of the licensee.

3.3 Environmental Expenditure

Environmental Expenditure 2011	
Licence:P0501-01	
Works: Derrygreenagh	
Description	**Cost €**
Capital Costs	27,356.02
Silt Control	90,303.92
Analytical & Consultancy Costs	10,584.00
EPA Fees	11,473.60
Bog Rehabilitation	108,663.02
Waste Management	42,003.76
Total	**290,384.32**

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

It is proposed to continue monitoring at the same locations in 2012 as monitored in 2011. Should it be deemed necessary for any reason during the coming year additional monitoring will be initiated. Safe access to all monitoring locations will be maintained. Currently Bord na Mona are reviewing all silt ponds for upgrade, installation of weirs, flap valves etc in line with the requirements of the South Eastern & Eastern River Basin Management Plans.

4.2 Bunding Programme

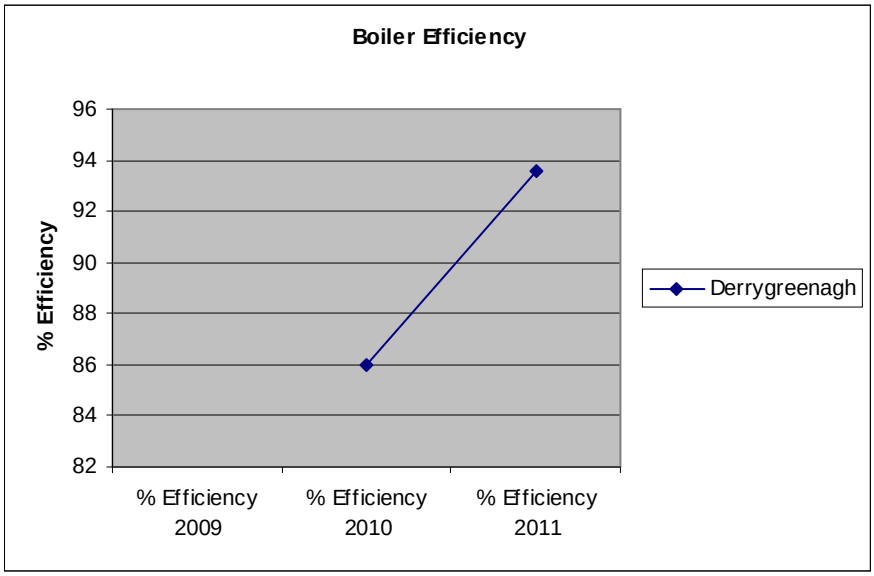
Bund Locations & Numbers Derrygreenagh Works					
IPPC Licence: P0501-01					
Location	**Bund Number**	**Last Tested**	**Status Pass/Fail**	**Repair Date**	**Next Test Due**
Derrygreenagh Main Bund	501-37-01	Jan-11	Pass	N/A	Jan-13
Derrygreenagh Waste Oil Bund	501-37-02	Jan-11	Pass	N/A	Jan-13
Ballivor Factory Bund	501-08-03	Sep-11	Pass	N/A	Sep-13
Rossan Tippler Bund	501-07-04	Nov-11	Pass	N/A	Nov-13

Bund integrity testing took place at all bund locations during the reporting period. As is evident from the table all bund structures passed.

4.3 Boiler Combustion Efficiency

As mentioned in the 2009 AER a new boiler had been fitted at Derrygreenagh which was not tested. Efficiency testing was subsequently carried out in 2010 and 2011, the results of which are attached below.

Boiler Efficiency 2011			
Licence: P0501-01			
Works: Derrygreenagh			
Boiler Location	**% Efficiency 2009**	**% Efficiency 2010**	**% Efficiency 2011**
Derrygreenagh	New Boiler fitted	86	93.6



4.4 Resource consumption summary

Resource Consumption 2011			
Licence: P0501-01			
Works: Derrygreenagh			
Product	**Tonnes Produced**	**Tonnes Sold**	**Customer**
Milled Peat	153,721	143,587	ESB
Moss	68,533	77,175	Horticulture
Turf	0	0	Fuels
Turf	81	0	Private
Totals	**222,335**	**220,762**	N/A

Proposed Production 2012	
Licence: P0501-01	
Works: Derrygreenagh	
Product	**Proposed Target**
Milled Peat	192,559
Moss	65,000
Turf Private	81
Turf Fuels	0
Totals	**257,640**

4.5 De-Silting Report

Silt pond cleaning went well during the reporting period with all ponds being cleaned twice.
A table and graph of the cleaning schedule is attached in appendix 5.

4.6 Bog Development and Operational Programme

35 hectares of former sod bog were brought into production in Ballivor bog during the reporting period with a further 35 hectares scheduled to be brought in for the 2012 production season. There was 22 hectares of bog brought into production in Carranstown in 2011 and an additional 15 hectares in Rossan bog.

Bog Rehabilitation Report

- There are large areas of cutaway within the Derrygreenagh group. Derryarkin, parts of Drumman and Ballybeg that are largely cutaway although still with aspects of peat production and transport.
- The ecology survey of the Derrygreenagh Bogs is complete and habitat maps, ecology reports and draft rehabilitation plans for each of the sites have been developed.
- The Roadstone sand and gravel site takes up considerable parts of Drumman and Derryarkin bogs.
- Peat production ceased in Cavemount Bog in 2011 and the rehabilitation plan for the site will be reviewed in 2012.
- Consultation with Heritage groups, NPWS is ongoing.

The above is an overview of the ongoing rehabilitation plan associated with this licence. There is a fully prepared plan retained at the licence site office, which includes Land Use maps for each licensed area updated in January 2012 and the habitat maps, future maps and ecology reports for each site.

4.8 Archaeological Report

There was no archaeology work carried during the reporting period.

5.0 Summary

The Derrygreenagh Group of Bogs endeavour to comply with all environmental issues. In 2011 we had one non-compliance regarding dust. We also had a dust complaint in the Ballybeg area. Trees have been purchased to grow a shelter belt in this area to try and alleviate the problem It is envisaged that a new Hydraulic Harrow will be purchased in the coming year.
There was no non-compliance from silt pond quarterly sampling events or from our composite sampler. Silt ponds were cleaned twice during the year, with more emphasis being put in ensuring silt ponds are cleaned regularly in the coming years. A new four module training programme delivered by dedicated Bord na Mona Training Specialists has also been developed during 2011/2012 and will be rolled out in the coming weeks. This new training programme includes Environmental Compliance - IPPC, Biodiversity, Archaeology and Energy Management.

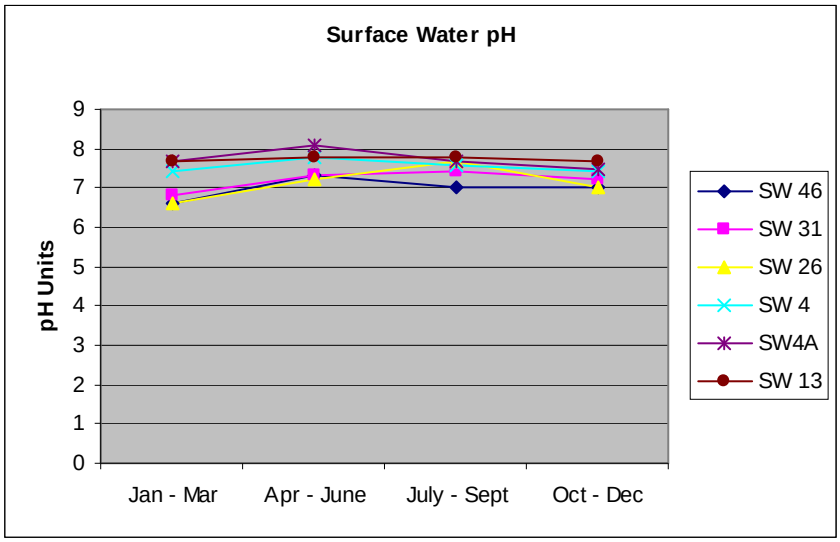
A total of 165 staff, both permanent and seasonal were trained in 2011, with this being an ongoing process.
Bord na Mona Energy Ltd are represented as stakeholders on the Management Group of both the Shannon River and Eastern River Basin District Management Systems, set up under the Water Framework Directive, and on the Steering Group of the Catchment Management of the River Barrow.

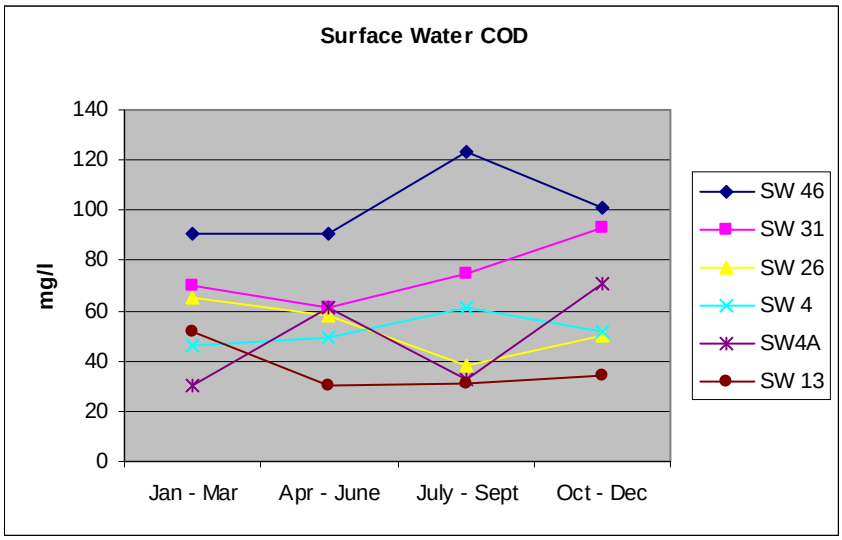
Bord na Mona would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection methods.

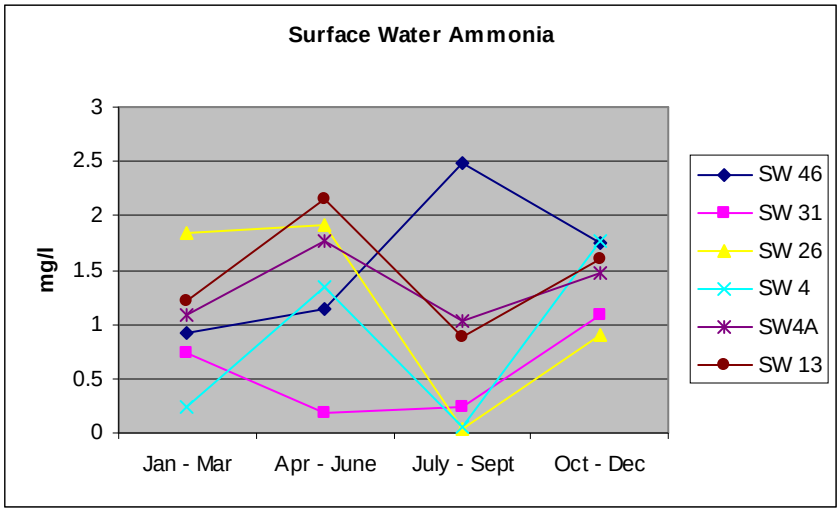
APPENDIX 1

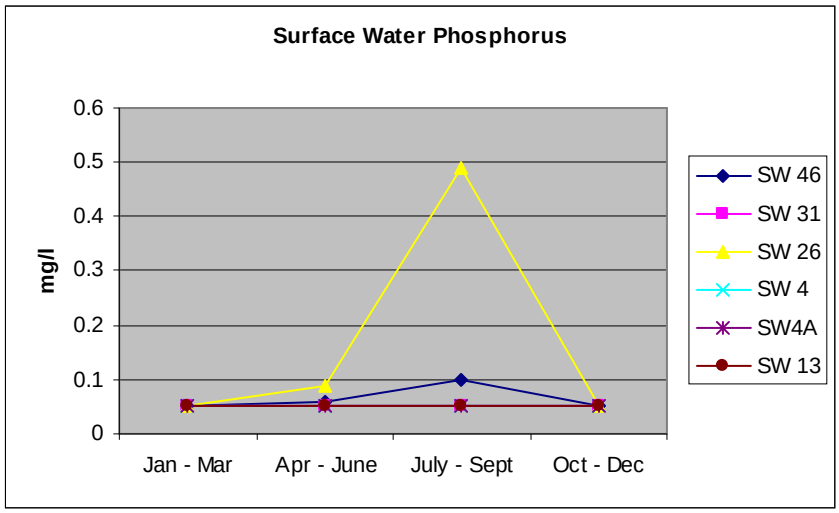
Surface Water Discharge
Monitoring Results
Bogs

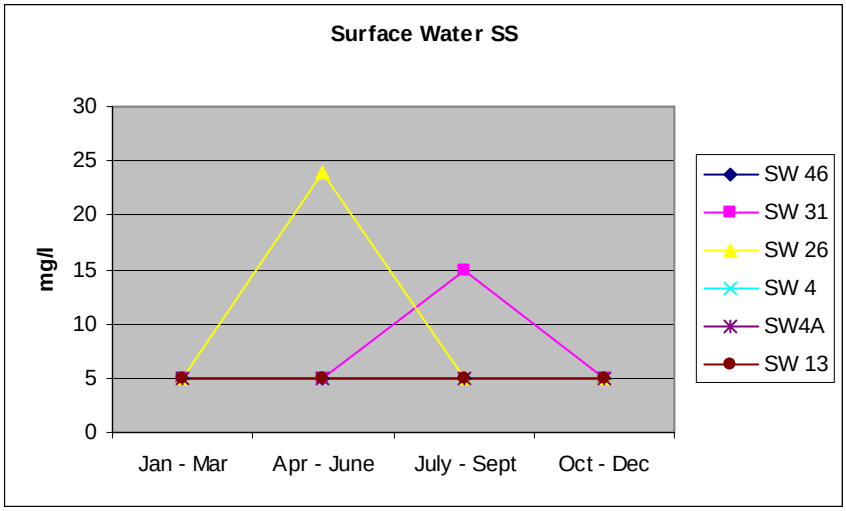
BNM Group:	Derrygreenagh		2011	
IPC Licence No.	501			
pH (units)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	6.6	7.3	7	7
SW 31	6.8	7.3	7.4	7.2
SW 26	6.6	7.2	7.7	7
SW 4	7.4	7.8	7.6	7.4
SW4A	7.7	8.1	7.7	7.5
SW 13	7.7	7.8	7.8	7.7
COD (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	91	91	123	101
SW 31	70	61	75	93
SW 26	65	58	38	50
SW 4	46	49	61	52
SW4A	30	61	33	71
SW 13	52	30	31	34
Ammonia as N (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	0.92	1.14	2.48	1.75
SW 31	0.74	0.19	0.24	1.08
SW 26	1.84	1.91	0.04	0.9
SW 4	0.24	1.35	0.06	1.76
SW4A	1.09	1.76	1.03	1.48
SW 13	1.22	2.16	0.88	1.6
Total Phosphorus (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	0.05	0.06	0.1	0.05
SW 31	0.05	0.05	0.05	0.05
SW 26	0.05	0.09	0.49	0.05
SW 4	0.05	0.05	0.05	0.05
SW4A	0.05	0.05	0.05	0.05
SW 13	0.05	0.05	0.05	0.05
Suspended Solids (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	5	5	5	5
SW 31	5	5	15	5
SW 26	5	24	5	5
SW 4	5	5	5	5
SW4A	5	5	5	5
SW 13	5	5	5	5
Flow (l/s)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	19.8	2.2	5.8	5.6
SW 31	8.5	1.3	2.3	6.7
SW 26	10.2	1.6	4.3	6.7
SW 4	22.7	6.8	11.4	10.3
SW4A	29.2	3.2	9.6	6.3
SW 13	34.6	19.7	25.7	31.3

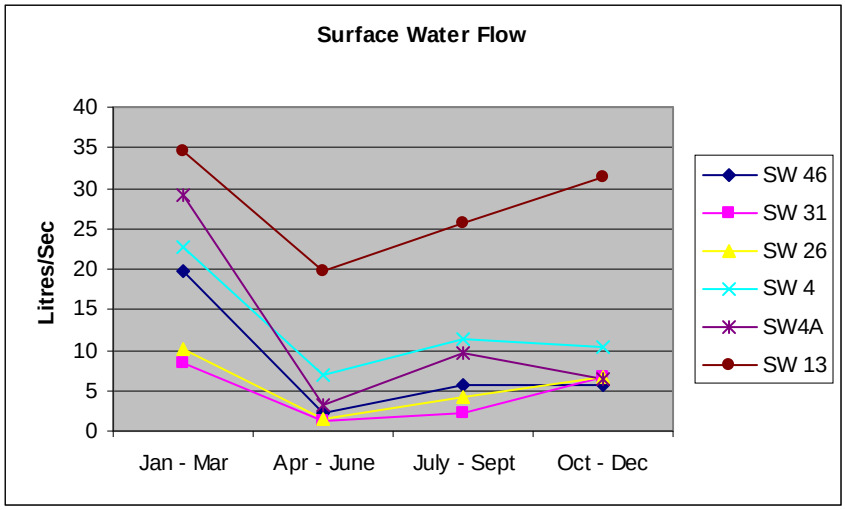

Surface Water pH
pH Units
9
8
7
6
5
4
3
2
1
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SW4A
SW 13


Surface Water COD
mg/l
140
120
100
80
60
40
20
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SW4A
SW 13


Surface Water Ammonia
mg/l
3
2.5
2
1.5
1
0.5
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SW4A
SW 13


Surface Water Phosphorus
mg/l
0.6
0.5
0.4
0.3
0.2
0.1
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SW4A
SW 13


Surface Water SS
mg/l
30
25
20
15
10
5
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SW4A
SW 13

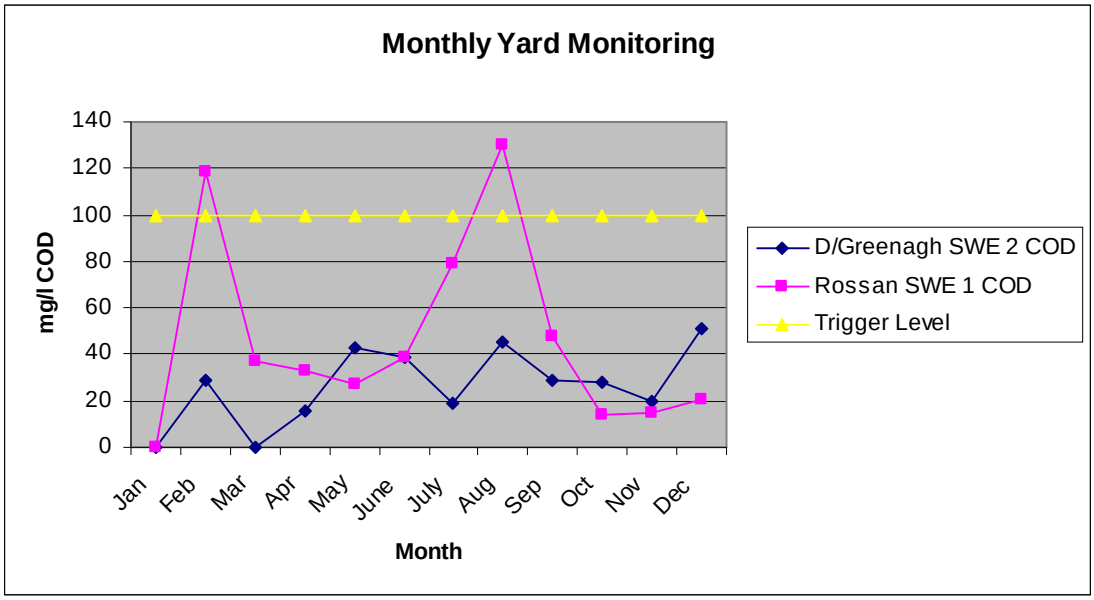

Surface Water Flow
Litres/Sec
40
35
30
25
20
15
10
5
0
Jan - Mar
Apr - June
July - Sept
Oct - Dec
SW 46
SW 31
SW 26
SW 4
SW4A
SW 13

APPENDIX 2

Surface Water Discharge Monitoring Results
Yards

Yard Discharge Results 2011		
Licence: P0501-01		
Works: Derrygreenagh		
Month	**D/Greenagh SWE 2 COD**	**Rossan SWE 1 COD**
Jan	0	0
Feb	29	119
Mar	0	37
Apr	16	33
May	43	27
June	39	39
July	19	79
Aug	45	130
Sep	29	48
Oct	28	14
Nov	20	15
Dec	51	21

Note: 0 denotes no flow at emission point on day of sampling



APPENDIX 3

Surface Water Discharge
Monitoring Results
Composite

Month				Parameters							Daily Totals		
January	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	316		11779780				58.90	3722.41
2					5	306		10217660				51.09	3126.60
3					5	328		9478944				47.39	3109.09
4					5	340		7448285				37.24	2532.42
5	7.4	33	0.61	0.05	5	370	83	8228649	271.55	5.02	0.41	41.14	3044.60
6					7	410		7963834				55.75	3265.17
7					6	434		6921677				41.53	3004.01
8					5	410		6938352				34.69	2844.72
9					5	430		6672154				33.36	2869.03
10					5	418		6052147				30.26	2529.80
11					5	430		8666784				43.33	3726.72
12	7.7	56	0.56	0.05	5	452	211	11410850	639.01	6.39	0.57	57.05	5157.70
13					0	0		16435870				0.00	0.00
14					0	0		6440601				0.00	0.00
15					0	0		1144886				0.00	0.00
16					0	0		-275927				0.00	0.00
17					15	444		-226662				-3.40	-100.64
18					5	404		4362768				21.81	1762.56
19	7.5	42	0.61	0.05	7	416	86	9548928	401.05	5.82	0.48	66.84	3972.35
20					0	0		8086003				0.00	0.00
21					0	0		8082720				0.00	0.00
22					0	0		8125402				0.00	0.00
23					5	398		7788614				38.94	3099.87
24					5	404		7652189				38.26	3091.48
25					5	408		7532871				37.66	3073.41
26	7.3	47	0.61	0.05	5	408	91	7774186	365.39	4.74	0.39	38.87	3171.87
27					5	388		8005737				40.03	3106.23
28					5	298		8265715				41.33	2463.18
29					5	394		7026998				35.13	2768.64
30					6	392		8159875				48.96	3198.67
31					5	290		7740403				38.70	2244.72

Month				Parameters							Daily Totals		
Feb	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	7.7	40	0.65	0.05	5	206	96	7269869	290.79	4.73	0.36	36.35	1497.59
2					5	383		7266845				36.33	2783.20
3					5	388		7106918				35.53	2757.48
4					5	246		7190813				35.95	1768.94
5					5	142		12196220				60.98	1731.86
6					5	136		26520480				132.60	3606.79
7					5	140		40569120				202.85	5679.68
8	7.5	55	0.74	0.05	5	294	143	37895040	2084.23	28.04	1.89	189.48	11141.14
9					5	292		23066210				115.33	6735.33
10					5	284		20525180				102.63	5829.15
11					5	288		21639740				108.20	6232.25
12					5	282		17693860				88.47	4989.67
13					5	304		15472510				77.36	4703.64
14					5	286		19069340				95.35	5453.83
15	7.2	54	0.51	0.05	5	294	179	16541280	893.23	8.44	0.83	82.71	4863.14
16					5	352		13547520				67.74	4768.73
17					5	364		16079040				80.40	5852.77
18					5	356		10399970				52.00	3702.39
19					5	356		8914752				44.57	3173.65
20					5	354		9082368				45.41	3215.16
21					5	346		8568288				42.84	2964.63
22	7.3	44	0.5	0.05	5	344	111	7771248	341.93	3.89	0.39	38.86	2673.31
23					5	378		7252589				36.26	2741.48
24					5	390		8240486				41.20	3213.79
25					5	409		8678880				43.39	3549.66
26					5	412		8107257				40.54	3340.19
27					5	418		7238160				36.19	3025.55
28					5	422		7080826				35.40	2988.11

Month				Parameters							Daily Totals		
March	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	7.4	45	0.61	0.05	5	432	77	4987872	224.45	3.04	0.25	24.94	2154.76
2					5	430		5139245				25.70	2209.88
3					5	425		3986410				19.93	1694.22
4					5	428		598916				2.99	256.34
5					5	391		3210451				16.05	1255.29
6					5	266		2498774				12.49	664.67
7					5	348		1932682				9.66	672.57
8	7.7	49	0.56	0.05	5	428	75	5785603	283.49	3.24	0.29	28.93	2476.24
9					5	450		5756573				28.78	2590.46
10					5	448		4499712				22.50	2015.87
11					5	428		821258				4.11	351.50
12					5	416		1788480				8.94	744.01
13					5	414		2399587				12.00	993.43
14					5	390		5142010				25.71	2005.38
15	7.4	34	0.6	0.05	5	416	81	5141750	174.82	3.09	0.26	25.71	2138.97
16					5	430		4633459				23.17	1992.39
17					5	434		5016643				25.08	2177.22
18					5	430		4450637				22.25	1913.77
19					5	350		3035318				15.18	1062.36
20					5	416		2011997				10.06	836.99
21					5	422		3503520				17.52	1478.49
22	7.9	40	0.43	0.05	5	438	16	3936730	157.47	1.69	0.20	19.68	1724.29
23					15	421		3473885				52.11	1462.51
24					14	446		1040083				14.56	463.88
25					15	438		-2070749				-31.06	-906.99
26					13	430		-1402358				-18.23	-603.01
27					15	436		-1154909				-17.32	-503.54
28					8	450		-3638477				-29.11	-1637.31
29					14	456		-2557786				-35.81	-1166.35
30	7.7	52	0.56	0.05	12	440	69	-1333757	-69.36	-0.75	-0.07	-16.01	-586.85
31					7	440		-3433483				-24.03	-1510.73

Month				Parameters							Daily Totals		
April	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	470		2437070				12.19	1145.42
2					5	462		3119550				15.60	1441.23
3					6	454		3121140				18.73	1417.00
4					5	459		3012130				15.06	1382.57
5					6	434		3524190				21.15	1529.50
6	7.5	35	0.45	0.05	6	410	44	4117100	144.10	1.85	0.21	24.70	1688.01
7					8	392		2846110				22.77	1115.68
8					5	418		2092610				10.46	874.71
9					6	430		2012110				12.07	865.21
10					5	456		2772460				13.86	1264.24
11					5	432		2089760				10.45	902.78
12					5	428		2207600				11.04	944.85
13	7.6	43	0.48	0.05	5	440	66	2116490	91.01	1.02	0.11	10.58	931.26
14					14	436		576143				8.07	251.20
15					14	392		244135				3.42	95.70
16					9	0		-137564				-1.24	0.00
17					15	372		-69660.5				-1.04	-25.91
18					6	448		-51669.5				-0.31	-23.15
19					6	448		-48087.9				-0.29	-21.54
20	7.6	39	0.45	0.05	6	660	66	1939220	75.63	0.87	0.10	11.64	1279.89
21					6	442		2313840				13.88	1022.72
22					11	464		2124570				23.37	985.80
23					12	466		2834870				34.02	1321.05
24					8	428		2185310				17.48	935.31
25					5	470		1664080				8.32	782.12
26					5	476		1193240				5.97	567.98
27					6	472		1668040				10.01	787.31
28	8.1	26	0.42	0.05	7	476	43	1900310	49.41	0.80	0.10	13.30	904.55
29					12	456		1750330				21.00	798.15
30					8	460		1670220				13.36	768.30

Month				Parameters							Daily Totals		
May	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					7	456		446580				3.13	203.64
2					7	452		1111560				7.78	502.43
3					5	468		847955				4.24	396.84
4	7.5	26	0.53	0.05	5	460	30	891464	23.18	0.47	0.04	4.46	410.07
5					13	418		1693780				22.02	708.00
6					12	434		2135880				25.63	926.97
7					9	460		1297860				11.68	597.02
8					8	444		1625230				13.00	721.60
9					6	458		1880530				11.28	861.28
10					5	440		2091810				10.46	920.40
11	7.6	35	0.5	0.05	5	444	60	2241950	78.47	1.12	0.11	11.21	995.43
12					8	438		2148590				17.19	941.08
13					7	436		2591380				18.14	1129.84
14					5	340		2189170				10.95	744.32
15					5	436		1941720				9.71	846.59
16					5	448		1886410				9.43	845.11
17					5	414		1950660				9.75	807.57
18	7.6	36	0.5	0.05	5	454	63	1824530	65.68	0.91	0.09	9.12	828.34
19					13	442		1906250				24.78	842.56
20					11	452		1303210				14.34	589.05
21					5	382		1386430				6.93	529.62
22					7	408		1715100				12.01	699.76
23					7	420		1839470				12.88	772.58
24					8	448		1126590				9.01	504.71
25	7.6	35	0.37	0.05	5	466	63	925257	32.38	0.34	0.05	4.63	431.17
26					10	436		2276140				22.76	992.40
27					7	342		1327070				9.29	453.86
28					12	440		2441250				29.30	1074.15
29					8	408		2303740				18.43	939.93
30					8	426		1982940				15.86	844.73
31					5	446		1854080				9.27	826.92

Month				Parameters							Daily Totals		
June	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	8.1	29	0.47	0.05	6	390	72	1266970	36.74	0.60	0.06	7.60	494.12
2					19	416		1214150				23.07	505.09
3					20	438		1727790				34.56	756.77
4					17	426		501399				8.52	213.60
5					9	434		740966				6.67	321.58
6					5	454		1070410				5.35	485.97
7					6	454		2141970				12.85	972.45
8	8.2	26	0.5	0.05	23	409	62	1705130	44.33	0.85	0.09	39.22	697.40
9					13	420		1531950				19.92	643.42
10					12	386		1470190				17.64	567.49
11					7	424		1974750				13.82	837.29
12					9	420		1122580				10.10	471.48
13					16	412		1595330				25.53	657.28
14					10	428		1906410				19.06	815.94
15	7.6	22	0.46	0.07	6	452	63	1770210	38.94	0.81	0.12	10.62	800.13
16					9	424		1625280				14.63	689.12
17					14	436		2169480				30.37	945.89
18					7	414		2141070				14.99	886.40
19					6	438		1836020				11.02	804.18
20					5	418		1488750				7.44	622.30
21					6	372		1706090				10.24	634.67
22	7.4	48	0.43	0.05	5	442	68	1868730	89.70	0.80	0.09	9.34	825.98
23					16	348		1624900				26.00	565.47
24					9	426		2037080				18.33	867.80
25					10	426		2648960				26.49	1128.46
26					5	372		2188430				10.94	814.10
27					5	428		383030				1.92	163.94
28					5	436		1161360				5.81	506.35
29	8.1	23	0.55	0.05	5	436	60	1104720	25.41	0.61	0.06	5.52	481.66
30					9	409		672282				6.05	274.96

Month				Parameters							Daily Totals		
July	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					12	398		1123220				13.48	447.04
2					10	426		1766710				17.67	752.62
3					12	402		1462630				17.55	587.98
4					10	430		917997				9.18	394.74
5					6	460		1310990				7.87	603.06
6	7.4	78	0.21	2.08	5	454	78	1446910	112.86	0.30	3.01	7.23	656.90
7					17	432		2543650				43.24	1098.86
8					5	382		2655860				13.28	1014.54
9					5	364		4545750				22.73	1654.65
10					5	297		3490840				17.45	1036.78
11					6	390		2360970				14.17	920.78
12					5	424		1139790				5.70	483.27
13	7.4	30	0.4	0.12	5	470	86	2287870	68.64	0.92	0.27	11.44	1075.30
14					15	420		2458940				36.88	1032.75
15					13	440		2324850				30.22	1022.93
16					7	452		2282300				15.98	1031.60
17					5	466		2032970				10.16	947.36
18					5	374		3245930				16.23	1213.98
19					5	368		2809420				14.05	1033.87
20	7.5	31	0.43	0.13	5	388	163	2303670	71.41	0.99	0.30	11.52	893.82
21					5	468		1790810				8.95	838.10
22					5	412		2416770				12.08	995.71
23					14	426		2293360				32.11	976.97
24					19	414		2128830				40.45	881.34
25					16	450		1795880				28.73	808.15
26					8	424		2079170				16.63	881.57
27					5	440		2255700				11.28	992.51
28	7.5	42	0.21	0.05	5	466	66	1774940	74.55	0.37	0.09	8.87	827.12
29					14	378		1594450				22.32	602.70
30					13	406		1760270				22.88	714.67
31					6	426		1838290				11.03	783.11

Month				Parameters							Daily Totals		
August	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					8	430		1913380				15.31	822.75
2					5	433		1952780				9.76	845.55
3	7.4	19	0.49	0.06	5	450	66	1725540	32.79	0.85	0.10	8.63	776.49
4					11	406		2119570				23.32	860.55
5					11	400		1794870				19.74	717.95
6					11	406		2072010				22.79	841.24
7					10	422		1862130				18.62	785.82
8					6	418		2244460				13.47	938.18
9					5	412		1656900				8.28	682.64
10					6	436		2261680				13.57	986.09
11	8.1	33	0.58	0.07	5	420	67	1936870	63.92	1.12	0.14	9.68	813.49
12					12	352		1786240				21.43	628.76
13					7	386		1603950				11.23	619.12
14					8	392		1336100				10.69	523.75
15					9	399		1572450				14.15	627.41
16					7	432		1835740				12.85	793.04
17	7.5	35	0.04	0.1	7	428	68	1369660	47.94	0.05	0.14	9.59	586.21
18					0	0		1330990				0.00	0.00
19					0	0		1695350				0.00	0.00
20					0	0		1467510				0.00	0.00
21					0	0		2265670				0.00	0.00
22					0	0		1628020				0.00	0.00
23					0	0		1006970				0.00	0.00
24	7.4	41	0.15	0.05	5	434	60	1642310	67.33	0.25	0.08	8.21	712.76
25					13	358		731310				9.51	261.81
26					14	414		1133700				15.87	469.35
27					13	434		465915				6.06	202.21
28					8	428		647576				5.18	277.16
29					7	434		593550				4.15	257.60
30					9	448		582564				5.24	260.99
31	7.5	90	0.46	0.05	7	450	60	847504	76.28	0.39	0.04	5.93	381.38

Month				Parameters							Daily Totals		
Sept	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					17	422		1112040				18.90	469.28
2					16	424		1527150				24.43	647.51
3					7	428		1237520				8.66	529.66
4					5	408		1266270				6.33	516.64
5					5	410		1441460				7.21	591.00
6					5	412		1692160				8.46	697.17
7	7.6	29	0.23	0.05	5	402	111	1975250	57.28	0.45	0.10	9.88	794.05
8					9	354		1793090				16.14	634.75
9					12	410		1600840				19.21	656.34
10					5	374		508183				2.54	190.06
11					0	0		132266				0.00	0.00
12					0	0		113692				0.00	0.00
13					0	0		55529.1				0.00	0.00
14	7.6	16	0.17	0.1	5	472	74	65406.3	1.05	0.01	0.01	0.33	30.87
15					0	0		111824				0.00	0.00
16					0	0		759483				0.00	0.00
17					12	442		1137670				13.65	502.85
18					7	420		675703				4.73	283.80
19					6	436		704495				4.23	307.16
20					5	414		536334				2.68	222.04
21	7.6	27	0.12	0.05	5	444	78	1357050	36.64	0.16	0.07	6.79	602.53
22					0	0		-511568				0.00	0.00
23					0	0		-398958				0.00	0.00
24					0	0		-383828				0.00	0.00
25					0	0		-249091				0.00	0.00
26					0	0		-288078				0.00	0.00
27	7.4	59	0.41	0.05	5	443	91	525807	31.02	0.22	0.03	2.63	232.93
28					5	370		744232				3.72	275.37
29					0	0		990233				0.00	0.00
30					0	0		1504500				0.00	0.00

Month				Parameters							Daily Totals		
Oct	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	210		1391470	0.00	0.00	0.00	6.96	292.21
2					5	174		1391470	0.00	0.00	0.00	6.96	242.12
3					5	264		1391470	0.00	0.00	0.00	6.96	367.35
4					5	350		1391470	0.00	0.00	0.00	6.96	487.01
5	7.5	43	0.5	0.05	5	386	122	1391470	59.83	0.70	0.07	6.96	537.11
6					5	292		1391470	0.00	0.00	0.00	6.96	406.31
7					5	366		1391470	0.00	0.00	0.00	6.96	509.28
8					5	394		1391470	0.00	0.00	0.00	6.96	548.24
9					5	418		1391470	0.00	0.00	0.00	6.96	581.63
10					5	426		1391470	0.00	0.00	0.00	6.96	592.77
11					5	372		1391470	0.00	0.00	0.00	6.96	517.63
12	7.3	52	0.45	0.05	5	272	186	1391470	72.36	0.63	0.07	6.96	378.48
13					5	296		1391470	0.00	0.00	0.00	6.96	411.88
14					5	366		1391470	0.00	0.00	0.00	6.96	509.28
15					5	378		1391470	0.00	0.00	0.00	6.96	525.98
16					5	372		1391470	0.00	0.00	0.00	6.96	517.63
17					5	416		1391470	0.00	0.00	0.00	6.96	578.85
18					5	378		1391470	0.00	0.00	0.00	6.96	525.98
19	7.4	10	0.39	0.07	5	390	108	1391470	13.91	0.54	0.10	6.96	542.67
20					5	391		1391470	0.00	0.00	0.00	6.96	544.06
21					5	406		1391470	0.00	0.00	0.00	6.96	564.94
22					5	400		2916520	0.00	0.00	0.00	14.58	1166.61
23					5	416		8454410	0.00	0.00	0.00	42.27	3517.03
24					5	382		1629160	0.00	0.00	0.00	8.15	622.34
25					5	184		1100130	0.00	0.00	0.00	5.50	202.42
26	7.6	32	0.66	0.05	5	464	80	2403650	76.92	1.59	0.12	12.02	1115.29
27					5	474		2139180	0.00	0.00	0.00	10.70	1013.97
28					5	392		1994720	0.00	0.00	0.00	9.97	781.93
29					5	367		1927500	0.00	0.00	0.00	9.64	707.39
30					5	444		3294260	0.00	0.00	0.00	16.47	1462.65
31					5	440		3861990	0.00	0.00	0.00	19.31	1699.28

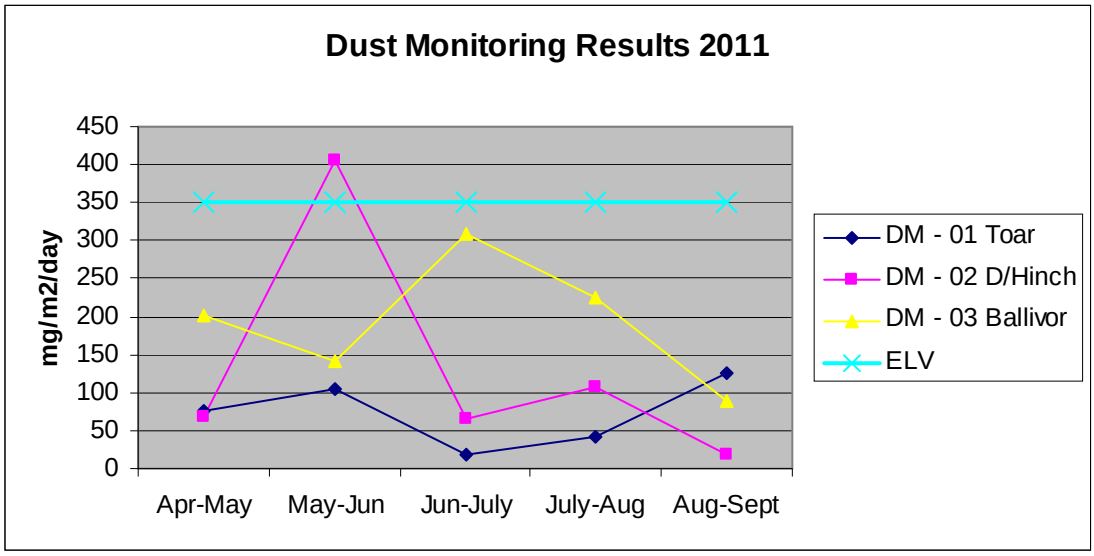
Month				Parameters							Daily Totals		
Nov	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	278		2078870	0.00	0.00	0.00	10.39	577.93
2	8.3	30	0.36	0.05	5	374	80	3456690	103.70	1.24	0.17	17.28	1292.80
3					5	282		5900770	0.00	0.00	0.00	29.50	1664.02
4					5	306		3257970	0.00	0.00	0.00	16.29	996.94
5					5	390		2537480	0.00	0.00	0.00	12.69	989.62
6					5	422		1969920	0.00	0.00	0.00	9.85	831.31
7					5	446		1739490	0.00	0.00	0.00	8.70	775.81
8					5	418		1864860	0.00	0.00	0.00	9.32	779.51
9	7.2	24	0.38	0.05	5	440	97	1626390	39.03	0.62	0.08	8.13	715.61
10					5	442		1996100	0.00	0.00	0.00	9.98	882.28
11					5	446		3091050	0.00	0.00	0.00	15.46	1378.61
12					5	410		2243640	0.00	0.00	0.00	11.22	919.89
13					5	426		1760050	0.00	0.00	0.00	8.80	749.78
14					5	440		1549670	0.00	0.00	0.00	7.75	681.85
15					5	444		1480460	0.00	0.00	0.00	7.40	657.32
16					5	322		2414710	0.00	0.00	0.00	12.07	777.54
17	7.3	55	0.43	0.05	6	424	106	2650920	145.80	1.14	0.13	15.91	1123.99
18					5	384		2944250	0.00	0.00	0.00	14.72	1130.59
19					5	306		3397160	0.00	0.00	0.00	16.99	1039.53
20					5	356		3317330	0.00	0.00	0.00	16.59	1180.97
21					5	298		3256680	0.00	0.00	0.00	16.28	970.49
22					5	354		2678570	0.00	0.00	0.00	13.39	948.21
23					5	344		2289690	0.00	0.00	0.00	11.45	787.65
24	7.2	447	0.42	0.05	5	392	121	5395680	2411.87	2.27	0.27	26.98	2115.11
25					0	0		2690670	0.00	0.00	0.00	0.00	0.00
26					5	388		2925940	0.00	0.00	0.00	14.63	1135.26
27					5	220		2841700	0.00	0.00	0.00	14.21	625.17
28					5	312		5777050	0.00	0.00	0.00	28.89	1802.44
29					0	0		-1280360	0.00	0.00	0.00	0.00	0.00
30					0	0		-1039820	0.00	0.00	0.00	0.00	0.00

Month				Parameters							Daily Totals		
Dec	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2011		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	7.2	24	0.62	0.05	5	272	166	-840758	-20.18	-0.52	-0.04	-4.20	-228.69
2					0	0		-866592	0.00	0.00	0.00	0.00	0.00
3					0	0		-749952	0.00	0.00	0.00	0.00	0.00
4					0	0		-677808	0.00	0.00	0.00	0.00	0.00
5					0	0		-196560	0.00	0.00	0.00	0.00	0.00
6					0	0		1502580	0.00	0.00	0.00	0.00	0.00
7					0	0		4469210	0.00	0.00	0.00	0.00	0.00
8	7.4	52	0.46	0.05	5	372	129	4490810	233.52	2.07	0.22	22.45	1670.58
9					5	368		3645480	0.00	0.00	0.00	18.23	1341.54
10					5	370		3849470	0.00	0.00	0.00	19.25	1424.30
11					5	366		4305570	0.00	0.00	0.00	21.53	1575.84
12					5	390		6471270	0.00	0.00	0.00	32.36	2523.80
13					5	390		5691430	0.00	0.00	0.00	28.46	2219.66
14					5	366		5086450	0.00	0.00	0.00	25.43	1861.64
15	7.8	56	0.53	0.05	5	318	132	4001620	224.09	2.12	0.20	20.01	1272.52
16					5	224		3671910	0.00	0.00	0.00	18.36	822.51
17					5	346		3446150	0.00	0.00	0.00	17.23	1192.37
18					11	372		5619720	0.00	0.00	0.00	61.82	2090.54
19					5	419		6989760	0.00	0.00	0.00	34.95	2928.71
20					5	432		2728770	0.00	0.00	0.00	13.64	1178.83
21					5	414		446515	0.00	0.00	0.00	2.23	184.86
22	7.6	28	0.59	0.09	5	284	133	-21772.8	-0.61	-0.01	0.00	-0.11	-6.18
23					0	0		-397440	0.00	0.00	0.00	0.00	0.00
24					0	0		-60134.4	0.00	0.00	0.00	0.00	0.00
25					0	0		42076.8	0.00	0.00	0.00	0.00	0.00
26					10	339		2885850	0.00	0.00	0.00	28.86	978.30
27					5	370		157766	0.00	0.00	0.00	0.79	58.37
28					5	350		1574290	0.00	0.00	0.00	7.87	551.00
29					5	360		1208300	0.00	0.00	0.00	6.04	434.99
30	7.4	34	0.54	0.05	5	256	128	1795390	61.04	0.97	0.09	8.98	459.62
31					5	310		1277299	0.00	0.00	0.00	6.39	395.96

APPENDIX 4

Dust Monitoring Results.

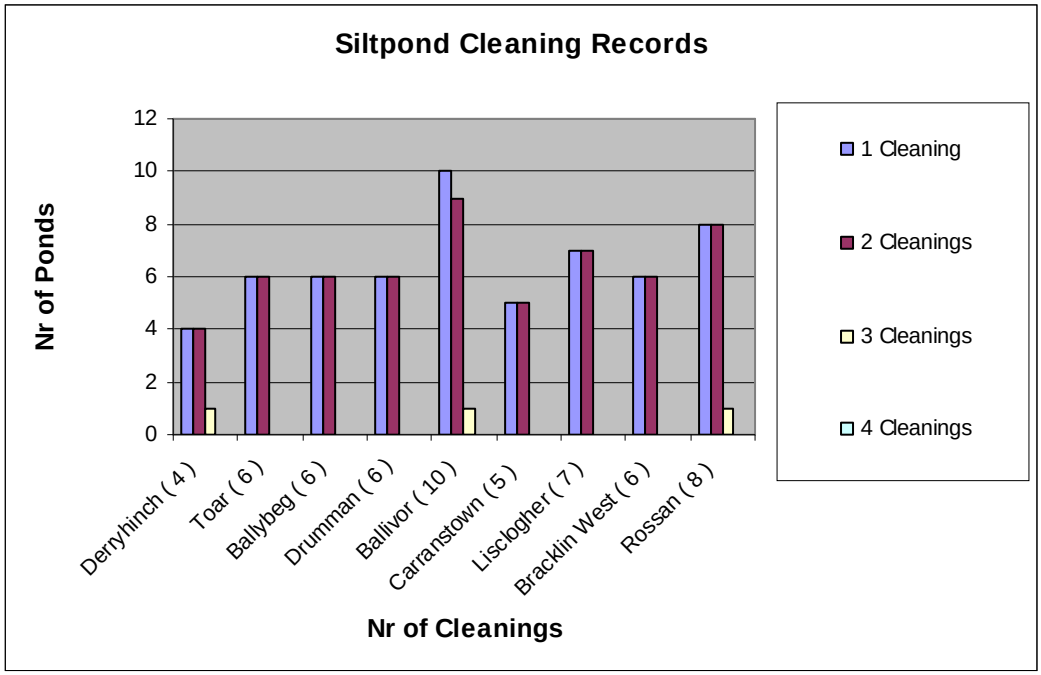
Dust Monitoring Results 2011			
Licence:P0501-01			
Works: Derrygreenagh			
Sample Period	**DM - 01 Toar**	**DM - 02 D/Hinch**	**DM - 03 Ballivor**
Apr-May	75	69	201
May-Jun	105	406	141
Jun-July	18	65	309
July-Aug	42	107	226
Aug-Sep	125	18	89



APPENDIX 5

De-silting Programme Review.

Siltpond Cleaning Programme 2011				
IPPC Licence: P0501-01				
Works: Derrygreenagh				
Bog Area & Nr Ponds	**1 Cleaning**	**2 Cleanings**	**3 Cleanings**	**4 Cleanings**
Derryhinch (4)	4	4	1	
Toar (6)	6	6		
Ballybeg (6)	6	6		
Drumman (6)	6	6		
Ballivor (10)	10	9	1	
Carranstown (5)	5	5		
Lisclogher (7)	7	7		
Bracklin West (6)	6	6		
Rossan (8)	8	8	1	



Facility Information Summary	
AER Reporting Year	2012
Licence Register Number	P0501-01
Name of site	Bord na Mona Derrygreenagh
Site Location	Derrygreenagh, Rochfortbridge, Co Westmeath
NACE Code	0892
Class/Classes of Activity	1.4
National Grid Reference (6E, 6 N)	249450, 238140

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.	Activities on site can be divided into two components, firstly the milling, harrowing, ridiging and harvesting of peat into stockpiles and secondly the transportation of that peat via an internal rail network to the Power Station and lorry outloading facilities. Due to the unprecedented inclement weather experienced during the 2012 production season. 22.2% of production target was achieved. This equates to approximately 57638 tonnes which is a reduction of 78% of the 2011 production achieved. Infrastructurally, there was no bog development. From an environmental perspective silt pond capacity was increased by 1300m³. There were three non-compliances, two related to an Agency audit and one was an exceedence of the ELV as a result of emissions to surface water composite sampling at SW15 Toar bog. The quarterly grab sampling was 100% compliant, There were no environmental complaints received during the reporting period. In relation to silt pond cleaning, 72.5% of ponds received two cleanings, inspections dictating cleaning schedules. Decommissioning and Rehabilitation works are described in an attachment.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

Signature	Date
Group/Facility manager (or nominated, suitably qualified and experienced deputy)	26/3/12

AIR-summary template | Lic No: P0501-01 | Year 2012

Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables	No	

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below		No	
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist?	Basic air monitoring checklist	Yes	

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
	SELECT			SELECT		SELECT	yes	OTH		

Note 1: Volumetric flow shall be included as a reportable parameter

AIR-summary template	Lic No:	P0501-01	Year	2012
Continuous Monitoring				

4	Does your site carry out continuous air emissions monitoring?	No	
	If yes please review your continuous monitoring data and report the required fields below in Table 3 and compare it to its relevant Emission Limit Value (ELV)		
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table 3 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	No	
7	Did your site experience any abatement system bypasses? If yes please detail them in table 4 below	No	

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
DM-01	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	8904	142	0	0	Dust monitioring took place on 5 occasions for 28 days each time between April and September
DM-02	Total Particulates	350	140 Days	Daily average < ELV	mg/m2/day	14084	234	0	0	Ditto
DM-03	Total Particulates	350	140 Days	Daily average < ELV	mg/m2/day	17864	211	0	0	Ditto

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

AIR-summary template	Lic No:	P0501-01	Year	2012

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

SELECT

Table A4: Solvent Management Plan Summary
Total VOC Emission limit value

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site	Total VOC emissions as %of solvent	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-	Solvents destroyed onsite through	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2012

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licenced emissions you only need to complete table W1 and or W2 for surface water analysis and visual inspections	Yes	
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	Monthly COD of yard run-off is attached.

Table W1 Surface water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

				Additional information
3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below		No	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box	External /Internal Lab Quality checklist / Assessment of results checklist	Yes	Surface water monitoring was carried out on a quarterly basis. The results of which are attached.

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision therof[Note 2]	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments
					SELECT		None		SELECT	SELECT	SELECT	SELECT			

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2012

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	Yes	See note above

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	Yes	Total of twenty days over 365 days
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	Yes	Annual calibration schedule and trouble shooting service
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	No	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
SW15	Water	Suspended Solids	35	24 hour	Not Listed	mg/L	9075	37.64%	480	1	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	Ammonia (as N)	NA	Weekly	NA	mg/L	84.68	-21.50%	0	NA	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	Total phosphorus	NA	Weekly	NA	mg/L	10.38	-22.00%	0	NA	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	COD	NA	Weekly	NA	mg/L	9934	-10.80%	0	NA	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	volumetric flow	NA	24 hour	NA	m3/day	1396631085	16.00%	0	NA	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	Total Dissolved Solids	NA	Weekly	NA	mg/L	508131	24.00%	0	NA	Down time was primarily due to battery changes and periods of no flow.

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: P0501-01 Year 2012

Bund testing dropdown menu click to see options

			Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, **in addition to all bunds which failed** the integrity test-**all bunding structures which failed including mobile bunds must be listed in the table below**	Yes	Included are details of bund test results, however going forward only new and failed bunds will be included.
2	Please provide integrity testing frequency period	2 Yearly	
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	Yes	
4	How many bunds are on site?	4	
5	How many of these bunds have been tested witin the required test schedule?	4	
6	How many mobile bunds are on site?	6	
7	Are the mobile bunds included in the bund test schedule?	No	
8	How many of these mobile bunds have been tested witin the required test schedule?	0	
9	How many sumps on site are included in the integrity test schedule?	0	
10	How many of these sumps are integrity tested within the test schedule?	0	
	Please list any sump integrity failures in table B1		
11	Do all sumps and chambers have high level liquid alarms?	NA	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	NA	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
501-07-04	reinforced concrete		Gas Oil	62040	11000	Hydraulic test		Feb-12	Yes	Fail	The bund at Rossan bog failed its hydraulic test	Repaired crack	Mar-13	NA
501-37-01	reinforced concrete		Gas Oil	110592	49500	Hydraulic test		Jan-11	Yes	Pass		NA	Mar-13	
501-08-03	reinforced concrete		Gas Oil	70380	49500	Hydraulic test		Sep-11	Yes	Pass		NA	Mar-13	

			Commentary
14	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance? bunding and storage guidelines	Yes	
15	Are channels/transfer systems to remote containment systems tested?	NA	
16	Are channels/transfer systems compliant in both integrity and available volume?	NA	

Pipeline/underground structure testing

1	Are you required by your licence to undertake integrity testing on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test**	No	
2	Please provide integrity testing frequency period	NA	

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	P0501-01	Year	2012

			Comments
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	no	
2	Are you required to carry out soil monitoring as part of your licence requirements?	no	
3	Do you extract groundwater for use on site? If yes please specify use in comment section	yes	Domestic use
4	Is there contaminated land and /or groundwater on site? If yes please answer q's 5-12	yes	
5	Is the contamination related to operations at the facility (either current and/or historic)	yes	Historic
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	yes	We plan to correlate all historical groundwater results and trend them comparing them to IGV'S and 2010 groundwater regs. Based on the trends we will suggest possible further groundwater monitoring.
7	Please specify the proposed time frame for the remediation strategy	N/A	
8	Is there a licence condition to carry out/update ELRA for the site?	N/A	
9	Has any type of risk assesment been carried out for the site?	yes	
10	Has a Conceptual Site Model been developed for the site?	no	
11	Have potential receptors been identified on and off site?	yes	
12	Is there evidence that contamination is migrating offsite?	no	

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SELECT**	% change in average concentration previous year +/-	Upward trend in pollutant concentration over last 5 years of monitoring data
							SELECT				SELECT
							SELECT				SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	% change in average concentration previous year +/-	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
							SELECT				SELECT

Groundwater/Soil monitoring template					Lic No:	P0501-01		Year	2012		
							SELECT				SELECT

* please note exceedance of a relevant Groundwater threshold value (GTV) at a representative monitoring point does not indicate non compliance, an exceedance triggers further investigation to confirm whether the criteria for poor groundwater chemical status are being met.

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)

Surface water EQS | Groundwater regulations GTV's | Drinking water (private supply) standards | Drinking water (public supply) standards | Interim Guideline Values (IGV)

Groundwater/Soil monitoring template Lic No: P0501-01 Year 2012

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:	P0501-01	Year	2012

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Not a licence requirement	
2	ELRA review status	NA	
3	Amount of Financial Provision cover required as determined by the latest ELRA	NA	
4	Financial Provision for ELRA status	NA	
5	Financial Provision for ELRA - amount of cover	NA	
6	Financial Provision for ELRA - type	NA	
7	Financial provision for ELRA expiry date	NA	
8	Closure plan initial agreement status	Required but not submitted	
9	Closure plan review status	Review required and completed	
10	Financial Provision for Closure status	Required but not submitted	
11	Financial Provision for Closure - amount of cover	NA	Internal Budget Provision
12	Financial Provision for Closure - type	Other please specify	Budgeted Financial Provision
13	Financial provision for Closure expiry date	2030	

Environmental Management Programme/Continuous Improvement Programme template

Lic No: P0501-01 Year 2012

Highlighted cells contain dropdown menu click to view

			Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	Internal unaccredited EMS.
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona	70	In total 30 Personnel received training in 2012. There was one haydraulic harrows deployed at Derryhinch bog.	Individual	Reduced emissions
Waste reduction/Raw material usage efficiency	Waste streamlining is a project we are particularly interested in pursuing and hope to reduce wastes in the future and be more efficient in dealing with all aspects of waste management	100	Installed a waste management system. Quarterly waste reports are returned for records/filing and waste streams are segrated on site to maximise recycling potential.	Section Head	Improved Environmental Management Practices
Materials Handling/Storage/Bunding	Increased bund provisions will be provided where required during 2012	100	A new waste oil handling process was adopted. The former self bunded waste oil tank is not used anymore. Instead a new bunded waste oil container was fabricated and waste oil is now stored in more manageable barrels and stored in the structure while awaiting collection.	Individual	Reduced emissions
Waste reduction/Raw material usage efficiency	Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.	100	In total 133.88 tonnes were sent off site for recycling. Procurement also exploring the possibility of securing further recyclers.	Individual	Improved Environmental Management Practices

Environmental Management Programme/Continuous Improvement Programme template			Lic No:	P0501-01	Year 2012
Energy Management	As part of an energy management process, a review of energy aspects will take place idenfifying the significant energy users of the licensee.	60	As expected gas oil used in the production and transportation of peat is the most significant energy user followed by electrical consumption at workshops and bog pumps.	Section Head	Improved Environmental Management Practices
Reduction of emissions to Water	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona Training Specialists. This new training programme includes Environmental Compliance _ IPPC, Biodiversity, Archaeology and Energy Management. Hydraulic harrows will be deployed at Derryhinch, Ballivor and Rossan bog during the 2012 production season. Continue with the collection of headland peat, particularly at dust sensitive locations.	70	In total 30 Personnel received training in 2012. There was one haydraulic harrows deployed at Derryhinch bog.	Individual	Improved Environmental Management Practices

Noise monitoring summary report	Lic No:	P0501-01	Year	2012

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
2	Was noise monitoring carried out using the EPA Guidance note including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	NA
3	Does your site have a noise reduction plan	NA
4	When was the noise reduction plan last updated?	
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	NA

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No: P0501-01 Year 2012

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below		
2	Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	SEAI - Large Industry Energy Network (LIEN)	yes
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	NA	Not a licence requirement

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	9596	6631	-74%	-31%
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	306	367	-74%	16.60%
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	904.218	606.371	-74%	-33%
Natural gas (CMN)				
Coal/Solid fuel (metric tonnes)	20	20	-74%	0%
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply							
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	32.85		3.15	29.7	
Non-Hazardous (Tonnes)	479.68	23.31		233.98	222.39

Resource Usage/Energy efficiency summary Lic No: P0501-01 Year 2012

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template

Lic No: P0501-01 Year 2012

Complaints

Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	No	Additional information

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		

Total complaints open at start of reporting year	
Total new complaints received during reporting year	
Total complaints closed during reporting year	
Balance of complaints end of reporting year	

Incidents

Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	Yes	Additional information

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Liklihood of reoccurence
16/07/2012	Breach of ELV	Licenced discharge point (SW15)	1. Minor	Water	Adverse weather		Normal activities	EPA	New	Compared results prior to and after event, all of which were within elv's.	Ensure silt pond is maintained as per licence condition.	Complete	Jul-12	Low
11/10/2012	Other(EPA audit findings)	Waste records incomplete	1. Minor	NA	Other (add details)	Missing paperwork	Normal activities	EPA	New	Waste management provider informed of importance of returning all required paperwork.	Ensure quarterly reports contain all required paperwork	Complete	Nov-12	Low
11/10/2012	Other(EPA Audit findings)	Licenced discharge point (DN 6,SW6)	1. Minor	Water	Operational controls		Normal activities	EPA	New	Silt pond desilted the following week	Ensure all ponds are cleaned when required	Complete	Oct-12	Low
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT

Complaints and Incidents summary template Lic No: P0501-01 Year 2012

Total number of incidents current year	3
Total number of incidents previous year	2
% reduction/ increase	33% increase

WASTE SUMMARY Lic No: P0501-01 Year 2012

SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES PRTR facility logon dropdown list click to see options

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

			Additional Information
1	Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility ?; (waste generated within your boundaries is to be captured through PRTR reporting) If yes please enter details in table 1 below	No	
2	Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information	N/A	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	N/A	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code European Waste Catalogue EWC codes	Source of waste accepted	Description of waste accepted **Please enter an accurate and detailed description - which applies to** European Waste Catalogue EWC codes	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/Increase over previous year +/ - %	Reason for reduction/increase from previous reporting year	Packaging Content (%)- only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4	Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	SELECT	
5	Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	SELECT	
6	Does your facility have relevant nuisance controls in place?	SELECT	
7	Do you have an odour management system in place for your facility? If no why?	SELECT	
8	Do you maintain a sludge register on site?	SELECT	

SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY

Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	Licence permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste SELECT UNIT	Lined disposal area occupied by waste SELECT UNIT	Unlined area SELECT UNIT	Comments on liner type
Cell 8													

WASTE SUMMARY

Lic No: P0501-01 Year 2012

Table 4 Environmental monitoring-landfill only

Landfill Manual-Monitoring Standards

Was meterological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments

.+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9	Is leachate from your site treated in a Waste Water Treatment Plant?	SELECT
10	Is leachate released to surface water? If yes please complete leachate mass load information below	SELECT

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
			SELECT	

Derrygreenagh
Decommissioning and Rehabilitation
AER Overview 2012.

Decommissioning work extended to the lifting, removal and recycling of obsolete rail line in Derryarkin bog. A shelter belt was also planted at Ballybeg bog in response to a historical dust issue. In relation to rehabilitation, draft rehabilitation plans have been drawn up for all licensed areas and are available on file with the local environmental co-ordinators. The plans will be submitted to the EPA for review in April 2013. Consultation with statutory and non-statutory consultee's is ongoing as part of Bord na Mona rehabilitation planning under its Biodiversity Objective. A review day of the Bord na Mona Biodiversity Action Plan 2010-2015 for the period 2012 was held in January 2013 and attended by up to 90 interest groups including members of the NPWS, BWI, EPA, Bord na Mona, Coillte, ESBi, IPCC, Golden Eagle Trust, Butterfly Conservation Ireland, NARGC, local game councils, Midland Regional Planning Authority as well as a range of local community groups and Heritage Officers from counties Laois, Offaly, Kildare, Roscommon, Longford, Meath, Galway, Westmeath and Dublin.

BNM Group:	Derrygreenagh		2012	
IPC Licence No.	501			
pH (units)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	6.8	7.2	6.7	6.5
SW 31	6.8	7.1	6.8	6.7
SW 26	6.6	7.1	7.7	6.9
SW 4	7.5	7.7	7.5	7.4
SW4A	7.4	7.7	7.4	7.3
SW 13	7.6	8	7.7	7.6
COD (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	94	105	123	112
SW 31	83	74	94	106
SW 26	46	56	64	125
SW 4	60	54	64	63
SW4A	68	62	71	75
SW 13	46	41	32	49
Ammonia as N (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	1	0.99	1.1	0.81
SW 31	0.6	0.26	0.48	0.43
SW 26	0.68	1.03	0.04	0.27
SW 4	1.81	1.43	0.68	1.9
SW4A	1.12	1.33	1.5	1.3
SW 13	1.27	1.02	0.51	1.1
Total Phosphorus (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	0.05	0.05	0.05	0.05
SW 31	0.05	0.05	0.05	0.05
SW 26	0.05	0.05	0.05	0.13
SW 4	0.05	0.05	0.05	0.05
SW4A	0.05	0.05	0.05	0.05
SW 13	0.05	0.05	0.05	0.05
Suspended Solids (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	5	5	7	5
SW 31	5	5	5	5
SW 26	5	5	5	5
SW 4	10	5	5	5
SW4A	5	5	5	5
SW 13	7	5	5	5
Total Solids (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	172	240	172	152
SW 31	160	190	140	170
SW 26	141	194	302	269
SW 4	154	410	365	340
SW4A	230	296	292	212
SW 13	456	526	478	456

Colour (pt Co Units)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	326	394	502	426
SW 31	369	378	421	454
SW 26	189	247	191	393
SW 4	158	162	211	156
SW4A	300	254	329	296
SW 13	94	88	118	80
Flow (l/s)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
SW 46	8	12	4	12
SW 31	7	15	11	28
SW 26	5	4	7	18
SW 4	10	11	12	20
SW4A	3	6	3	5
SW 13	22	38	22	25

Yard Discharge Results 2012		
Licence: P0501-01		
Works: Derrygreenagh		
Month	**D/Greenagh SWE 2 COD**	**Rossan SWE 1 COD**
Jan	49	97
Feb	18	13
Mar	25	NF
Apr	35	28
May	20	23
June	13	122
July	32	16
Aug	43	34
Sep	28	19
Oct	32	80
Nov	49	20
Dec	54	35

Note: NF denotes no flow at emission point on day of sampling

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.15

REFERENCE YEAR	2012

1. FACILITY IDENTIFICATION

Parent Company Name	Bord na Mona Energy Limited
Facility Name	Bord na Mona Energy Limited
PRTR Identification Number	P0501
Licence Number	P0501-01

Waste or IPPC Classes of Activity

No.	class_name
1.4	The extraction of peat in the course of business which involves an area exceeding 50 hectares.

Address 1	Derrygreenagh
Address 2	Rockfordbridge
Address 3	Mullingar
Address 4	Co Westmeath
	Westmeath
Country	Ireland
Coordinates of Location	-7.25676 53.3910
River Basin District	IEEA
NACE Code	0892
Main Economic Activity	Extraction of peat
AER Returns Contact Name	Enda Mc Donagh
AER Returns Contact Email Address	enda.mcdonagh@bnm.ie
AER Returns Contact Position	Head of Environment
AER Returns Contact Telephone Number	0579345911
AER Returns Contact Mobile Phone Number	0862370816
AER Returns Contact Fax Number	0579345160
Production Volume	63364.0
Production Volume Units	Tonnes
Number of Installations	6
Number of Operating Hours in Year	2216
Number of Employees	60
User Feedback/Comments	
Web Address	www.bnm.ie

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General

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

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

4. WASTE IMPORTED/ACCEPTED ONTO SITE

Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	No

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : P0501 | Facility Name : Bord na Mona Energy Limited | Filename : P0501_2012(1).xls | Return Year : 2012 | 26/03/2013 15:09

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		DM-01	DM-02	DM-03			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
210	Dust	E	OTH	VDI 2119 Blatt 2/Part 2	0.0	0.0	0.0	0.04	0.0	0.04

* 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: Bord na Mona Energy Limited

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

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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		SW46	SW31	SW26	SW4	SW4A	SW13	SW15			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	Emission Point 5	Emission Point 6	Emission Point 7	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
240	**Suspended Solids**	E	OTH	G/19 Based on ALPHA,1998,20th Edition, Method 2540D	1561.0	2404.0	1340.0	2611.0	670.0	4639.0	9053.0	22278.0	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

4.4 RELEASES TO LAND

Link to previous years emissions data

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	01 01 02	No	222.39	wastes from mineral non-metalliferous excavation	D1	E	Volume Calculation	Onsite of generatic	Bord na Mona Energy Ltd,P0501-01	Derrygreenagh,Rochfortbridge,Mullingar,Co Westmeath,Ireland		
Within the Country	02 01 04	No	133.88	waste plastics (except packaging)	R5	M	Weighed	Offsite in Ireland	Leinster Environmentals Ltd,WP 2008/06	Haggardstown,Dundalk,Co Louth,,Ireland		
To Other Countries	08 01 11	Yes	0.0	waste paint and varnish containing organic solvents or other dangerous substances	R1	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Nehlsen,D33300040,Hehlsen,,,,,,Germany	Hehlsen,,,,,,Germany
To Other Countries	11 01 13	Yes	0.0	degreasing wastes containing dangerous substances	R11	C	Volume Calculation	Abroad	Safety Kleen Ltd,99-1	Tallaght,,,,,,Ireland	Solvent Recovery Management,PP33345F,Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom	Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom
Within the Country	13 02 05	Yes	28.3	mineral-based non-chlorinated engine, gear and lubricating oils	R1	C	Volume Calculation	Offsite in Ireland	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Enva Ltd,184-1,Clonminam Industrial Estate,Portlaoise,Laois,,,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	15 01 03	No	7.68	wooden packaging	R1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
To Other Countries	15 02 02	Yes	1.95	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R1	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Lindenschmidt,Reg no E97095037,IINDENSCHMIDT,Kreuztal,,,,Germany	IINDENSCHMIDT,Kreuztal,,,,Germany
To Other Countries	15 02 02	Yes	1.2	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	D10	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	KWA,Reg no E17012100,Lintfort,,,,,Germany	Lintfort,,,,,,Germany
To Other Countries	16 01 07	Yes	1.4	oil filters	R4	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	R.D. Recycling,Reg no 51727/1/KD,Houthalen,,,,,,Belgium	Houthalen,,,,,,Belgium
To Other Countries	16 06 01	Yes	0.0	lead batteries	R6	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Campine Recycling,MLAV/05-173/GVDA,Beerse,,,,,,Belgium	Beerse,,,,,,Belgium
Within the Country	17 04 07	No	92.42	mixed metals	R4	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
To Other Countries	20 01 33	Yes	0.0	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	R4	M	Weighed	Abroad	KMK Metals,W0113-03	Tullamore,Co Offaly,,,,Ireland	KMK Metals Ltd,W0113-03,Tullamore,,,,Offaly,Ireland	Tullamore,,,,Offaly,Ireland
Within the Country	20 03 01	No	17.04	mixed municipal waste	D1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
Within the Country	20 03 01	No	6.27	mixed municipal waste	D1	C	Volume Calculation	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		

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

Facility Information Summary	
AER Reporting Year	2013
Licence Register Number	P0501-01
Name of site	Bord na Mona Derrygreenagh
Site Location	Derrygreenagh, Rochfortbridge, Co Westmeath
NACE Code	0892
Class/Classes of Activity	1.4
National Grid Reference (6E, 6 N)	249450, 238140
A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.	Activities on site can be divided into two components, firstly the milling, harrowing, ridiging and harvesting of peat into stockpiles and secondly the transportation of that peat via an internal rail network to the Power Station and lorry outloading facilities. Due to the exceptionally good weather experienced during the 2013 production season, production increased to approximately 338,330 tonnes which equates to more than a five fold increase of the 2012 production achieved. Infrastructurally, there was no bog development. From an environmental perspective silt pond capacity was increased by 6943m^3. The quarterly grab sampling was 100% compliant. There were 3 environmental complaints received during the reporting period. In relation to silt pond cleaning, 86% of ponds received two cleanings, inspections dictating cleaning schedules. Decommissioning and Rehabilitation works are described in an attachment.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality

E. Mulhall	25-3-14
Signature Group/Facility manager (or nominated, suitably qualified and	Date

AIR-summary template	Lic No:	P0501-01	Year	2013

Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables	No	Fugitive emissions only

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below	No	
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? Basic air monitoring checklist AGN2	Yes	

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

Note 1: Volumetric flow shall be included as a reportable parameter

AIR-summary template	Lic No:	P0501-01	Year	2013

Continuous Monitoring

4	Does your site carry out continuous air emissions monitoring?	No	
	If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)		
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	No	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	No	

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
DM-01	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	6412	80	0	0	Dust monitioring took place on 5 occasions for 28 days each time between April and September
DM-02	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	12516	155	0	0	
DM-03	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	14336	131	0	0	
DM-04	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	9436	184	0	0	
	SELECT				SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

AIR-summary template	Lic No:	P0501-01	Year	2013

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

SELECT

Table A4: Solvent Management Plan Summary
Total VOC Emission limit value

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-	Solvents destroyed onsite through	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2013

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	Monthly COD of yard run-off is attached.

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

				Additional information
3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below		No	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box	External /Internal Lab Quality checklist / Assessment of results checklist	Yes	Surface water monitoring was carried out on a quarterly basis. The results of which are attached.

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision thereof[Note 2]	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2013

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	Yes	See note above

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	Yes	Total of 85 days over 365 days
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	Yes	Annual calibration schedule and trouble shooting service
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	No	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
SW15	Water	Suspended Solids	35	24 hour	All results < 1.5 times ELV, plus 8 from ten results must be < ELV	mg/L	21058	56%	2040	0	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	Ammonia (as N)	2.78	Weekly	NA	mg/L	383	63%	0	0	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	Total phosphorus	NA	Weekly	NA	mg/L	29.85	77%	0	0	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	COD	100	Weekly	NA	mg/L	26894	65%	0	0	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	volumetric flow	NA	24 hour	NA	m3/day	11397	56%	96	0	Down time was primarily due to battery changes and periods of no flow.
SW15	Water	Total Dissolved Solids	NA	Weekly	NA	mg/L	1158977	62%	0	0	Down time was primarily due to battery changes and periods of no flow.

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: P0501-01 Year 2013

Bund testing

dropdown menu click to see options

			Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed** the integrity test-**all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)	Yes	One bund required testing during the reporting period.This was missed due to an oversight and is currently being addressed.
2	Please provide integrity testing frequency period	2 Yearly	
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	Yes	
4	How many bunds are on site?	3	
5	How many of these bunds have been tested within the required test schedule?	2	
6	How many mobile bunds are on site?	6	
7	Are the mobile bunds included in the bund test schedule?	No	
8	How many of these mobile bunds have been tested within the required test schedule?	0	
9	How many sumps on site are included in the integrity test schedule?	0	
10	How many of these sumps are integrity tested within the test schedule? **Please list any sump integrity failures in table B1**	0	
11	Do all sumps and chambers have high level liquid alarms?	NA	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	NA	
13	Is the Fire Water Retention Pond included in your integrity test programme?	N/A	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT					SELECT			SELECT	SELECT		SELECT		
	SELECT					SELECT			SELECT	SELECT		SELECT		

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence

			Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?	bunding and storage guidelines	SELECT	
16	Are channels/transfer systems to remote containment systems tested?		SELECT	
17	Are channels/transfer systems compliant in both integrity and available volume?		SELECT	

Pipeline/underground structure testing

1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**	Yes	No underground tanks or pipelines on site.
2	Please provide integrity testing frequency period	SELECT	

*please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	P0501-01	Year	2013

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	no		Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
2	Are you required to carry out soil monitoring as part of your licence requirements?	no		
3	Do you extract groundwater for use on site? If yes please specify use in comment section	yes	Drinking water well	
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below. Groundwater monitoring template	no		
5	Is the contamination related to operations at the facility (either current and/or historic)	no		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	N/A		
7	Please specify the proposed time frame for the remediation strategy	N/A		
8	Is there a licence condition to carry out/update ELRA for the site?	N/A		
9	Has any type of risk assesment been carried out for the site?	N/A		
10	Has a Conceptual Site Model been developed for the site?	N/A		
11	Have potential receptors been identified on and off site?	N/A		
12	Is there evidence that contamination is migrating offsite?	N/A		Please enter interpretation of data here

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SELECT**	Upward trend in pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

Groundwater/Soil monitoring template	Lic No:	P0501-01	Year	2013

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA.	Groundwater monitoring template
More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31)	Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)	Surface water EQS	Groundwater regulations GTV's	Drinking water (private supply) standards	Drinking water (public supply) standards	Interim Guideline Values (IGV)

Groundwater/Soil monitoring template Lic No: P0501-01 Year 2013

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

	Environmental Liabilities template	Lic No:	P0501-01	Year	2013

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Not a licence requirement	
2	ELRA review status	NA	
3	Amount of Financial Provision cover required as determined by the latest ELRA	NA	
4	Financial Provision for ELRA status	NA	
5	Financial Provision for ELRA - amount of cover	NA	
6	Financial Provision for ELRA - type	NA	
7	Financial provision for ELRA expiry date	NA	
8	Closure plan initial agreement status	NA	Internal Budget Provision
9	Closure plan review status	NA	Internal Budget Provision
10	Financial Provision for Closure status	NA	Internal Budget Provision
11	Financial Provision for Closure - amount of cover	NA	Internal Budget Provision
12	Financial Provision for Closure - type	NA	Internal Budget Provision
13	Financial provision for Closure expiry date	NA	

Environmental Management Programme/Continuous Improvement Programme template

Lic No: P0501-01 Year 2013

Highlighted cells contain dropdown menu click to view

			Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	Internal unaccredited EMS.
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona	90	In total 59 Personnel received training in 2013. There were 4 haydraulic harrows deployed across the licence area..	Individual	Reduced emissions
Waste reduction/Raw material usage efficiency	Waste streamlining is a project we are particularly interested in continuine and hope to reduce wastes further in the future and be more efficient in dealing with all aspects of waste management	100	Installed a waste management system. Quarterly waste reports are returned for records/filing and waste streams are segrated on site to maximise recycling potential.	Section Head	Improved Environmental Management Practices
Waste reduction/Raw material usage efficiency	Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.	100	In total 100.6 tonnes were sent off site for recycling. Procurement also exploring the possibility of securing further recyclers	Individual	Improved Environmental Management Practices
Energy Management	As part of an energy management process, workshop energy audits were carried out with the assistance of SEAI.	70	Workshop audit findings in relation to the utilisation of natural light were implemented reducing the dependence on artifical lighting.	Section Head	Improved Environmental Management Practices

Environmental Management Programme/Continuous Improvement Programme template			Lic No:	P0501-01	Year 2013
Reduction of emissions to water	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona Training Specialists. This new training programme includes Environmental Compliance _ IPPC, Biodiversity, Archaeology and Energy Management. Hydraulic harrows were deployed at 4 locations during the 2013 production season. Continue with the collection of headland peat, particularly at dust sensitive locations.	90	In total 59 Personnel received training in 2013. There were 4 haydraulic harrows deployed across the licence area. Headland peat was collected at all locations and included as part of overall peat returns.	Individual	Improved Environmental Management Practices

Noise monitoring summary report	Lic No:	P0501-01	Year	2013

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
2	Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	NA
3	Does your site have a noise reduction plan	NA
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	NA

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No: P0501-01 Year 2013

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	Nov-12	Report on file
2	Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	Yes	SEAI - Large Industry Energy Network (LIEN)
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	NA	Not a Licence requirement

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	4376	8169	433	46.44
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	367	309	433	-15.8
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	394.609	773.563	433	96
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)	20			
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply							
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	37.79	12.12	4.74	20.93	
Non-Hazardous (Tonnes)	347.67	30.97	0	157.6	159.1

Resource Usage/Energy efficiency summary Lic No: P0501-01 Year 2013

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template

Lic No: P0501-01 Year 2013

Complaints

Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	Yes	Additional information

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
24/05/2013	Air		Dust Complaint	Stopped production durin	Complete	24/05/2013	
11/07/2013	Air		Dust Complaint	Stopped production durin	Complete	11/07/2013	
16/07/2013	Air		Dust Complaint	Stopped production durin	Complete	16/07/2013	
	SELECT				SELECT		
	SELECT				SELECT		

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	3
Total complaints closed during reporting year	3
Balance of complaints end of reporting year	0

Incidents

Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	Yes	Additional information

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurence
08/04/2013	Fire	Drumman Bog	1. Minor	Air	Other (add details	Quad bike trespass	Normal activities	EPA	New	Fire was extinguished	Boundaries Se	Complete	17/04/2013	Low
03/10/2013	Trigger level reached	Derrygreenagh SWE2	1. Minor	Water	Plant or equipment issues		Normal activities	EPA	New	Investigation	None required	Complete	15/10/2013	Low
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT

Total number of incidents current year	2
Total number of incidents previous year	3
% reduction/ increase	-33%

WASTE SUMMARY Lic No: P0501-01 Year 2013

SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES PRTR facility logon dropdown list click to see options

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

			Additional Information
1	Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility ?; (waste generated within your boundaries is to be captured through PRTR reporting) If yes please enter details in table 1 below	SELECT	
2	Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information	SELECT	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	SELECT	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code European Waste Catalogue EWC codes	Source of waste accepted	Description of waste accepted **Please enter an accurate and detailed description - which applies to relevant EWC code** European Waste Catalogue EWC codes	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ Increase over previous year +/ - %	Reason for reduction/ increase from previous reporting year	Packaging Content (%)- only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4	Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	SELECT
5	Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	SELECT
6	Does your facility have relevant nuisance controls in place?	SELECT
7	Do you have an odour management system in place for your facility? If no why?	SELECT
8	Do you maintain a sludge register on site?	SELECT

SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY

Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	Licence permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste	Lined disposal area occupied by waste	Unlined area
										SELECT UNIT	SELECT UNIT	SELECT UNIT
Cell 8												

WASTE SUMMARY Lic No: P0501-01 Year 2013

Table 4 Environmental monitoring-landfill only

Landfill Manual-Monitoring Standards

Was meterological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments

.+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9	Is leachate from your site treated in a Waste Water Treatment Plant?	SELECT
10	Is leachate released to surface water? If yes please complete leachate mass load information below	SELECT

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
			SELECT	

Comments on liner type

Derrygreenagh

Decommissioning and Rehabilitation

AER Overview 2013.

Within the Derrygreenagh licensed area (P0501-01) there were no bogs available for rehabilitation in 2013. Ongoing monitoring of cutaway within the Derrygreenagh licensing area included the monitoring of rehabilitation trials in Drumman Bog. Consultation was carried out with a local community group from Ballivor regarding Bracklin Bog draft rehabilitation plan.

Draft rehabilitation plans for the Derrygreenagh bogs licensed area, including more detailed draft plans for each component bog unit were submitted to the EPA in 2013. The plans will be reviewed in Winter 2014/2015 and updated accordingly. The BNM Ecology Team (who plan and manage rehabilitation) met with the EPA inspectorate in 2013 to outline the general content and a review process was agreed. This will involve a biannual review and update of plans as well as more detail and finalisation of plans for sites that have been taken out of production.

The annual Biodiversity Action Plan review day was held in December 2013 and this included an update on progress of this plan, bog restoration and cutaway rehabilitation for a wide range on statutory and non-statutory consultees including members of the NPWS, BWI, Bord na Mona, Coillte, Inland Fisheries Ireland, An Taisce, IPCC, Irish Red Grouse Association, Irish Wildlife Trust, NARGC, local game councils, Midland Regional Planning Authority as well as a range of local community groups and Heritage Officers from counties Laois, Offaly, Kildare, Roscommon, Longford, Meath, Galway, Westmeath and Dublin.

The Restoration and Aftercare Plans for the Derrygreenagh Group of Bogs was submitted to the Agency in April 2013.

A copy of our Biodiversity Action Plan is available to view and download at http://www.bordnamona.ie/our-company/biodiversity/

Bord na Mona Derrygreenagh

IPPC Licence P0501-01

Siltpond Monitoring Frequency & Results

X	Y	Bog	SW	Monitoring	Sampled	pH	SS	TS	Ammonia	TP	COD	Colour
252468.68	240919.32	Carrick	SW-5	Q1 13	27/03/2013	7.8	5	454	0.23	0.05	36	80
251880.60	234593.13	Ballybeg	SW-13	Q1 13	27/03/2013	7.9	11	222	1.4	0.06	38	80
240425.65	234997.32	Toar	SW-17	Q1 13	27/03/2013	7.1	5	278	1.1	0.05	44	177
266022.62	259613.57	Lisclogher	SW-25	Q1 13	27/03/2013	7.8	5	290	0.18	0.05	63	190
260583.98	256514.28	Lisclogher	SW-26	Q1 13	27/03/2013	6.6	5	192	1.2	0.05	77	160
254528.83	242354.28	Derryhinch	SW-2	Q2 13	23/05/2013	7.8	8	218	2.3	0.05	65	100
253369.19	242417.94	Derryhinch	SW-3	Q2 13	23/05/2013	7.8	7	332	2.7	0.06	41	83
252468.68	240919.32	Carrick	SW-5	Q2 13	23/05/2013	7.9	5	472	0.32	0.05	40	80
252409.71	241163.33	Carrick	SW-6	Q2 13	23/05/2013	7.9	5	432	0.06	0.06	32	51
252473.21	241162.01	Carrick	SW-7	Q2 13	23/05/2013	7.9	5	492	0.06	0.08	39	52
252275.61	239871.62	Drumman	SW-8	Q3 13	22/08/2013	7.8	5	290	0.02	0.05	40	51
252602.78	242540.17	Derryhinch	SW-4	Q3 13	22/08/2013	7.6	5	344	0.05	0.05	83	161
255381.16	243606.05	Derryhinch	SW-1	Q3 13	22/08/2013	7.5	12	237	1.9	0.13	108	125
252623.61	241470.16	Carrick	SW-4A	Q3 13	22/08/2013	7.7	5	336	0.82	0.05	85	284
252950.37	238421.69	Drumman	SW-9	Q3 13	22/08/2013	7.6	5	354	0.02	0.05	82	244
252206.09	235207.02	Ballybeg	SW-12	Q4 13	14/11/2013	7.1	5	306	0.11	0.05	79	263
251880.60	234593.13	Ballybeg	SW-13	Q4 13	14/11/2013	7.6	13	318	1.5	0.05	54	124
252250.49	235061.45	Ballybeg	SW-13A	Q4 13	14/11/2013	7.6	17	342	0.88	0.08	46	103
260583.98	256514.28	Bracklin	SW-26	Q4 13	14/11/2013	6.6	5	50	0.91	0.05	68	206
260609.41	256526.33	Bracklin	SW-27	Q4 13	14/11/2013	6.7	5	138	1	0.05	60	319

Yard Discharge Results 2013		
Licence: P0501-01		
Works: Derrygreenagh		
Month	**D/Greenagh SWE 2 COD**	**Rossan SWE 1 COD**
Jan	44	31
Feb	31	0
Mar	33	69
Apr	50	49
May	23	78
June	26	35
July	0	0
Aug	0	0
Sep	0	0
Oct	112	30
Nov	37	22
Dec	42	12

Note: 0 denotes no flow at emission point on day of sampling

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.18

REFERENCE YEAR	2013

1. FACILITY IDENTIFICATION

Parent Company Name	Bord na Mona Energy Limited
Facility Name	Bord na Mona Energy Limited
PRTR Identification Number	P0501
Licence Number	P0501-01

Waste or IPPC Classes of Activity

No.	class_name
1.4	The extraction of peat in the course of business which involves an area exceeding 50 hectares.

Address 1	Derrygreenagh
Address 2	Rockfordbridge
Address 3	Mullingar
Address 4	Co Westmeath
	Westmeath
Country	Ireland
Coordinates of Location	-7.25676 53.3910
River Basin District	IEEA
NACE Code	0892
Main Economic Activity	Extraction of peat
AER Returns Contact Name	Enda Mc Donagh
AER Returns Contact Email Address	enda.mcdonagh@bnm.ie
AER Returns Contact Position	Head of Environment
AER Returns Contact Telephone Number	0579345911
AER Returns Contact Mobile Phone Number	0862370816
AER Returns Contact Fax Number	0579345160
Production Volume	338330.0
Production Volume Units	Tonnes
Number of Installations	6
Number of Operating Hours in Year	2216
Number of Employees	60
User Feedback/Comments	In accordance with licence condition 6.2 of Technical Amendment A, quarterly sampling is now rotated every quarter and therefore suspended solids results are not factored into loading.
Web Address	www.bnm.ie

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General

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

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

4. WASTE IMPORTED/ACCEPTED ONTO SITE Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	No

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : P0501 | Facility Name : Bord na Mona Energy Limited | Filename : P0501_2013(1).xls | Return Year : 2013 | 31/03/2014 14:39

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		DM-01	DM -02	DM-03			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
210	Dust	E	OTH	VDI 2119 Blatt 2/Part 2	0.0	0.0	0.0	0.0427	0.0	0.0427

* 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: Bord na Mona Energy Limited

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

4.2 RELEASES TO WATERS Link to previous years emissions data | PRTR# : P0501 | Facility Name : Bord na Mona Energy Limited | Filename : P0501_2013(1).xls | Return Year : 2013 | 31/03/2014 14:40

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 co

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		SW 15			
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
240	**Suspended Solids**	E	OTH	G/19 Based on ALPHA,1998,20th Edition, Method 2540D	5062.46	5062.46	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

4.4 RELEASES TO LAND

Link to previous years emissions data

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

| PRTR# : P0501 | Facility Name : Bord na Mona Energy Limited | Filename : P0501_2013(1).xls | Return Year : 2013 | 31/03/2014 14:43

Please enter all quantities on this sheet in Tonnes 0

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	01 01 02	No	159.1	wastes from mineral non-metalliferous excavation	D1	E	Volume Calculation	Onsite of generatic	Bord na Mona Energy Ltd,P0501-01	Derrygreenagh,Rochfortbridge,Mullingar,Co Westmeath,Ireland		
Within the Country	02 01 04	No	100.6	waste plastics (except packaging)	R5	M	Weighed	Offsite in Ireland	Leinster Environmentals Ltd,WP 2008/06	Haggardstown,Dundalk,Co Louth,,Ireland		
To Other Countries	11 01 13	Yes	0.14	degreasing wastes containing dangerous substances	R11	C	Volume Calculation	Abroad	Safety Kleen Ltd,99-1	Tallaght,,.,.,,Ireland	Solvent Recovery Management,PP33345F,Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom	Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom
Within the Country	13 02 05	Yes	16.6	mineral-based non-chlorinated engine, gear and lubricating oils	R1	C	Volume Calculation	Offsite in Ireland	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Enva Ltd,184-1,Clonminam Industrial Estate,Portlaoise,Laois,,,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,,Ireland
Within the Country	15 01 03	No	6.44	wooden packaging	R1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,,Iceland		
To Other Countries	15 02 02	Yes	4.74	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R1	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Lindenschmidt,Reg no E97095037,IINDENSCHMIDT,Kreuztal,...,Germany	IINDENSCHMIDT,Kreuztal,,.,Germany
To Other Countries	16 01 07	Yes	2.5	oil filters	R4	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	R.D. Recycling,Reg no 51727/1/KD,Houthalen,.,.,.,,Belgium	Houthalen,.,.,.,Belgium
To Other Countries	16 06 01	Yes	1.69	lead batteries	R6	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Campine Recycling,MLAV/05-173/GVDA,Beerse,.,.,.,,Belgium	Beerse,.,.,.,Belgium
Within the Country	17 04 07	No	50.56	mixed metals	R4	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,,Iceland		
Within the Country	20 03 01	No	23.93	mixed municipal waste	D1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,,Iceland		
Within the Country	20 03 01	No	7.04	mixed municipal waste	D1	M	Volume Calculation	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,,Iceland		
To Other Countries	17 06 05	Yes	12.12	construction materials containing asbestos (18)	D1	M	Weighed	Abroad	Rialta Environmental Ltd,WCP-DC-09-1192-01	Block 402 Grants Drive,Greenogue Business Park,Rathcoole,Dublin,Ireland	Grobenasper Entsorgungsgesellschaft & co,A60100507,Bimohler Strabe,5724623,Grobenasper ,.,Germany	Bimohler Strabe,5724623,Grobenasper ,.,Germany

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

Facility Information Summary	
AER Reporting Year	2014
Licence Register Number	P0501-01
Name of site	Bord na Mona Derrygreenagh
Site Location	Derrygreenagh, Rochfortbridge, Co Westmeath
NACE Code	0892
Class/Classes of Activity	1.4
National Grid Reference (6E, 6 N)	249450, 238140

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.

Activities on site can be divided into two components, firstly the milling, harrowing, ridiging and harvesting of peat into stockpiles and secondly the transportation of that peat via an internal rail network to the Power Station and lorry outloading facilities. Production achieved was approximately 292,439 tonnes which was down on the 2013 figure. Infrastructurally, there was no bog development. From an environmental perspective silt pond capacity was increased by 1800m^3. There was also 1.7 km of shelter belt planted adjacent to the M6 motorway at Derryhinch Bog and 210 metres at Ballybeg Bog. The quarterly grab sampling was 100% compliant, with the continuous composite sampling returning one non-compliance for suspended solids. There were no environmental complaints received during the reporting period. In relation to silt pond cleaning, 86% of ponds received two cleanings, inspections dictating cleaning schedules. Decommissioning and Rehabilitation works are described in an attachment.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

E. Mulhall.	24-3-15
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

AIR-summary template	Lic No:	#REF!	Year	#REF!

Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables	No	Fugitive emissions only

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below	No	
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? Basic air monitoring checklist AGN2	Yes	

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

Note 1: Volumetric flow shall be included as a reportable parameter

AIR-summary template	Lic No:	#REF!	Year	#REF!

Continuous Monitoring

4	Does your site carry out continuous air emissions monitoring?	No	
	If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)		
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	No	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	No	

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
DM-01	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	4228	46	0	0	Dust monitioring took place on 5 occasions for 28 days each time between April and September
DM-02	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	15204	258	0	0	
DM-03	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	16660	205	0	0	
DM-04	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	11676	150	0	0	
	SELECT				SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

AIR-summary template	Lic No:	#REF!	Year	#REF!

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

SELECT

Table A4: Solvent Management Plan Summary
Total VOC Emission limit value

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-	Solvents destroyed onsite through	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: #REF! Year #REF!

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	Monthly COD of yard run-off is attached.

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below	No	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box (External /Internal Lab Quality checklist; Assessment of results checklist)	Yes	Surface water monitoring was carried out on a quarterly basis. The results of which are attached.

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision thereof[Note 2]	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: #REF! Year #REF!

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	Yes	Flow proportionate composite sampling

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	Yes	Total of 47 days over 365 days
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	Yes	
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	No	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
SW15	Water	Suspended Solids	35	24 hour	All results < 1.5 times ELV, plus 8 from ten results must be < ELV	mg/L	13633	-35%	1128	1	54 mg/l on 02/08/2014. Due to 74mm of rainfall during preceeding 48 hours. Down time primarily due to battery changes and periods of no flow.
SW15	Water	Ammonia (as N)	2.78	Weekly	NA	mg/L	203.63	-46.88%			The % reduction can be attributed to 50% less down time on 2013.
SW15	Water	Total phosphorus	NA	Weekly	NA	mg/L	17.23	-42.27%			The % reduction can be attributed to 50% less down time on 2013.
SW15	Water	COD	100	Weekly	NA	mg/L	15020	-44.15%			The % reduction can be attributed to 50% less down time on 2013.
SW15	Water	volumetric flow	NA	24 hour	NA	m3/day	2472279	-33.25%	1128		Down time primarily due to battery changes and periods of no flow
SW15	Water	Total Dissolved Solids	NA	Weekly	NA	mg/L	760052	-34.42%			The % reduction can be attributed to 50% less down time on 2013.

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: #REF! Year #REF!

Bund testing

dropdown menu click to see options

			Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed** the integrity test-**all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)	Yes	
2	Please provide integrity testing frequency period	Other (2 Yearly)	
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	Yes	
4	How many bunds are on site?	3	
5	How many of these bunds have been tested within the required test schedule?	1	Passed
6	How many mobile bunds are on site?	6	
7	Are the mobile bunds included in the bund test schedule?	No	
8	How many of these mobile bunds have been tested within the required test schedule?	0	
9	How many sumps on site are included in the integrity test schedule?	0	
10	How many of these sumps are integrity tested within the test schedule?	0	
	Please list any sump integrity failures in table B1		
11	Do all sumps and chambers have high level liquid alarms?	N/A	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	N/A	
13	Is the Fire Water Retention Pond included in your integrity test programme?	N/A	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT					SELECT			SELECT	SELECT		SELECT		
	SELECT					SELECT			SELECT	SELECT		SELECT		

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence

			Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?	bunding and storage guidelines	SELECT	
16	Are channels/transfer systems to remote containment systems tested?		SELECT	
17	Are channels/transfer systems compliant in both integrity and available volume?		SELECT	

Pipeline/underground structure testing

1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**	Yes	No underground tanks or pipelines on site
2	Please provide integrity testing frequency period	SELECT	

*please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	#REF!	Year	#REF!

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	no		Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
2	Are you required to carry out soil monitoring as part of your licence requirements?	no		
3	Do you extract groundwater for use on site? If yes please specify use in comment section	yes	Drinking water well	
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below. Groundwater monitoring template	no		
5	Is the contamination related to operations at the facility (either current and/or historic)	no		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	N/A		
7	Please specify the proposed time frame for the remediation strategy	N/A		
8	Is there a licence condition to carry out/update ELRA for the site?	N/A		
9	Has any type of risk assesment been carried out for the site?	N/A		
10	Has a Conceptual Site Model been developed for the site?	N/A		
11	Have potential receptors been identified on and off site?	N/A		
12	Is there evidence that contamination is migrating offsite?	N/A		Please enter interpretation of data here

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SELECT**	Upward trend in pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

Groundwater/Soil monitoring template	Lic No:	#REF!	Year	#REF!

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA.	Groundwater monitoring template
More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31)	Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)	Surface water EQS	Groundwater regulations GTV's	Drinking water (private supply) standards	Drinking water (public supply) standards	Interim Guideline Values (IGV)

Groundwater/Soil monitoring template Lic No: #REF! Year #REF!

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:	#REF!	Year	#REF!

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Not a licence requirement	
2	ELRA review status	NA	
3	Amount of Financial Provision cover required as determined by the latest ELRA	NA	
4	Financial Provision for ELRA status	NA	
5	Financial Provision for ELRA - amount of cover	NA	
6	Financial Provision for ELRA - type	NA	
7	Financial provision for ELRA expiry date	NA	
8	Closure plan initial agreement status	NA	Internal budget provision
9	Closure plan review status	NA	Internal budget provision
10	Financial Provision for Closure status	NA	Internal budget provision
11	Financial Provision for Closure - amount of cover	NA	Internal budget provision
12	Financial Provision for Closure - type	NA	Internal budget provision
13	Financial provision for Closure expiry date	NA	

Environmental Management Programme/Continuous Improvement Programme template

Lic No: #REF! Year #REF!

Highlighted cells contain dropdown menu click to view

			Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	Internal unaccredited EMS.
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Hydraulic harrows will be deployed at dust sensitive locations. Continue with the collection of headland peat.	90	In total 115 personnel received training during 2014. At Derryhinch 1.7 km of shelter belt planted with 210 metres planted at Ballybeg. Hydraulic harrows were depolyed at 4 locations. Headland peat was collected at all locations and returned with production figures.	Individual	Reduced emissions
Waste reduction/Raw material usage efficiency	Waste streamlining is a project we are particularly interested in continuing and hope to reduce wastes further in the future and be more efficient in dealing with all aspects of waste management	80	Installed a waste management system. Quarterly waste reports are returned for records/filing and waste streams are segrated on site to maximise recycling potential.	Section Head	Improved Environmental Management Practices

Environmental Management Programme/Continuous Improvement Programme template				Lic No: #REF!	Year #REF!
Waste reduction/Raw material usage efficiency	Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.	100	In total 117.06 tonnes were sent off site for recycling. Procurement also exploring the possibility of securing further recyclers.	Individual	Improved Environmental Management Practices
Energy Management	As part of an Energy Awareness campaign all aspects of energy consumption will be communicated to personnel with the intention of reducing consumption through awareness	100	A launch event took place where the various energy aspects of the process was communicated, with a breakdown of individuals consumption across all areas of operation.	Section Head	Reduce overall energy output while maintaining productivity.
Reduction of emissions to Water	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Continue with the collection of headland peat.	90	In total 115 Personnel received training in 2014. Headland peat was collected at all locations and included as part of overall peat returns.	Individual	Improved Environmental Management Practices

Noise monitoring summary report	Lic No:	#REF!	Year	#REF!

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
2	Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	NA
3	Does your site have a noise reduction plan	NA
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	NA

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No: #REF! Year #REF!

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	Nov-12	Report on file
2	Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	Yes	SEAI - Large Industry Energy Network (LIEN)
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	NA	Not a Licence requirement

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	8169	7343	-13.56%	+10.1%
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	309	360	-13.56%	+16.5%
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	773.563	687.266	-13.56%	-11.12%
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply							
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	44.64	0	0	44.64	0
Non-Hazardous (Tonnes)	396.91	60.37	0	135.33	201.21

Resource Usage/Energy efficiency summary Lic No: #REF! Year #REF!

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template

Lic No: #REF! Year #REF!

Complaints

Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	No	Additional information

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	0
Total complaints closed during reporting year	0
Balance of complaints end of reporting year	0

Incidents

Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	Yes	Additional information

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurence
19/03/2014	Trigger level reached	SW34 Carranstown	1. Minor	Water	Other (add details	Naturally occurring	Normal activities	EPA	New	Investigate	None Required	Complete	17/04/2014	Medium
13/06/2014	Trigger level reached	SW25 Lisclogher	1. Minor	Water	Other (add details	Naturally occurring	Normal activities	EPA	New	Investigate	None Required	Complete	20/06/2014	Medium
13/06/2014	Trigger level reached	SW36 Ballivor	1. Minor	Water	Other (add details	Naturally occurring	Normal activities	EPA	New	Investigate	None Required	Complete	20/06/2014	Medium
24/07/2014	Trigger level reached	SW42/43 Rossan	1. Minor	Water	Other (add details	Naturally occurring	Normal activities	EPA	New	Investigate	None Required	Complete	18/08/2014	Low
02/08/2014	Breach of ELV	SW15 Toar	1. Minor	Water	Adverse weather		Normal activities	EPA	New	Cleaned upstream silt	Clean pond to	Complete	25/08/2014	Medium
15/10/2014	Trigger level reached	SW44/47 Rossan	1. Minor	Water	Other (add details	Naturally occurring	Normal activities	EPA	New	Investigate	None Required	Complete	29/10/2014	Medium
04/12/2014	Trigger level reached	SWE1 Rossan	1. Minor	Water	Adverse weather		Normal activities	EPA	New	Investigate	None Required	Complete	22/12/2014	Low

Total number of incidents current year	7
Total number of incidents previous year	2
% reduction/ increase	+250%

WASTE SUMMARY Lic No: #REF! Year #REF!

SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES PRTR facility logon dropdown list click to see options

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

			Additional Information
1	Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility ?; (waste generated within your boundaries is to be captured through PRTR reporting) If yes please enter details in table 1 below	N/A	
2	Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information	N/A	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	N/A	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code European Waste Catalogue EWC codes	Source of waste accepted	Description of waste accepted **Please enter an accurate and detailed description - which applies to relevant EWC code** European Waste Catalogue EWC codes	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ Increase over previous year +/ - %	Reason for reduction/ increase from previous reporting year	Packaging Content (%)- only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4	Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	SELECT	
5	Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	SELECT	
6	Does your facility have relevant nuisance controls in place?	SELECT	
7	Do you have an odour management system in place for your facility? If no why?	SELECT	
8	Do you maintain a sludge register on site?	SELECT	

SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY

Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	Licence permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste	Lined disposal area occupied by waste	Unlined area
										SELECT UNIT	SELECT UNIT	SELECT UNIT
Cell 8												

WASTE SUMMARY Lic No: #REF! Year #REF!

Table 4 Environmental monitoring-landfill only

Landfill Manual-Monitoring Standards

Was meterological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments

.+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9	Is leachate from your site treated in a Waste Water Treatment Plant?	SELECT
10	Is leachate released to surface water? If yes please complete leachate mass load information below	SELECT

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
			SELECT	

Comments on liner type

Derrygreenagh

Decommissioning and Rehabilitation

AER Overview 2014.

Within the Derrygreenagh licensed area (P0501-01) there were no entire bog units available for rehabilitation in 2014. Ongoing monitoring of cutaway within the Derrygreenagh licensing area included the re-survey of Derryarkin and Cavemount bogs.

Draft rehabilitation plans for the Derrygreenagh bogs licensed area, including more detailed draft plans for each component bog unit were submitted to the EPA in 2013. The BNM Ecology Team (who plan and manage rehabilitation) met with the EPA inspectorate in 2013 to outline the general content of the rehab plans and a review process was agreed. This will involve a biannual review and update of plans as well as more detail and finalisation of plans for sites that have been taken out of production. The plans are currently under review (March-April 2015).

The annual Biodiversity Action Plan review day was held in February 2015 and this included an update on progress of this plan, bog restoration and cutaway rehabilitation for a wide range on statutory and non-statutory consultees including members of the EPA, NPWS, BWI, Bord na Mona, Coillte, Inland Fisheries Ireland, An Taisce, IPCC, Irish Red Grouse Association, Irish Wildlife Trust, NARGC, local game councils, Midland Regional Planning Authority as well as a range of local community groups and Heritage Officers from counties Laois, Offaly, Kildare, Roscommon, Longford, Meath, Galway, Westmeath and Dublin.

A copy of our Biodiversity Action Plan is available to view and download at http://www.bordnamona.ie/our-company/biodiversity/

Bord na Mona Derrygreenagh

IPPC Licence P0501-01

Siltpond Monitoring Frequency & Results

X	Y	Bog	SW	Monitoring	Sampled	pH	SS	TS	Ammonia	TP	COD	Colour
259415.30	256855.75	Bracklin	SW-29	Q1 14	19/03/2014	7.3	5	312	1.9	0.07	67	220
259519.45	257618.44	Bracklin	SW-30	Q1 14	19/03/2014	7.4	5	288	0.61	0.06	62	203
265632.83	254865.04	Carranstown	SW-33	Q1 14	19/03/2014	7.4	11	338	0.73	0.06	69	228
265886.95	254984.18	Carranstown	SW-34	Q1 14	19/03/2014	7.2	13	410	1.6	0.14	133	453
265140.06	254114.54	Ballivor	SW-35	Q1 14	19/03/2014	7.3	5	518	0.3	0.05	123	284
To Be Confirmed	To Be Confirmed	Ballivor	SW-36	Q2 14	13/06/2014	7.7	39	342	0.02	0.11	120	169
266022.62	259613.57	Lisclogher	SW-25	Q2 14	13/06/2014	7.4	17	400	2.8	0.07	76	246
To Be Confirmed	To Be Confirmed	Lisclogher	SW-28	Q2 14	13/06/2014	7.6	8	404	0.25	0.08	68	308
To Be Confirmed	To Be Confirmed	Ballivor	SW-37	Q2 14	13/06/2014	7.5	5	434	1.5	0.07	63	183
265878.97	253506.58	Ballivor	SW-38	Q2 14	13/06/2014	7.6	5	248	0.02	0.07	63	182
265888.99	253456.63	Ballivor	SW-39	Q3 14	27/07/2014	7.1	5	200	0.05	0.05	69	114
266366.86	251598.58	Ballivor	SW-40	Q3 14	27/07/2014	7.3	5	462	0.94	0.05	67	155
266386.45	251579.18	Ballivor	SW-41	Q3 14	27/07/2014	7.2	21	448	0.02	0.21	82	103
To Be Confirmed	To Be Confirmed	Rossan	SW-42	Q3 14	27/07/2014	6.6	6	144	3.1	0.05	109	287
259965.18	243847.63	Rossan	SW-43	Q3 14	27/07/2014	6.7	6	142	2.6	0.05	106	301
To Be Confirmed	To Be Confirmed	Rossan	SW-44	Q4 14	15/10/2014	7.2	5	260	0.29	0.08	136	370
258846.25	243853.76	Rossan	SW-45	Q4 14	15/10/2014	7.4	5	190	2.2	0.05	64	106
260629.22	242141.39	Rossan	SW-46	Q4 14	15/10/2014	7.4	5	235	1	0.05	83	236
260145.55	242266.71	Rossan	SW-47	Q4 14	15/10/2014	6.8	5	208	2.6	0.05	107	331
To Be Confirmed	To Be Confirmed	Rossan	SW-48	Q4 14	15/10/2014	7.4	5	196	2.2	0.06	68	187

Yard Discharge Results 2014		
Licence: P0501-01		
Works: Derrygreenagh		
Month	**D/Greenagh SWE 2 COD**	**Rossan SWE 1 COD**
Jan	44	16
Feb	38	41
Mar	32	26
Apr	30	18
May	30	25
June	12	13
July	23	40
Aug	36	95
Sep	29	66
Oct	38	30
Nov	38	23
Dec	33	110

Note: 0 denotes no flow at emission point on day of sampling

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.18

REFERENCE YEAR	2014

1. FACILITY IDENTIFICATION

Parent Company Name	Bord na Mona Energy Limited
Facility Name	Bord na Móna Energy Limited (Derrygreenagh)
PRTR Identification Number	P0501
Licence Number	P0501-01

Classes of Activity

No.	**class_name**
-	Refer to PRTR class activities below

Address 1	Derrygreenagh Group
Address 2	c/o Derrygreenagh Works
Address 3	Rochfortbridge
Address 4	Mullingar
	Westmeath
Country	Ireland
Coordinates of Location	-7.25676 53.3910
River Basin District	IEEA
NACE Code	0892
Main Economic Activity	Extraction of peat
AER Returns Contact Name	Enda Mc Donagh
AER Returns Contact Email Address	enda.mcdonagh@bnm.ie
AER Returns Contact Position	Head of Environment
AER Returns Contact Telephone Number	0579345911
AER Returns Contact Mobile Phone Number	0862370816
AER Returns Contact Fax Number	0579345160
Production Volume	292439.0
Production Volume Units	Tonnes
Number of Installations	6
Number of Operating Hours in Year	2216
Number of Employees	60
User Feedback/Comments	In accordance with licence condition 6.2 of Technical Amendment A, quarterly sampling is now rotated every quarter and therefore suspended solids results are not factored into loading.
Web Address	www.bnm.ie

2. PRTR CLASS ACTIVITIES

Activity Number	**Activity Name**
50.1	General

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

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

4. WASTE IMPORTED/ACCEPTED ONTO SITE Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	No

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

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : P0501 | Facility Name : Bord na Móna Energy Limited (Derrygreenagh) | Filename : P0501_2014.xls | Return Year : 2014 | 23/03/2015 12:16

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		DM-01	DM-02	DM03	DM-04			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
210	**Dust**	E	OTH	VDI 2119 Blatt 2/Part 2	0.0	0.0	0.0	0.0	0.0477	0.0	0.0477

* 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: Bord na Móna Energy Limited (Derrygreenagh)

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 only concerns Releases from

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					SW 15			QUANTITY		
			Method Used							
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
240	**Suspended Solids**	E	OTH	G/19 Based on ALPHA,1998,20th Edition, Method 2540D	13633.0	0.0	0.0	13633.0	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

| PRTR# : P0501 | Facility Name : Bord na Móna Energy Limited (Derrygreenagh) | Filename : P0501_20 23/03/2015 12:18

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

4.4 RELEASES TO LAND

Link to previous years emissions data

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 0

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	01 01 02	No	201.21	wastes from mineral non-metalliferous excavation	D1	E	Volume Calculation	Onsite of generatic	Bord na Mona Energy Ltd,P0501-01	Derrygreenagh,Rochfortbridge,Mullingar,Co Westmeath,Ireland		
Within the Country	02 01 04	No	117.06	waste plastics (except packaging)	R5	M	Weighed	Offsite in Ireland	Leinster Environmentals Ltd,WP 2008/06	Haggardstown,Dundalk,Co Louth,,Ireland		
To Other Countries	11 01 13	Yes	0.38	degreasing wastes containing dangerous substances	R11	C	Volume Calculation	Abroad	Safety Kleen Ltd,99-1	Tallaght,,.,.,,Ireland	Solvent Recovery Management,PP33345F,Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom	Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom
Within the Country	13 02 05	Yes	38.97	mineral-based non-chlorinated engine, gear and lubricating oils	R1	C	Volume Calculation	Offsite in Ireland	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Enva Ltd,184-1,Clonminam Industrial Estate,Portlaoise,Laois,,,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,,Ireland
Within the Country	15 01 03	No	3.65	wooden packaging	R1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,,Iceland		
To Other Countries	15 02 02	Yes	0.72	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R1	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Lindenschmidt,Reg no E97095037,IINDENSCHMIDT,Kreuztal,,.,,Germany	IINDENSCHMIDT,Kreuztal,,.,,Germany
To Other Countries	16 01 07	Yes	4.08	oil filters	R4	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	R.D. Recycling,Reg no 51727/1/KD,Houthalen,.,.,.,Belgium	Houthalen,.,.,.,Belgium
Within the Country	17 04 07	No	14.62	mixed metals	R4	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,,Iceland		
Within the Country	20 03 01	No	54.59	mixed municipal waste	D1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,,Iceland		
Within the Country	20 03 01	No	5.78	mixed municipal waste	D1	M	Volume Calculation	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,,Iceland		
To Other Countries	08 01 11	Yes	0.49	waste paint and varnish containing organic solvents or other dangerous substances	R1	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Recyfuel Ltd,BE0459.735.458,Enghis,.,.,.,Belgium	Enghis,.,.,.,Belgium

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

Facility Information Summary	
AER Reporting Year	2015
Licence Register Number	P0501-01
Name of site	Bord na Mona Derrygreenagh
Site Location	Derrygreenagh, Rochfortbridge, Co Westmeath
NACE Code	0892
Class/Classes of Activity	1.4
National Grid Reference (6E, 6 N)	249450, 238140

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.	Activities on site can be divided into two components, firstly the milling, harrowing, ridiging and harvesting of peat into stockpiles and secondly the transportation of that peat via an internal rail network to the Power Station and lorry outloading facilities. Production achieved was approximately 261,668 tonnes which was down on the 2014 figure. Infrastructurally, there was no bog development. The quarterly grab sampling was 100% compliant, with the continuous composite sampling returning no non-compliances for suspended solids. There was one environmental complaint received during the reporting period. In relation to silt pond cleaning, almost 88% of ponds received two cleanings, inspections dictating cleaning schedules. Decommissioning and Rehabilitation works are described in an attachment.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

E. Mulhall	15-3-16
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

AIR-summary template	Lic No:	#REF!	Year	#REF!

Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables	No	Fugitive emissions only

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below	No	
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? Basic air monitoring checklist AGN2	Yes	

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

Note 1: Volumetric flow shall be included as a reportable parameter

AIR-summary template	Lic No:	#REF!	Year	#REF!

Continuous Monitoring

4	Does your site carry out continuous air emissions monitoring?	No	
	If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)		
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	No	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	No	

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
DM-01	Total Particulates	350	84 DAYS	Daily average < ELV	mg/m2/day	4452	67	0	0	Dust monitioring took place on 3 occasions for 28 days each time between April and July
DM-02	Total Particulates	350	84 DAYS	Daily average < ELV	mg/m2/day	14336	356	0	1	Alder refINCI 007955
DM-03	Total Particulates	350	84 DAYS	Daily average < ELV	mg/m2/day	16940	305	0	0	
DM-04	Total Particulates	350	84 DAYS	Daily average < ELV	mg/m2/day	17696	505	0	1	Alder refINCI 008395
	SELECT				SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table

Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

AIR-summary template	Lic No:	#REF!	Year	#REF!

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

SELECT

Table A4: Solvent Management Plan Summary
Total VOC Emission limit value

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-	Solvents destroyed onsite through	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: #REF! Year #REF!

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	Monthly COD of yard run-off is attached.

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below		No	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box	External /Internal Lab Quality checklist / Assessment of results checklist	Yes	Surface water monitoring was carried out on a quarterly basis. The results of which are attached.

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision thereof[Note 2]	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: #REF! Year #REF!

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	Yes	Flow proportionate composite sampling

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	Yes	Total of 22 days over 365 days
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	Yes	
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	No	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
SW15	Water	Suspended Solids	35	24 hour	All results < 1.5 times ELV, plus 8 from ten results must be < ELV	mg/L	14947.98	10%		0	Down time primarily due to battery changes and periods of no flow.
SW15	Water	Ammonia (as N)	2.78	Weekly	NA	mg/L	200.46	-1.55%			
SW15	Water	Total phosphorus	NA	Weekly	NA	mg/L	20.24	17.47%			Percentage increase can be attributed to decreased downtime by 50%
SW15	Water	COD	100	Weekly	NA	mg/L	13344.34	-11.15%			
SW15	Water	volumetric flow	NA	24 hour	NA	m3/day	2204534796	-10.82%	528		Down time primarily due to battery changes and periods of no flow
SW15	Water	Total Dissolved Solids	NA	Weekly	NA	mg/L	849112	11.71%			Percentage increase can be attributed to decreased downtime by 50%

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: #REF! Year #REF!

Bund testing — dropdown menu click to see options

			Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed** the integrity test-**all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)	Yes	
2	Please provide integrity testing frequency period	Other (2 Yearly)	
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	Yes	
4	How many bunds are on site?	3	
5	How many of these bunds have been tested within the required test schedule?	3	1 Passed, 1 scheduled for decommissioning,1 due for test in 2016
6	How many mobile bunds are on site?	6	
7	Are the mobile bunds included in the bund test schedule?	No	
8	How many of these mobile bunds have been tested within the required test schedule?	0	
9	How many sumps on site are included in the integrity test schedule?	0	
10	How many of these sumps are integrity tested within the test schedule?	0	
	Please list any sump integrity failures in table B1		
11	Do all sumps and chambers have high level liquid alarms?	N/A	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	N/A	
13	Is the Fire Water Retention Pond included in your integrity test programme?	N/A	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
Derrygreenagh 501-37-01	reinforced concrete		Gas oil	49,500	45000	Hydraulic test		20/03/2015	Yes	Pass		SELECT		
Rossan 501-07-04	reinforced concrete		Gas oil	11000	10000	Hydraulic test		20/04/2015	Yes	Fail	Cracks on outer wall	Other (It has been decided to replace with double skinned tank)		

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence

			Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?	bunding and storage guidelines	SELECT
16	Are channels/transfer systems to remote containment systems tested?		SELECT
17	Are channels/transfer systems compliant in both integrity and available volume?		SELECT

Pipeline/underground structure testing

1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**	Yes	No underground tanks or pipelines on site
2	Please provide integrity testing frequency period	SELECT	

*please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	#REF!	Year	#REF!

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	no		Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
2	Are you required to carry out soil monitoring as part of your licence requirements?	no		
3	Do you extract groundwater for use on site? If yes please specify use in comment section	yes	Drinking water well	
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below. Groundwater monitoring template	no		
5	Is the contamination related to operations at the facility (either current and/or historic)	no		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	N/A		
7	Please specify the proposed time frame for the remediation strategy	N/A		
8	Is there a licence condition to carry out/update ELRA for the site?	N/A		
9	Has any type of risk assesment been carried out for the site?	N/A		
10	Has a Conceptual Site Model been developed for the site?	N/A		
11	Have potential receptors been identified on and off site?	N/A		
12	Is there evidence that contamination is migrating offsite?	N/A		Please enter interpretation of data here

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SELECT**	Upward trend in pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

Groundwater/Soil monitoring template	Lic No:	#REF!	Year	#REF!

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA.	Groundwater monitoring template
More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31)	Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)	Surface water EQS	Groundwater regulations GTV's	Drinking water (private supply) standards	Drinking water (public supply) standards	Interim Guideline Values (IGV)

Groundwater/Soil monitoring template Lic No: #REF! Year #REF!

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:	#REF!	Year	#REF!

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Not a licence requirement	
2	ELRA review status	NA	
3	Amount of Financial Provision cover required as determined by the latest ELRA	NA	
4	Financial Provision for ELRA status	NA	
5	Financial Provision for ELRA - amount of cover	NA	
6	Financial Provision for ELRA - type	NA	
7	Financial provision for ELRA expiry date	NA	
8	Closure plan initial agreement status	NA	Internal budget provision
9	Closure plan review status	NA	Internal budget provision
10	Financial Provision for Closure status	NA	Internal budget provision
11	Financial Provision for Closure - amount of cover	NA	Internal budget provision
12	Financial Provision for Closure - type	NA	Internal budget provision
13	Financial provision for Closure expiry date	NA	

Environmental Management Programme/Continuous Improvement Programme template

Lic No: #REF! Year #REF!

Highlighted cells contain dropdown menu click to view

			Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	Internal unaccredited EMS.
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Hydraulic harrows will be deployed at dust sensitive locations. Continue with the collection of headland peat.	90	In total 21 personnel received training during 2015. Hydraulic harrows were depolyed at 4 locations. Headland peat was collected at all locations and returned with production figures.	Individual	Reduced emissions
Waste reduction/Raw material usage efficiency	Waste streamlining is a project we are particularly interested in continuing and hope to reduce wastes further in the future and be more efficient in dealing with all aspects of waste management	80	Installed a waste management system. Quarterly waste reports are returned for records/filing and waste streams are segrated on site to maximise recycling potential.	Section Head	Improved Environmental Management Practices

Environmental Management Programme/Continuous Improvement Programme template				Lic No: #REF!	Year #REF!
Waste reduction/Raw material usage efficiency	Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.	100	In total 112.20 tonnes of polyethlene were sent off site for recycling. Procurement also exploring the possibility of securing further recyclers.	Individual	Improved Environmental Management Practices
Energy Management	As part of an Energy Awareness campaign all aspects of energy consumption will be communicated to personnel with the intention of reducing consumption through awareness	100	Electrical and Gas oil consumption is in the future to be included in production area budgets with KPI's set for the ongoing monitoring of same.	Section Head	Reduce overall energy output while maintaining productivity.
Reduction of emissions to Water	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Continue with the collection of headland peat.	90	In total 21 Personnel received training in 2015. Personnel are trained every two years in Environmental matters. Headland peat was collected at all locations and included as part of overall peat returns.	Individual	Improved Environmental Management Practices

Noise monitoring summary report	Lic No:	#REF!	Year	#REF!

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
2	Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	NA
3	Does your site have a noise reduction plan	NA
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	NA

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No: #REF! Year #REF!

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	Nov-12	Report on file
2	Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	SEAI - Large Industry Energy Network (LIEN) Yes	
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	NA	Not a Licence requirement

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	7343	6100	NA	NA
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	360	451	NA	NA
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	687.266	555.988	-11.55%	-19.10%
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply							
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	18.59	0	1.45	17.147	0
Non-Hazardous (Tonnes)	366.2	37.64	0	176.66	151.91

Resource Usage/Energy efficiency summary Lic No: #REF! Year #REF!

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template Lic No: #REF! Year #REF!

Complaints

		Additional information
Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	Yes	One complaint was received in Rossan Bog Area relating to dust, this was reported to the Agency. Ref LR017071

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
24/06/2015	Dust		Complaint received at Rossan Bog relating to dust nuisance.	Peat production was suspended and personnel reminded of their environmental responsibilities	Complete	24/06/2015	Reported to the Agency ref: LR017071 on 06/07/2015
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	1
Total complaints closed during reporting year	1
Balance of complaints end of reporting year	0

Incidents

		Additional information
Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	Yes	

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurence
17/04/2015	Ammonia Trigger level reached	Lisclogher SW22	1. Minor	Water	Other (add details	Naturally occurring	Normal activities	EPA INCI007613	New	Investigate	None Required	Complete	06/05/2015	Low
05/05/2015	COD Trigger level reached	Toar SW15	1. Minor	Water	Other (add details	Naturally occurring	Normal activities	EPA INCI007674	New	Investigate	None Required	Complete	14/05/2015	Low
19/05/2015	Breach of Dust ELV	DM-02 Derryhinch Bog	1. Minor	Air	Other (add details	Dust from nearby trees	Normal activities	EPA INCI007955	New	Investigate	Personnel reminded of responsibilities , Gauge moved from nearby trees	Complete	22/06/2015	Low
22/07/2015	COD Trigger level reached	Lisclogher SW24	1. Minor	Water	Other (add details	Naturally occurring	Normal activities	EPA INCI008400	New	Investigate	None Required	Complete	26/08/2015	Low

Complaints and Incidents summary template					Lic No:	#REF!		Year	#REF!					
21/07/2015	Breach of Dust ELV	DM-04 Ballybeg	1. Minor	Air	Dust from vegetation near gauge		Normal activities	EPA INCI008395	New	Cut vegetation near gauge	Cut vegetation near gauge	Complete	25/08/2015	Low
26/10/2015	COD Trigger level reached	Toar SW15	1. Minor	Water	Other (add details	Naturally occurring	Normal activities	EPA INCI008915	New	Investigate	None Required	Complete	10/11/2015	Low

Total number of incidents current year	6
Total number of incidents previous year	7
% reduction/ increase	-14%

WASTE SUMMARY Lic No: #REF! Year #REF!

SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES | PRTR facility logon | dropdown list click to see options

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

			Additional Information
1	Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility ?; (waste generated within your boundaries is to be captured through PRTR reporting) If yes please enter details in table 1 below	N/A	
2	Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information	N/A	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	N/A	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code European Waste Catalogue EWC codes	Source of waste accepted	Description of waste accepted **Please enter an accurate and detailed description - which applies to relevant EWC code** European Waste Catalogue EWC codes	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ Increase over previous year +/ - %	Reason for reduction/ increase from previous reporting year	Packaging Content (%)- only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4	Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	SELECT	
5	Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	SELECT	
6	Does your facility have relevant nuisance controls in place?	SELECT	
7	Do you have an odour management system in place for your facility? If no why?	SELECT	
8	Do you maintain a sludge register on site?	SELECT	

SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY

Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	Licence permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste SELECT UNIT	Lined disposal area occupied by waste SELECT UNIT	Unlined area SELECT UNIT
Cell 8												

WASTE SUMMARY

Lic No: #REF! Year #REF!

Table 4 Environmental monitoring-landfill only

Landfill Manual-Monitoring Standards

Was meterological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments

.+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9	Is leachate from your site treated in a Waste Water Treatment Plant?	SELECT
10	Is leachate released to surface water? If yes please complete leachate mass load information below	SELECT

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
			SELECT	

Comments on liner type

Derrygreenagh
Decommissioning and Rehabilitation
AER Overview 2015.

Within the Derrygreenagh licensed area (P0501-01) there were no entire bog units available for rehabilitation in 2015. Ongoing monitoring of cutaway within the Derrygreenagh licensing area included the re-survey of Drumman bog.

Active rehabilittaion work was carried out in Cavemount bog with a small area of fertiliser application and a wetland area developed.

Draft rehabilitation plans for the Derrygreenagh bogs licensed area, including more detailed draft plans for each component bog unit were submitted to the EPA in 2013 and these were reviewed and updated in 2015.

The annual Biodiversity Action Plan review day was held in November 2015 and this included an update on progress of this plan, bog restoration and cutaway rehabilitation for a wide range on statutory and non-statutory consultees including members of the EPA, NPWS, BWI, Bord na Mona, Coillte, Inland Fisheries Ireland, An Taisce, IPCC, Irish Red Grouse Association, Irish Wildlife Trust, NARGC, local game councils, Midland Regional Planning Authority as well as a range of local community groups and Heritage Officers from counties Laois, Offaly, Kildare, Roscommon, Longford, Meath, Galway, Westmeath and Dublin. At this meeting the draft of the new Biodiversity Action Plan was discussed, with a further extensive engagement with consultees held online.

The new Biodiversity Action Plan will be available from April 2016.

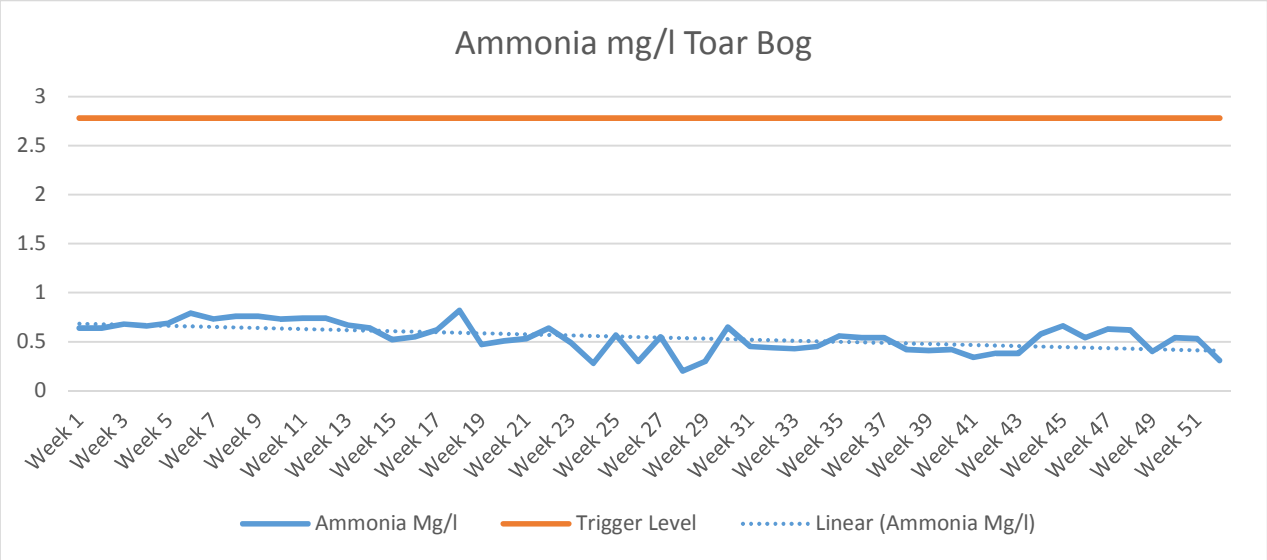
A copy of our Biodiversity Action Plan is available to view and download at http://www.bordnamona.ie/our-company/biodiversity/

Bord na Mona Derrygreenagh

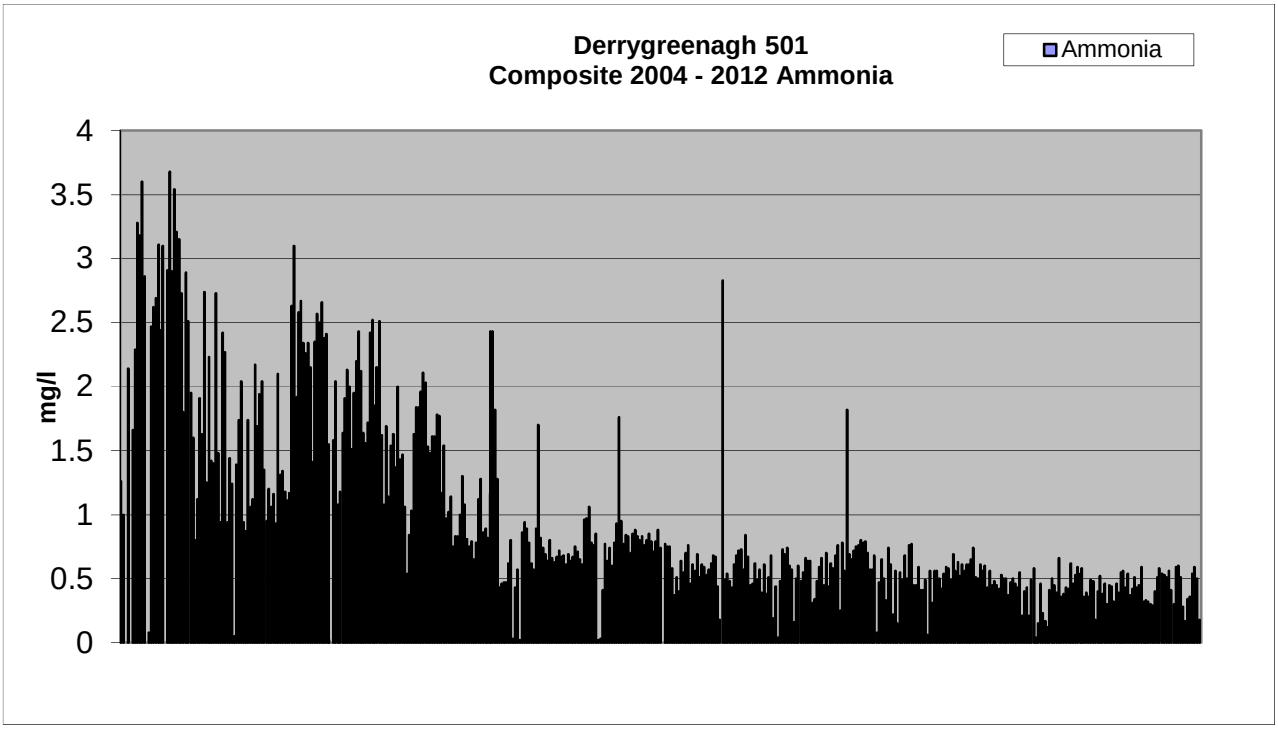
IPPC Licence P0501-01

Siltpond Monitoring Frequency & Results

X	Y	Bog	SW	Monitoring	Sampled	pH	SS	TS	Ammonia	TP	COD	Colour
To Be Confirmed	To Be Confirmed	Rossan	SW-49	Q1 15	04/02/2015	6.7	5	152	2.3	0.05	60	210
To Be Confirmed	To Be Confirmed	Derryarkin	SW-10	Q1 15	04/02/2015	7.3	5	272	0.11	0.05	52	168
251559.92	235341.71	Ballybeg	SW-11	Q1 15	04/02/2015	7.2	5	312	0.68	0.05	59	208
240485.16	235706.33	Torr	SW-14	Q1 15	04/02/2015	7.2	5	298	1.9	0.05	46	150
244391.76	235128.93	Torr	SW-15	Q1 15	04/02/2015	7.4	5	382	0.77	0.05	38	80
244435.64	235093.42	Torr	SW-16	Q1 15	04/02/2015	7.3	5	368	0.65	0.05	32	83
240425.65	234997.32	Torr	SW-17	Q2 15	17/04/2015	7.5	5	458	1.1	0.05	49	164
262436.96	258824.82	Lisclogher	SW-19	Q2 15	17/04/2015	7.5	5	202	0.66	0.05	81	481
262935.72	258722.50	Lisclogher	SW-20	Q2 15	17/04/2015	7.1	5	196	1.2	0.05	82	499
262969.12	258691.34	Lisclogher	SW-21	Q2 15	17/04/2015	4.6	5	84	0.11	0.05	81	315
263432.94	258465.16	Lisclogher	SW-22	Q2 15	17/04/2015	7.4	24	378	3.4	0.14	62	140
263467.21	258446.56	Lisclogher	SW-23	Q3 15	22/07/2015	7.8	5	450	0.21	0.05	24	72
263740.80	258367.96	Lisclogher	SW-24	Q3 15	22/07/2015	4.6	5	141	0.11	0.05	146	350
263649.63	255035.41	Carranstown	SW-31	Q3 15	22/07/2015	6.9	5	168	0.16	0.05	60	146
265553.99	255989.11	Carranstown	SW-32	Q3 15	22/07/2015	7.4	5	350	0.35	0.05	89	224
254528.83	242354.28	Derryhinch	SW-2	Q4 15	30/10/2015	7.2	5	166	1.5	0.05	83	225
253369.19	242417.94	Derryhinch	SW-3	Q4 15	30/10/2015	7.4	5	204	2.4	0.05	22	129
252468.68	240919.32	Carrick	SW-5	Q4 15	30/10/2015	7.6	5	280	0.73	0.05	58	143
252409.71	241163.33	Carrick	SW-6	Q4 15	30/10/2015	7.8	5	426	0.29	0.06	10	105
252473.21	241162.01	Carrick	SW-7	Q4 15	30/10/2015	7.8	5	422	0.27	0.05	53	109



Toar bog is an active production bog with the composite sampler located here during 2015. The composite sampler takes a flow proportional composite sample over a 24 hour period. The sampler had 0% downtime during the period and returned 52 weekly ammonia results. The ammonia trigger level of 2.78mg/l, as agreed with the Agency, was not exceeded during the period. Overall the results are trending downwards as peat extraction continues and this is in-line with the downwards trends submitted to the EPA in 2013 as required by condition 6.14 below. Due to the new licence condition 6.2, where all monitoring locations are required to be sampled at least once in a 5 yr period, it is not possible to trend these ammonia results for each individual location due to the new licence requirement. However the ammonia trends on the 24/7 composite sampler provided, gives a good representation of the ammonia trends in the Derrygreenagh bogs which are downwards.



Yard Discharge Results 2015		
Licence: P0501-01		
Works: Derrygreenagh		
Month	**D/Greenagh SWE 2 COD**	**Rossan SWE 1 COD**
Jan	26	20
Feb	26	51
Mar	29	10
Apr	23	10
May	10	11
June	10	10
July	20	46
Aug	10	44
Sep	17	15
Oct	16	10
Nov	32	20
Dec	39	80

Note: 0 denotes no flow at emission point on day of sampling

Environmental Protection Agency

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2015

1. FACILITY IDENTIFICATION

Parent Company Name	Bord na Mona Energy Limited
Facility Name	Bord na Móna Energy Limited (Derrygreenagh)
PRTR Identification Number	P0501
Licence Number	P0501-01

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Derrygreenagh Group
Address 2	c/o Derrygreenagh Works
Address 3	Rochfortbridge
Address 4	Mullingar
	Westmeath
Country	Ireland
Coordinates of Location	-7.25676 53.3910
River Basin District	IEEA
NACE Code	0892
Main Economic Activity	Extraction of peat
AER Returns Contact Name	Enda Mc Donagh
AER Returns Contact Email Address	enda.mcdonagh@bnm.ie
AER Returns Contact Position	Head of Environment
AER Returns Contact Telephone Number	0579345911
AER Returns Contact Mobile Phone Number	0862370816
AER Returns Contact Fax Number	0579345160
Production Volume	258641.0
Production Volume Units	Tonnes
Number of Installations	6
Number of Operating Hours in Year	2216
Number of Employees	60
User Feedback/Comments	In accordance with licence condition 6.2 of Technical Amendment A, quarterly sampling is now rotated every quarter and therefore suspended solids results are not factored into loading.
Web Address	www.bnm.ie

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General

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

Is it applicable?	
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4. WASTE IMPORTED/ACCEPTED ONTO SITE Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	No

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

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : P0501 | Facility Name : Bord na Móna Energy Limited (Derrygreenagh) | Filename : Copy of P0501_2015.xls | Return Year : 2015 | 16/3/2016 12:31

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		DM-01	DM-02	DM-03	DM-04			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
210	**Dust**	E	OTH	VDI 2119 Blatt 2/Part 2	0.0	0.0	0.0	0.0	0.054364	0.0	0.054364

* 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: Bord na Móna Energy Limited (Derrygreenagh)

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

4.2 RELEASES TO WATERS Link to previous years emissions data | PRTR# : P0501 | Facility Name : Bord na Móna Energy Limited (Derrygreenagh) | Filename : Copy of P0501_2015.xls | Return Year : 2015 | 16/03/2016 12:32

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

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		SW15			
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
240	**Suspended Solids**	E	OTH	G/19 Based on ALPHA,1998,20th Edition, Method 2540D	14947.98	14947.98	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

4.4 RELEASES TO LAND

Link to previous years emissions data

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	01 01 02	No	151.91	wastes from mineral non-metalliferous excavation	D1	E	Volume Calculation	Onsite of generati	Bord na Mona Energy Ltd,P0501-01	Derrygreenagh,Rochfortbridge,Mullingar,Co Westmeath,Ireland		
Within the Country	02 01 04	No	112.2	waste plastics (except packaging)	R5	M	Weighed	Offsite in Ireland	Leinster Environmentals Ltd,WP 2008/06	Haggardstown,Dundalk,Co Louth,,Ireland		
To Other Countries	08 01 11	Yes	0.0	waste paint and varnish containing organic solvents or other dangerous substances	R1	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Recyfuel Ltd,BE0459.735.458,Enghis,.,.,.,Belgium	Enghis,.,.,.,Belgium
To Other Countries	11 01 13	Yes	0.24	degreasing wastes containing dangerous substances	R11	C	Volume Calculation	Abroad	Safety Kleen Ltd,99-1	Tallaght,.,.,.,Ireland	Solvent Recovery Management,PP33345F,Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom	Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom
Within the Country	13 02 05	Yes	15.36	mineral-based non-chlorinated engine, gear and lubricating oils	R1	C	Volume Calculation	Offsite in Ireland	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Enva Ltd,184-1,Clonminam Industrial Estate,Portlaoise,Laois,,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	15 01 03	No	5.6	wooden packaging	R1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
To Other Countries	15 02 02	Yes	1.45	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R1	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Lindenschmidt,Reg no E97095037,lINDENSCHMIDT,Kreuztal,.,.,Germany	lINDENSCHMIDT,Kreuztal,.,.,Germany
To Other Countries	16 01 07	Yes	0.49	oil filters	R4	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	R.D. Recycling,Reg no 51727/1/KD,Houthalen,.,.,.,Belgium	Houthalen,.,.,.,Belgium
Within the Country	17 04 07	No	57.34	mixed metals	R4	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
Within the Country	20 03 01	No	30.96	mixed municipal waste	D1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
Within the Country	20 03 01	No	6.677	mixed municipal waste	D1	M	Volume Calculation	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
To Other Countries	16 06 01	Yes	1.06	lead batteries	R4	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Campine Recycling,MLAV/05-173/GVDA,Beerse,.,.,.,Belgium	Beerse,.,.,.,Belgium

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

Facility Information Summary	
AER Reporting Year	2016
Licence Register Number	P0501-01
Name of site	Bord na Mona Derrygreenagh
Site Location	Derrygreenagh, Rochfortbridge, Co Westmeath
NACE Code	0892
Class/Classes of Activity	1.4
National Grid Reference (6E, 6 N)	249450, 238140

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.	Activities on site can be divided into two components, firstly the milling, harrowing, ridiging and harvesting of peat into stockpiles and secondly the transportation of that peat via an internal rail network to the Power Station and lorry outloading facilities. Production achieved was approximately 262,896 tonnes which was slightly up on the 2015 figure. Infrastructurally, there was no bog development. Quarterly grab sampling was 100% compliant, with the continuous composite sampling returning no non-compliances for suspended solids. There was one environmental complaint received during the reporting period, this was dust related and was resolved to the satisfaction of the complainant. In relation to silt pond cleaning, almost 96% of ponds received two cleanings, inspections dictating cleaning schedules. Decommissioning and Rehabilitation works are described in an attachment.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

E. Mulhall	9-2-17
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

AIR-summary template	Lic No:	P0501-01	Year	2016

Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables	No	Fugitive emissions only

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below		No	
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist?	Basic air monitoring checklist	Yes	

AGN2

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

Note 1: Volumetric flow shall be included as a reportable parameter

AIR-summary template	Lic No:	P0501-01	Year	2016

Continuous Monitoring

4	Does your site carry out continuous air emissions monitoring?	No	
	If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)		
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	No	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	No	

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
DM-01	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	3248	49	0	0	Dust monitioring took place on 5 occasions for 28 days each time between April and September
DM-02	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	9492	209	0	0	
DM-03	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	13972	252	0	0	
DM-04	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	8148	252	0	0	
	SELECT				SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

AIR-summary template	Lic No:	P0501-01	Year	2016

Solvent use and management on site

8	Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5	SELECT

Table A4: Solvent Management Plan Summary
Total VOC Emission limit value

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g.	Solvents destroyed onsite through	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2016

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	Monthly COD of yard run-off is attached.

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below		No	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box	External /Internal Lab Quality checklist / Assessment of results checklist	Yes	Surface water monitoring was carried out on a quarterly basis. The results of which are attached.

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision therof[Note 2]	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2016

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	Yes	Flow proportionate composite sampling

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	Yes	Total of 55 days over 365 days
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	Yes	
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	No	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
SW15	Water	Suspended Solids	35	24 hour	All results < 1.5 times ELV, plus 8 from ten results must be < ELV	mg/L	17620		1320	0	Down time due to battery failure, and sampler repairs. Agency informed of repairs.
SW15	Water	Ammonia (as N)	2.78	Weekly	NA	mg/L	166.08				Annual loading not representative as parameter only carried out weekly
SW15	Water	Total phosphorus	NA	Weekly	NA	mg/L	17.1				Annual loading not representative as parameter only carried out weekly
SW15	Water	COD	100	Weekly	NA	mg/L	14458.98				Annual loading not representative as parameter only carried out weekly
SW15	Water	volumetric flow	NA	24 hour	NA	m3/day	6472.78		1320		Total flow divided by 365
SW15	Water	Total Dissolved Solids	NA	Weekly	NA	mg/L	958789.01				

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: P0501-01 Year 2016

Bund testing

dropdown menu click to see options

			Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed** the integrity test-**all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)	Yes	
2	Please provide integrity testing frequency period	Other (2 Yearly)	
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	Yes	
4	How many bunds are on site?	3	
5	How many of these bunds have been tested within the required test schedule?	0	1 replaced with double skinned tank, 1 decommissioned, 1 due for testing in 2017
6	How many mobile bunds are on site?	6	
7	Are the mobile bunds included in the bund test schedule?	No	
8	How many of these mobile bunds have been tested within the required test schedule?	0	
9	How many sumps on site are included in the integrity test schedule?	0	
10	How many of these sumps are integrity tested within the test schedule?	0	
	Please list any sump integrity failures in table B1		
11	Do all sumps and chambers have high level liquid alarms?	N/A	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	N/A	
13	Is the Fire Water Retention Pond included in your integrity test programme?	N/A	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
						Hydraulic test						SELECT		
						Hydraulic test								

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence

			Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?	bunding and storage guidelines	SELECT
16	Are channels/transfer systems to remote containment systems tested?		SELECT
17	Are channels/transfer systems compliant in both integrity and available volume?		SELECT

Pipeline/underground structure testing

1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**	Yes	No underground tanks or pipelines on site
2	Please provide integrity testing frequency period	SELECT	

*please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	P0501-01	Year	2016

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	no		Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
2	Are you required to carry out soil monitoring as part of your licence requirements?	no		
3	Do you extract groundwater for use on site? If yes please specify use in comment section	yes	Drinking water well	
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below. Groundwater monitoring template	no		
5	Is the contamination related to operations at the facility (either current and/or historic)	no		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	N/A		
7	Please specify the proposed time frame for the remediation strategy	N/A		
8	Is there a licence condition to carry out/update ELRA for the site?	N/A		
9	Has any type of risk assesment been carried out for the site?	N/A		
10	Has a Conceptual Site Model been developed for the site?	N/A		
11	Have potential receptors been identified on and off site?	N/A		
12	Is there evidence that contamination is migrating offsite?	N/A		Please enter interpretation of data here

Groundwater/Soil monitoring template Lic No: P0501-01 Year 2016

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SELECT**	Upward trend in pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA. Groundwater monitoring template

More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31) Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)

Surface water EQS | Groundwater regulations GTV's | Drinking water (private supply) standards | Drinking water (public supply) standards | Interim Guideline Values (IGV)

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:	P0501-01	Year 2016	2016

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Not a licence requirement	
2	ELRA review status	NA	
3	Amount of Financial Provision cover required as determined by the latest ELRA	NA	
4	Financial Provision for ELRA status	NA	
5	Financial Provision for ELRA - amount of cover	NA	
6	Financial Provision for ELRA - type	NA	
7	Financial provision for ELRA expiry date	NA	
8	Closure plan initial agreement status	NA	Internal budget provision
9	Closure plan review status	NA	Internal budget provision
10	Financial Provision for Closure status	NA	Internal budget provision
11	Financial Provision for Closure - amount of cover	NA	Internal budget provision
12	Financial Provision for Closure - type	NA	Internal budget provision
13	Financial provision for Closure expiry date	NA	

Environmental Management Programme/Continuous Improvement Programme template		Lic No:	P0501-01	Year	2016

	Highlighted cells contain dropdown menu click to view		Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	Internal unaccredited EMS.
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Hydraulic harrows will be deployed at dust sensitive locations. Continue with the collection of headland peat.	90	In total 147 personnel received training during 2016. Hydraulic harrows were depolyed at 4 locations. Headland peat was collected at all locations and returned with production figures.	Individual	Reduced emissions
Waste reduction/Raw material usage efficiency	Waste streamlining is a project we are particularly interested in continuing and hope to reduce wastes further in the future and be more efficient in dealing with all aspects of waste management	80	Installed a waste management system. Monthly waste reports are returned for records/filing and waste streams are segrated on site to maximise recycling potential.	Section Head	Improved Environmental Management Practices
Waste reduction/Raw material usage efficiency	Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.	100	In total 141.72 tonnes of polyethlene were sent off site for recycling. Procurement also exploring the possibility of securing further recyclers.	Individual	Improved Environmental Management Practices
Energy Management	As part of an Energy Awareness campaign all aspects of energy consumption will be communicated to personnel with the intention of reducing consumption through awareness	100	The monthly consumption of energy was regurally communicated to the relevant personnel. This included the KPI's for peat production, maintenance and transportation as well as bog pumping and workshop electrical consumption.	Section Head	Reduce overall energy output while maintaining productivity.
Reduction of emissions to Water	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Continue with the collection of headland peat.	90	In total 147 Personnel received training in 2016. Personnel are trained every two years in Environmental matters. Headland peat was collected at all locations and included as part of overall peat returns.	Individual	Improved Environmental Management Practices

Noise monitoring summary report	Lic No:	P0501-01	Year	2016

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
2	Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	NA
3	Does your site have a noise reduction plan	NA
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	NA

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary	Lic No:	P0501-01	Year	2016

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	Nov-12	Report on file
2	Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	Yes	
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	NA	Not a Licence requirement

SEAI - Large Industry Energy Network (LIEN)

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	6100	5907	NA	NA
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	451	300.277	NA	NA
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	555.988	551.885		
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply							
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Resource Usage/Energy efficiency summary

Lic No: P0501-01 Year 2016

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	25.42	0	0.64	24.78	0
Non-Hazardous (Tonnes)	691.59	36.35	0	655.24	0

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template | Lic No: P0501-01 | Year 2016

Complaints		
		Additional information
Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	Yes	One complaint was received in Derryhinch Bog Area relating to dust, this was reported to the Agency. Ref LR022579

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
30/05/2016	Dust		Complaint received at Derryhinch Bog relating to dust nuisance.	Peat production was suspended and personnel reminded of their environmental responsibilities	Complete	30/05/2016	Reported to the Agency ref: LR022579 on 01/06/2016
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	1
Total complaints closed during reporting year	1
Balance of complaints end of reporting year	0

Incidents		
		Additional information
Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	Yes	All incidents related to Trigger Level limit exceedence

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurence
11/05/2016	Trigger level reached	Bracklin Bog SW-26	1. Minor	Water	Other (add details)	Naturally occurring	Normal activities	EPA INCI010224	New	Investigate	None Required	Complete	01/06/2016	Medium
11/05/2016	Trigger level reached	Bracklin Bog SW-27	1. Minor	Water	Other (add details)	Naturally occurring	Normal activities	EPA INCI010225	New	Investigate	None Required	Complete	01/06/2016	Medium
12/10/2016	Trigger level reached	Ballivor Bog SW-36	1. Minor	Water	Other (add details)	Naturally occurring	Normal activities	EPA INCI011104	New	Investigate	None Required	Complete	08/11/2016	Low
12/10/2016	Trigger level reached	Ballivor Bog SW-37	1. Minor	Water	Other (add details)	Naturally occurring	Normal activities	EPA INCI011105	New	Investigate	None Required	Complete	08/11/2016	Low

Total number of incidents current year	4
Total number of incidents previous year	6
% reduction/ increase	-33%

WASTE SUMMARY Lic No: P0501-01 Year 2016

SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES PRTR facility logon dropdown list click to see options

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

			Additional Information
1	Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility ?; (waste generated within your boundaries is to be captured through PRTR reporting) If yes please enter details in table 1 below	N/A	
2	Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information	N/A	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	N/A	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code European Waste Catalogue EWC codes	Source of waste accepted	Description of waste accepted **Please enter an accurate and detailed description - which applies to relevant EWC code** European Waste Catalogue EWC codes	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ Increase over previous year +/ - %	Reason for reduction/ increase from previous reporting year	Packaging Content (%)- only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4	Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	SELECT	
5	Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	SELECT	
6	Does your facility have relevant nuisance controls in place?	SELECT	
7	Do you have an odour management system in place for your facility? If no why?	SELECT	
8	Do you maintain a sludge register on site?	SELECT	

SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY

Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments

WASTE SUMMARY Lic No: P0501-01 Year 2016

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	Licence permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste	Lined disposal area occupied by waste	Unlined area	Comments on liner type
										SELECT UNIT	SELECT UNIT	SELECT UNIT	
Cell 8													

Table 4 Environmental monitoring-landfill only Landfill Manual-Monitoring Standards

Was meterological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments

.+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9	Is leachate from your site treated in a Waste Water Treatment Plant?	SELECT
10	Is leachate released to surface water? If yes please complete leachate mass load information below	SELECT

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
			SELECT	

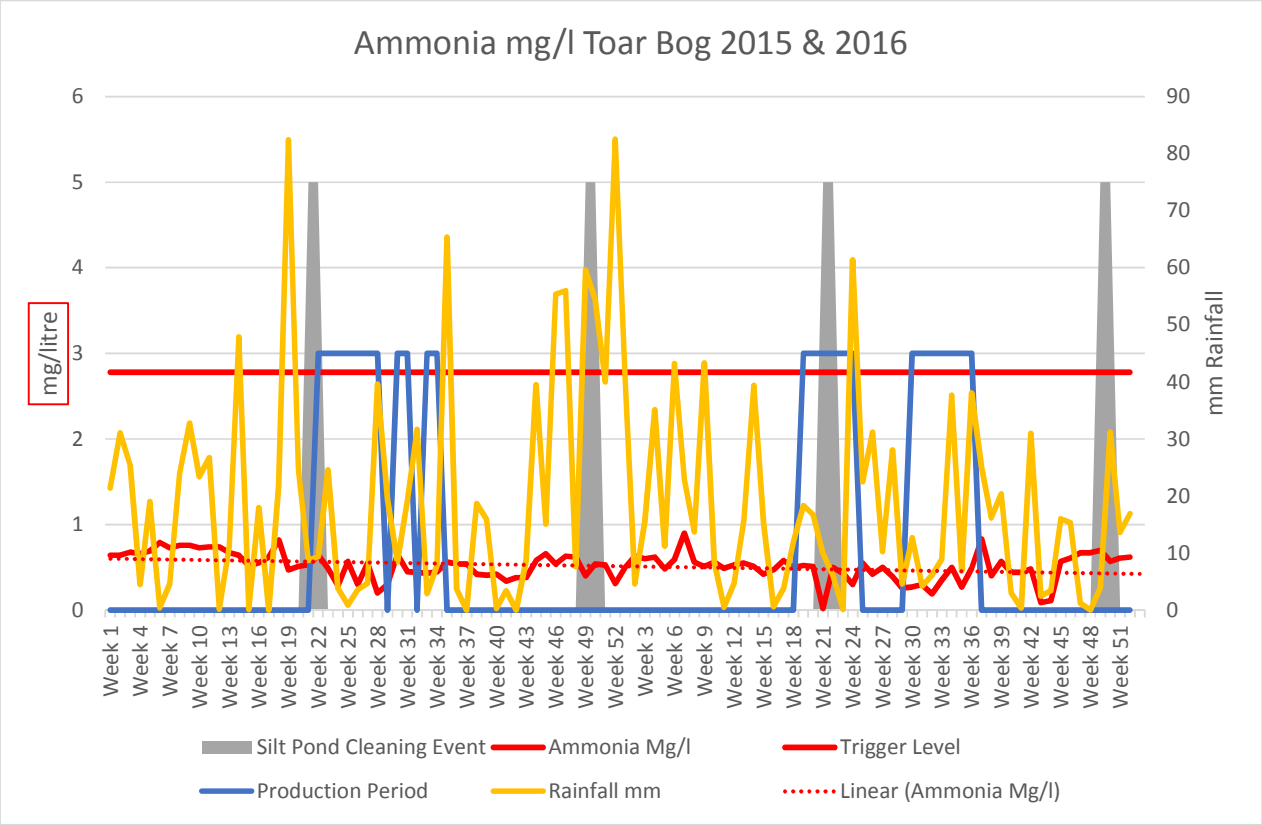
Derrygreenagh
Decommissioning and Rehabilitation
AER Overview 2016.

Within the Derrygreenagh licensed area (P0501-01) there were no entire bog units available for rehabilitation in 2016. Ongoing monitoring of cutaway within the Derrygreenagh licensing area included the re-survey of Drumman bog.
Active rehabilitation work was carried out in Cavemount bog with fertiliser application to areas of bare peat. Drain blocking was carried out at a remnant section of high bog at Daingean Rathdrum, this work is due to be finished in 2017.
Draft rehabilitation plans for the Derrygreenagh bogs licensed area, including more detailed draft plans for each component bog unit were submitted to the EPA in 2013 and these were reviewed and updated in 2015.
The new Biodiversity Action Plan (2016-2021) was launched in 2016 with the annual Biodiversity Action Plan review day being held in February 2017, this included an update on the progress of this plan, bog restoration and cutaway rehabilitation for a wide range on statutory and non-statutory consultees including members of the EPA, NPWS, BWI, Bord na Mona, Coillte, Inland Fisheries Ireland, An Taisce, IPCC, Irish Red Grouse Association, Irish Wildlife Trust, NARGC, local game councils, Midland Regional Planning Authority as well as a range of local community groups and Heritage Officers from counties Laois, Offaly, Kildare, Roscommon, Longford, Meath, Galway, Westmeath and Dublin.
A copy of our Biodiversity Action Plan is available to view and download at http://www.bordnamona.ie/our-company/biodiversity/
As required by condition *10.2 Cutaway Bog Rehabilitation Plans*, draft peatland rehabilitation plans for all the individual bog units were submitted to the agency in 2013, reviewed and amended in 2015 and re-submitted to the agency in 2015. All draft rehabilitation plans are currently in the process of being reviewed (2017). These reviewed and amended plans will be re-submitted to the agency in due course.

Bord na Mona Derrygreenagh
IPPC Licence P0501-01

Siltpond Monitoring Frequency & Results

X	Y	Bog	SW	Monitoring	Sampled	pH	SS	TS	Ammonia	TP	COD	Colour
254528.83	242354.28	Derryhinch	SW-2	Q1 16	11/03/2016	7.9	16	372	1.4	0.05	53	136
253369.19	242417.94	Derryhinch	SW-3	Q1 16	11/03/2016	7.8	5	400	1.5	0.05	48	133
252468.68	240919.32	Carrick	SW-5	Q1 16	11/03/2016	7.5	5	176	1.3	0.05	43	188
252409.71	241163.33	Carrick	SW-6	Q1 16	11/03/2016	7.8	5	300	1.6	0.05	36	177
252473.21	241162.01	Carrick	SW-7	Q1 16	11/03/2016	7.8	5	360	0.16	0.05	51	125
252275.61	239871.62	Drumman	SW-8	Q2 16	11/05/2016	7.6	5	344	0.36	0.09	68	152
252602.78	242540.17	Derryhinch	SW-4	Q2 16	11/05/2016	7.9	10	446	1.5	0.05	37	52
255381.16	243606.05	Derryhinch	SW-1	Q2 16	11/05/2016	7.9	7	462	0.91	0.05	36	33
252623.61	241470.16	Carrick	SW-4A	Q2 16	11/05/2016	7.4	20	254	1.5	0.22	112	286
252950.37	238421.69	Drumman	SW-9	Q2 16	11/05/2016	7.3	16	256	0.37	0.13	101	166
252206.09	235207.02	Ballybeg	SW-12	Q3 16	15/08/2016	7.4	5	347	0.73	0.05	48	77
251880.6	234593.13	Ballybeg	SW-13	Q3 16	15/08/2016	7.6	7	394	0.08	0.05	90	101
252250.49	235061.45	Ballybeg	SW-13A	Q3 16	15/08/2016	6.9	37	468	2.3	0.51	93	130
260583.98	256514.28	Bracklin	SW-26	Q3 16	15/08/2016	7.5	7	410	0.65	0.05	99	122
260609.41	256526.33	Bracklin	SW-27	Q3 16	15/08/2016	7.7	7	412	0.13	0.05	98	130
259415.3	256855.75	Bracklin	SW-29	Q4 16	12/10/2016	6.9	5	152	0.02	0.05	126	318
259519.45	257618.44	Bracklin	SW-30	Q4 16	12/10/2016	7.9	5	470	0.23	0.05	26	48
265632.83	254865.04	Carranstown	SW-33	Q4 16	12/10/2016	7.1	5	192	1.8	0.24	100	314
265886.95	254984.18	Carranstown	SW-34	Q4 16	12/10/2016	6.7	5	122	0.04	0.05	101	343
265140.06	254114.54	Ballivor	SW-35	Q4 16	12/10/2016	7.2	5	170	0.74	0.05	71	165



Toar bog is an active production bog with the composite sampler located here during 2015 and 2016. The composite sampler takes a flow proportional composite sample over a 24 hour period. The sampler had 0% downtime during the period and returned 52 weekly ammonia results during the period of this 2016 AER. The ammonia trigger level of 2.78mg/l, as agreed with the Agency, was not exceeded during the period. Combining the 2015 and 2016 results above show concentrations trending downwards over this two year period as peat extraction continues and this is in-line with the downwards trends submitted to the EPA in 2013 as required by condition 6.14. There is no obvious link between the summer production, winter maintenance, or silt pond maintenance events on the concentration of Ammonia discharging from this peatland. The only link expected would be that related to rainfall events and seasonal weather patterns and the subsequent surfacewater runoff and associated ammonia concentrations.

Yard Discharge Results 2016		
Licence: P0501-01		
Works: Derrygreenagh		
Month	**D/Greenagh SWE 2 COD**	**Rossan SWE 1 COD**
Jan	35	10
Feb	32	10
Mar	36	39
Apr	24	30
May	19	20
June	37	21
July	23	23
Aug	31	10
Sep	41	41
Oct	33	20
Nov	37	27
Dec	25	72

Note: 0 denotes no flow at emission point on day of sampling

Environmental Protection Agency

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2016

1. FACILITY IDENTIFICATION

Parent Company Name	Bord na Mona Energy Limited
Facility Name	Bord na Móna Energy Limited (Derrygreenagh)
PRTR Identification Number	P0501
Licence Number	P0501-01

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Derrygreenagh Group
Address 2	c/o Derrygreenagh Works
Address 3	Rochfortbridge
Address 4	Mullingar
	Westmeath
Country	Ireland
Coordinates of Location	-7.25676 53.3910
River Basin District	IEEA
NACE Code	0892
Main Economic Activity	Extraction of peat
AER Returns Contact Name	Enda Mc Donagh
AER Returns Contact Email Address	enda.mcdonagh@bnm.ie
AER Returns Contact Position	Head of Environment
AER Returns Contact Telephone Number	0579345911
AER Returns Contact Mobile Phone Number	0862370816
AER Returns Contact Fax Number	0579345160
Production Volume	262896.0
Production Volume Units	Tonnes
Number of Installations	6
Number of Operating Hours in Year	2216
Number of Employees	60
User Feedback/Comments	In accordance with licence condition 6.2 of Technical Amendment A, quarterly sampling is now rotated every quarter and therefore suspended solids results are not factored into loading.
Web Address	www.bnm.ie

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General

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

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

4. WASTE IMPORTED/ACCEPTED ONTO SITE Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	

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

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : P0501 | Facility Name : Bord na Móna Energy Limited (Derrygreenagh) | Filename : P0501_2016.xls | Return Year : 2016 | 13/02/2017 12:30

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		DM01	DM02	DM03	DM04			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
210	Dust	E	OTH	VDI 2119 Blatt 2/Part 2	0.0	0.0	0.0	0.0	0.03486	0.0	0.03486

* 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: Bord na Móna Energy Limited (Derrygreenagh)

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

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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		SW15			
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
240	**Suspended Solids**	E	OTH	G/19 Based on ALPHA,1998,20th Edition, Method 2540D	17620.91	17620.91	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

4.4 RELEASES TO LAND

Link to previous years emissions data

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	01 01 02	No	241.7	wastes from mineral non-metalliferous excavation	D1	E	Volume Calculation	Onsite of generati	Bord na Mona Energy Ltd,P0501-01	Derrygreenagh,Rochfortbridge,Mullingar,Co Westmeath,Ireland		
Within the Country	02 01 04	No	141.72	waste plastics (except packaging)	R5	M	Weighed	Offsite in Ireland	Walker Recycling,NWCPO-14-11464-01	Clonkeen,Portlaoise,Co Laois,.,Ireland		
To Other Countries	08 01 11	Yes	0.66	waste paint and varnish containing organic solvents or other dangerous substances	R1	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,.,Ireland	Recyfuel Ltd,BE0459.735.458,Enghis,.,.,.,Belgium	Enghis,.,.,.,Belgium
To Other Countries	11 01 13	Yes	0.84	degreasing wastes containing dangerous substances	R11	C	Volume Calculation	Abroad	Safety Kleen Ltd,99-1	Tallaght,.,.,.,Ireland	Solvent Recovery Management,PP33345F,Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom	Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom
Within the Country	13 02 05	Yes	12.74	mineral-based non-chlorinated engine, gear and lubricating oils	R1	C	Volume Calculation	Offsite in Ireland	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,.,Ireland	Enva Ltd,184-1,Clonminam Industrial Estate,Portlaoise,Laois,.,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,.,Ireland
Within the Country	15 01 03	No	11.42	wooden packaging	R1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,.,Iceland		
To Other Countries	15 02 02	Yes	0.64	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R1	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,.,Ireland	Lindenschmidt,Reg no E97095037,IINDENSCHMIDT,Kreuztal,.,.,Germany	IINDENSCHMIDT,Kreuztal,.,.,Germany
To Other Countries	16 01 07	Yes	2.96	oil filters	R4	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,.,Ireland	R.D. Recycling,Reg no 51727/1/KD,Houthalen,.,.,.,Belgium	Houthalen,.,.,.,Belgium
To Other Countries	16 06 01	Yes	1.5	lead batteries	R4	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,.,Ireland	Campine Recycling,MLAV/05-173/GVDA,Beerse,.,.,.,Belgium	Beerse,.,.,.,Belgium
Within the Country	17 04 07	No	258.9	mixed metals	R4	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,.,Iceland		
Within the Country	20 03 01	No	32.87	mixed municipal waste	D1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,.,Iceland		
Within the Country	20 03 01	No	4.98	mixed municipal waste	D1	M	Volume Calculation	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,.,Iceland		
Within the Country	13 05 03	Yes	6.08	interceptor sludges	R1	C	Volume Calculation	Offsite in Ireland	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,.,Ireland	Enva Ltd,184-1,Clonminam Industrial Estate,Portlaoise,Laois,.,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,.,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
Link to Waste Guidance

Facility Information Summary	
AER Reporting Year	2017
Licence Register Number	P0501-01
Name of site	Bord na Mona Derrygreenagh
Site Location	Derrygreenagh, Rochfortbridge, Co Westmeath
NACE Code	0892
Class/Classes of Activity	1.4
National Grid Reference (6E, 6 N)	249450, 238140

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.	Activities on site can be divided into two components, firstly the milling, harrowing, ridiging and harvesting of peat into stockpiles and secondly the transportation of that peat via an internal rail network to the Power Station and lorry outloading facilities. Production achieved was approximately 299,912 tonnes which was up on the 2016 figure. Infrastructurally, there was no bog development. Quarterly grab sampling was 100% compliant, with the continuous composite sampling returning no non-compliances for suspended solids. There was one environmental complaint received during the reporting period, this was dust related and was resolved to the satisfaction of the complainant. A shelter belt 200m long was planted to alleviate the problem.In relation to silt pond cleaning, almost 90% of ponds received two cleanings, inspections dictating cleaning schedules. Bord na Mona liaised with Meath and Offaly Co.Councils to reduce littering in litter hotspots across the licence.Decommissioning and Rehabilitation works are described in an attachment. The composite sampler experienced some technical difficulties which impacted on the collection of flow data. A decision was therefore made to send the sampler away to the manufacturer for overhaul.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

E. Mulhall	8-3-18
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

AIR-summary template Lic No: P0501-01 Year 2017

Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables	No	Fugitive emissions only

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below	Yes	Reported to the Agency ref INCI012674.
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? Basic air monitoring checklist AGN2	Yes	

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
DM-01	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

Note 1: Volumetric flow shall be included as a reportable parameter

Continuous Monitoring

4	Does your site carry out continuous air emissions monitoring?	No	
	If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)		
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	No	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	No	

AIR-summary template Lic No: P0501-01 Year 2017

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
DM-01	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	11340	113	0	0	Dust monitioring took place on 5 occasions for 28 days each time between April and September
DM-02	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	15204	214	0	0	
DM-03	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	21364	350	0	0	
DM-04	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	28560	605	0	1	Reported to Agency on 14/08/2017.I NCI012674
	SELECT				SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5 — SELECT

Table A4: Solvent Management Plan Summary
Total VOC Emission limit value

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste gases(kg)	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-passes (kg)	Solvents destroyed onsite through physical reaction e.g.	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2017

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	The continuous monitoring sampler was relocated during the reporting period. The sampler also experienced technical difficulties at both sites which inhibited the collection of flow data and subsequent annual loading calculations. It was therefore decided to present the sampling results in graphical form as an attachment.
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	Monthly COD of yard run-off is attached.

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below			No	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box	External /Internal Lab Quality checklist	Assessment of results checklist	Yes	Surface water monitoring was carried out on a quarterly basis. The results of which are attached.

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision thereof[Note 2]	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2017

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	Yes	Flow proportionate composite sampling

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	Yes	Total of 70 days over 365 days
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	Yes	
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	No	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
										0	

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: P0501-01 Year 2017

Bund testing

dropdown menu click to see options

			Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed** the integrity test-**all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)	Yes	All bunds requiring an integrity test in 2017 were tested and passed.
2	Please provide integrity testing frequency period	Other (2 Yearly)	
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	Yes	
4	How many bunds are on site?	2	
5	How many of these bunds have been tested within the required test schedule?	1	1 decommissioned, 1 tested in 2017
6	How many mobile bunds are on site?	9	
7	Are the mobile bunds included in the bund test schedule?	No	
8	How many of these mobile bunds have been tested within the required test schedule?	0	
9	How many sumps on site are included in the integrity test schedule?	0	
10	How many of these sumps are integrity tested within the test schedule?	0	
	Please list any sump integrity failures in table B1		
11	Do all sumps and chambers have high level liquid alarms?	N/A	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	N/A	
13	Is the Fire Water Retention Pond included in your integrity test programme?	N/A	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
Derrygreenagh Bund NO:501-37-01	reinforced concrete		Gas Oil	110,592	45000	Hydraulic test		22/05/2017	Yes	Pass	N/A	N/A	N/A	N/A
						Hydraulic test								

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence

			Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance? bunding and storage guidelines	SELECT	
16	Are channels/transfer systems to remote containment systems tested?	SELECT	
17	Are channels/transfer systems compliant in both integrity and available volume?	SELECT	

Pipeline/underground structure testing

			No underground tanks or pipelines on site
1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**	Yes	
2	Please provide integrity testing frequency period	SELECT	
	*please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)		

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	P0501-01	Year	2017

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	no		Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
2	Are you required to carry out soil monitoring as part of your licence requirements?	no		
3	Do you extract groundwater for use on site? If yes please specify use in comment section	yes	Drinking water well	
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below. Groundwater monitoring template	no		
5	Is the contamination related to operations at the facility (either current and/or historic)	no		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	N/A		
7	Please specify the proposed time frame for the remediation strategy	N/A		
8	Is there a licence condition to carry out/update ELRA for the site?	N/A		
9	Has any type of risk assesment been carried out for the site?	N/A		
10	Has a Conceptual Site Model been developed for the site?	N/A		
11	Have potential receptors been identified on and off site?	N/A		
12	Is there evidence that contamination is migrating offsite?	N/A		Please enter interpretation of data here

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SELECT**	Upward trend in pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Groundwater/Soil monitoring template Lic No: P0501-01 Year 2017

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA.

Groundwater monitoring template

More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31)

Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)

Surface water EQS | Groundwater regulations GTV's | Drinking water (private supply) standards | Drinking water (public supply) standards | Interim Guideline Values (IGV)

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:	P0501-01	Year	2017

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Not a licence requirement	
2	ELRA review status	NA	
3	Amount of Financial Provision cover required as determined by the latest ELRA	NA	
4	Financial Provision for ELRA status	NA	
5	Financial Provision for ELRA - amount of cover	NA	
6	Financial Provision for ELRA - type	NA	
7	Financial provision for ELRA expiry date	NA	
8	Closure plan initial agreement status	NA	Internal budget provision
9	Closure plan review status	NA	Internal budget provision
10	Financial Provision for Closure status	NA	Internal budget provision
11	Financial Provision for Closure - amount of cover	NA	Internal budget provision
12	Financial Provision for Closure - type	NA	Internal budget provision
13	Financial provision for Closure expiry date	NA	

Environmental Management Programme/Continuous Improvement Programme template Lic No: P0501-01 Year 2017

Highlighted cells contain dropdown menu click to view

			Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	Internal unaccredited EMS.
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Hydraulic harrows will be deployed at dust sensitive locations. Continue with the collection of headland peat.	90	In total 73 personnel received training during 2017. Hydraulic harrows were depolyed at 4 locations. Headland peat was collected at all locations and returned with production figures.	Individual	Reduced emissions
Waste reduction/Raw material usage efficiency	Waste streamlining is a project we are particularly interested in continuing and hope to reduce wastes further in the future and be more efficient in dealing with all aspects of waste management	80	Monthly waste reports are returned for records/filing and waste streams are segrated on site to maximise recycling potential.	Section Head	Improved Environmental Management Practices
Waste reduction/Raw material usage efficiency	Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.	100	In total 119.14 tonnes of polyethlene were sent off site for recycling. Procurement also exploring the possibility of securing further recyclers.	Individual	Improved Environmental Management Practices
Energy Management	As part of an Energy Awareness campaign all aspects of energy consumption will be communicated to personnel with the intention of reducing consumption through awareness	100	The monthly consumption of energy was regurally communicated to the relevant personnel. This included the KPI's for peat production, maintenance and transportation as well as bog pumping and workshop electrical consumption.	Section Head	Reduce overall energy output while maintaining productivity.
Reduction of emissions to Water	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Continue with the collection of headland peat.	90	In total 73 Personnel received training in 2017. Personnel are trained every two years in Environmental matters. Headland peat was collected at all locations and included as part of overall peat returns.	Individual	Improved Environmental Management Practices

Noise monitoring summary report	Lic No:	P0501-01	Year	2017

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
2	Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	NA
3	Does your site have a noise reduction plan	NA
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	NA

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No: P0501-01 Year 2017

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	Oct-17	
2	Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	SEAI - Large Industry Energy Network (LIEN) Yes	The site attained accrediation to the energy standard 50001
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	NA	Not a Licence requirement

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	5907	6913	NA	NA
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	300.277	318.403	NA	NA
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	551.885	649.037		
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.
** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3/yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply							
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.
** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	17.82	0	1.62	16.2	0
Non-Hazardous (Tonnes)	560.32	20.06		370.56	169.7

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template Lic No: P0504-01 Year 2017

Complaints

	Additional information
Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	Yes — One complaint was received in Ballybeg Bog Area relating to dust, this was reported to the Agency. RefLR029212

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
11/05/2017	Dust		Complaint received at Ballybeg Bog relating to dust nuisance.	Peat production was suspended and personnel reminded of their environmental responsibilities. 200m shelter belt sown.	Complete	11/05/2017	Reported to the Agency ref: LR029212 on 08/06/2017
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	1
Total complaints closed during reporting year	1
Balance of complaints end of reporting year	0

Complaints and Incidents summary template Lic No: P0504-01 Year 2017

Incidents		
		Additional information
Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	Yes	

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurence
07/06/2017	Trigger level reached	Rossan SW-43	1. Minor	Water	Other (add details)	Naturally occurring	Normal activities	EPA INCI012535	New	Investigate	None Required	Complete	27/07/2017	Medium
20/06/2017	Trigger level reached	Rossan SW-43	1. Minor	Water	Other (add details)	Naturally occurring	Normal activities	EPA INCI012538	New	Investigate	None Required	Complete	21/07/2017	Medium
13/07/2017	Breach of ELV	Ballybeg DM-04	1. Minor	Air	Other (add details)	Dust from nearby trees	Normal activities	EPA INCI012674	New	Investigate	Move dust gauge	Complete	14/08/2017	Low
01/09/2017	Trigger level reached	Derryhinch SW-2	1. Minor	Water	Other (add details)	Naturally occurring	Normal activities	EPA INCI013178	New	Investigate	None Required	Complete	19/10/2017	Medium
01/09/2017	Trigger level reached	Derryhinch SW-3	1. Minor	Water	Other (add details)	Naturally occurring	Normal activities	EPA INCI0013180	New	Investigate	None Required	Complete	19/10/2017	Medium
07/11/2017	Trigger level reached	Rossan SW-43	1. Minor	Water	Other (add details)	Naturally occurring	Normal activities	EPA INCI013385	New	Investigate	None Required	Complete	21/11/2017	Medium

Total number of incidents current year	6
Total number of incidents previous year	4
% reduction/ increase	50%

WASTE SUMMARY	Lic No:	P0501-01	Year	2017
SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES		PRTR facility logon	dropdown list click to see options	

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

			Additional Information
1	Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility ?; (waste generated within your boundaries is to be captured through PRTR reporting)	N/A	
	If yes please enter details in table 1 below		
2	Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information	N/A	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	N/A	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code European Waste Catalogue EWC codes	Source of waste accepted	Description of waste accepted **Please enter an accurate and detailed description - which applies to relevant EWC code** European Waste Catalogue EWC codes	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ Increase over previous year +/ - %	Reason for reduction/ increase from previous reporting year	Packaging Content (%)- only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4	Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	SELECT	
5	Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	SELECT	
6	Does your facility have relevant nuisance controls in place?	SELECT	
7	Do you have an odour management system in place for your facility? If no why?	SELECT	
8	Do you maintain a sludge register on site?	SELECT	

SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY

Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	Licence permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste SELECT UNIT	Lined disposal area occupied by waste SELECT UNIT	Unlined area SELECT UNIT	Comments on liner type

WASTE SUMMARY Lic No: P0501-01 Year 2017

Table 4 Environmental monitoring-landfill only

Landfill Manual-Monitoring Standards

Was meterological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments

.+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9	Is leachate from your site treated in a Waste Water Treatment Plant?	SELECT
10	Is leachate released to surface water? If yes please complete leachate mass load information below	SELECT

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

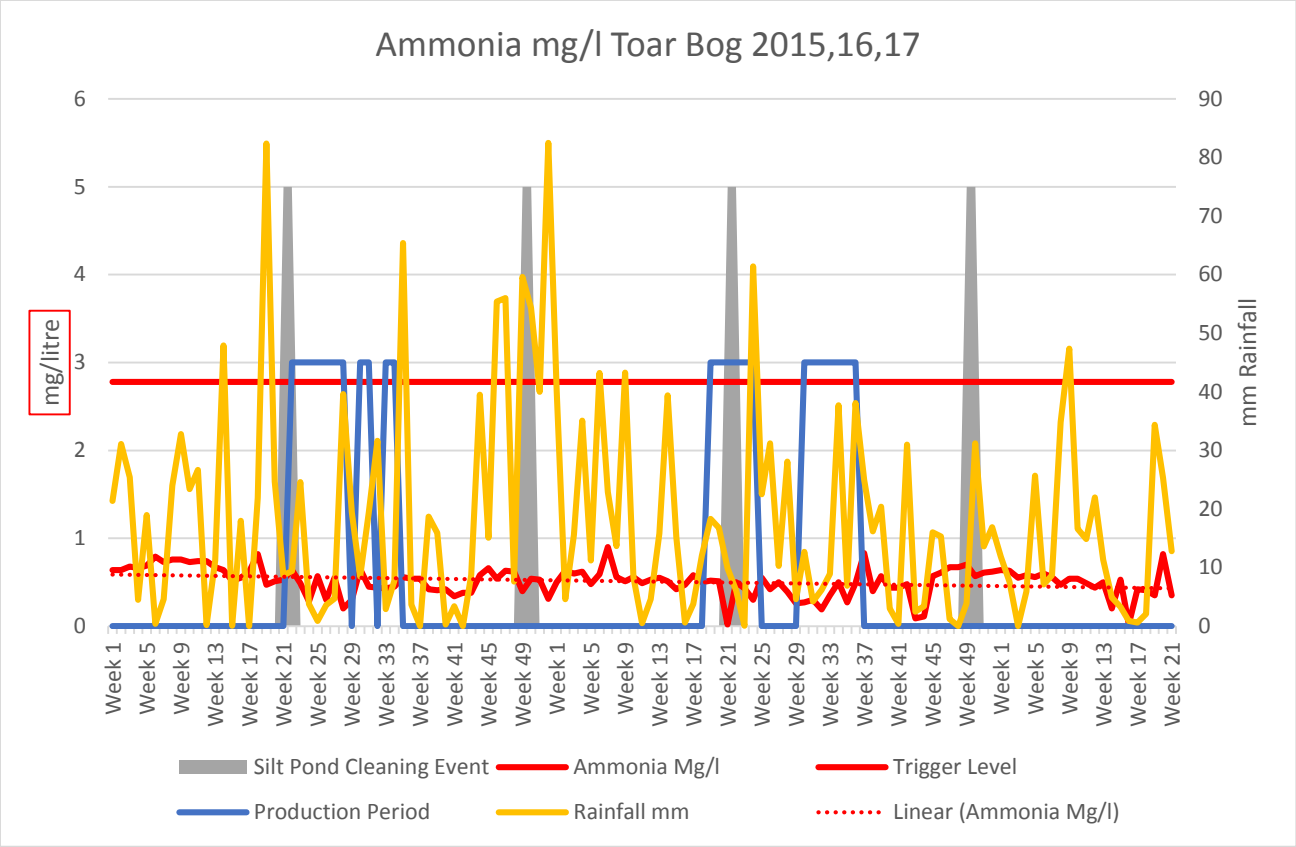
Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
			SELECT	

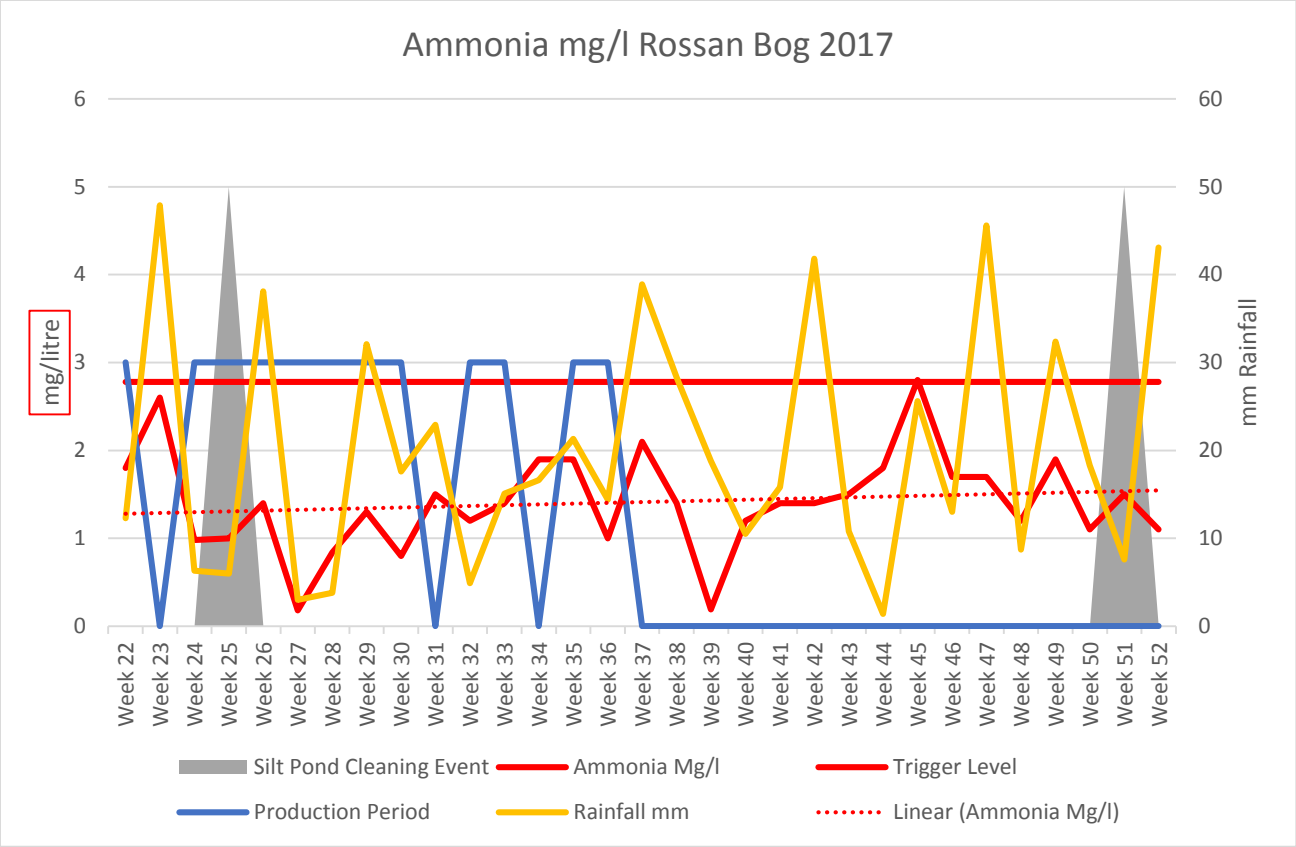
Derrygreenagh
Decommissioning and Rehabilitation
AER Overview 2017.

Within the Derrygreenagh licensed area (P0501-01) there were no entire bog units available for rehabilitation in 2017. Ongoing monitoring of cutaway within the Derrygreenagh licensing area included the re-survey of Drumman bog.
Active rehabilitation work was carried out in Cavemount bog in 2017 with some hydrological management. An overflow pipe was constructed in 2017 to manage the maximum winter water levels. Some ground works were also carried out with a bulldozer to help stabilise a small section of the headland and to block field drains. This is a phased rehabilitation programme and will be completed over several years. Cavemount is developing as a cutaway wetland and is attracting nationally important wintering and breeding bird species. This cutaway wetland will continue to be managed to enhance its biodiversity value.
Bog restoration and drain-blocking is being carried out at a remnant section of high bog at Daingean Rathdrum. This work is due to be finished in 2018.
Draft rehabilitation plans for the Derrygreenagh bogs licensed area, including more detailed draft plans for each component bog unit were submitted to the EPA in 2013 and these were reviewed and updated in 2015, and 2017.
The new Biodiversity Action Plan (2016-2021) was launched in 2016 with the annual Biodiversity Action Plan review day being held in February 2017, this included an update on the progress of this plan, bog restoration and cutaway rehabilitation for a wide range on statutory and non-statutory consultees including members of the EPA, NPWS, BWI, Bord na Mona, Coillte, Inland Fisheries Ireland, An Taisce, IPCC, Irish Red Grouse Association, Irish Wildlife Trust, NARGC, local game councils, Midland Regional Planning Authority as well as a range of local community groups and Heritage Officers from counties Laois, Offaly, Kildare, Roscommon, Longford, Meath, Galway, Westmeath and Dublin.
A copy of our Biodiversity Action Plan is available to view and download at http://www.bordnamona.ie/our-company/biodiversity/
As required by condition *10.2 Cutaway Bog Rehabilitation Plans*, draft peatland rehabilitation plans for all the individual bog units were submitted to the agency in 2013, reviewed and amended in 2015 and re-submitted to the agency in 2015. All draft rehabilitation plans have been reviewed in 2017. These reviewed and amended plans will be re-submitted to the agency in due course.

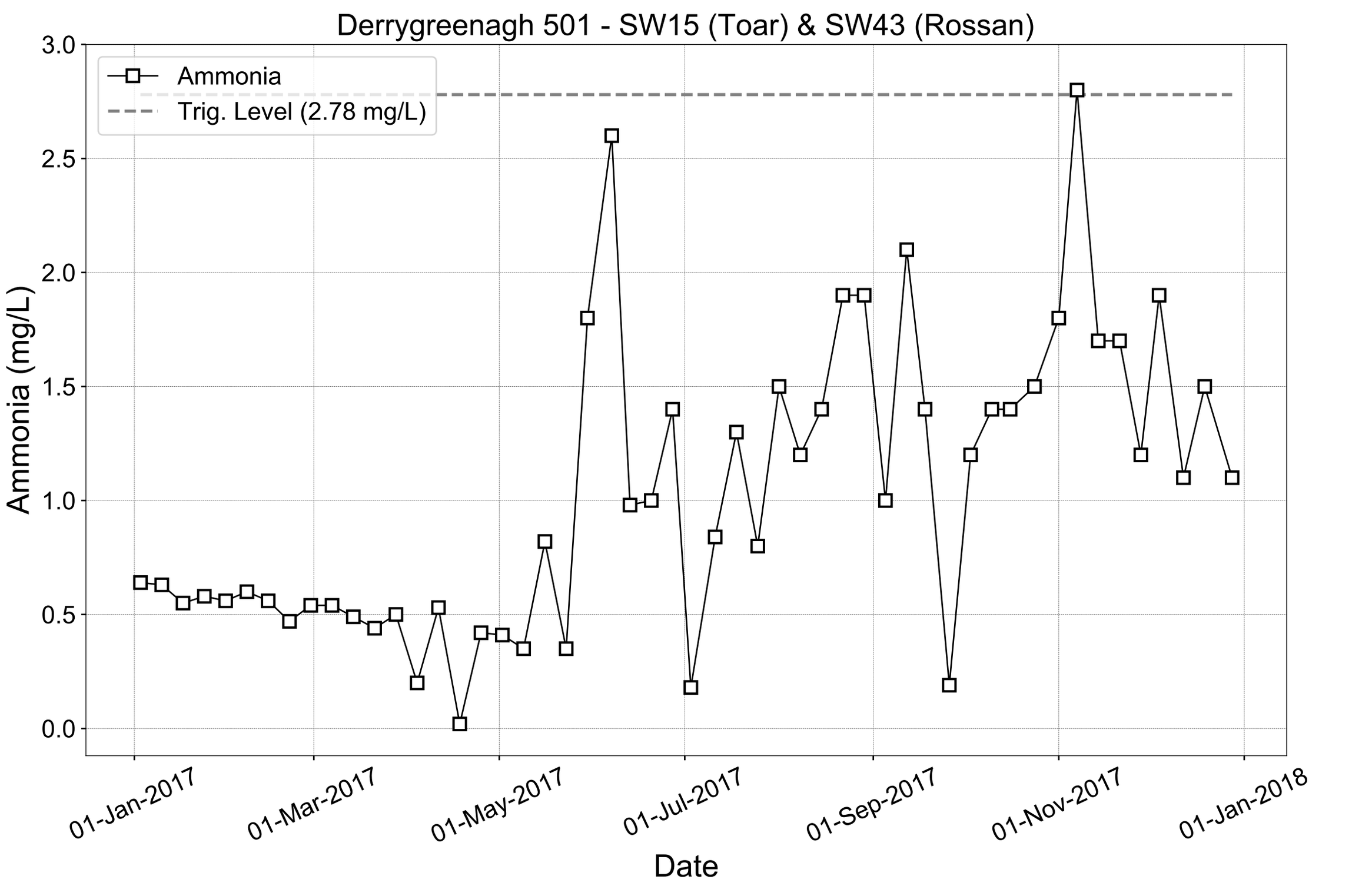
IPC License P0501-01 Quarterly Grab Sampling Results 2017												
X	Y	Bog	SW	Monitoring	Sampled	pH	SS	TS	Ammonia	TP	COD	Colour
265888.99	253456.63	Ballivor	SW-39	Q1 17	13/03/2017	7.6	5	206	0.29	0.05	64	142
266366.86	251598.58	Ballivor	SW-40	Q1 17	13/03/2017	7.4	5	320	0.64	0.05	98	287
266386.45	251579.18	Ballivor	SW-41	Q1 17	13/03/2017	7.2	6	176	0.67	0.05	71	220
To Be Confirmed	To Be Confirmed	Rossan	SW-42	Q1 17	13/03/2017	7.3	5	146	1.7	0.05	71	255
259965.18	243847.63	Rossan	SW-43	Q1 17	13/03/2017	7.3	5	205	1.3	0.05	71	242
To Be Confirmed	To Be Confirmed	Rossan	SW-44	Q2 17	08/05/2017	7.6	5	289	0.88	0.05	72	148
258846.25	243853.76	Rossan	SW-45	Q2 17	08/05/2017	7.3	5	254	1.4	0.05	65	178
260629.22	242141.39	Rossan	SW-46	Q2 17	08/05/2017	7.3	5	278	1.4	0.05	74	231
260145.55	242266.71	Rossan	SW-47	Q2 17	08/05/2017	7.7	11	320	1.3	0.08	72	122
To Be Confirmed	To Be Confirmed	Rossan	SW-48	Q2 17	08/05/2017	7.6	5	260	1.1	0.05	52	96
255381.16	243606.05	Derryhinch	SW-1	Q3 17	01/09/2017	7.6	5	226	0.71	0.08	39	86
254528.83	242354.28	Derryhinch	SW-2	Q3 17	01/09/2017	7.3	5	278	3	0.05	30	75
253369.19	242417.94	Derryhinch	SW-3	Q3 17	01/09/2017	7.5	5	284	3	0.05	28	61
252602.78	242540.17	Derryhinch	SW-4	Q3 17	01/09/2017	7.7	5	314	0.14	0.05	33	108
252623.61	241470.16	Carrick	SW-4A	Q3 17	01/09/2017	7.9	9	316	1	0.05	39	118
252468.68	240919.32	Carrick	SW-5	Q3 17	01/09/2017	7.7	6	370	1.4	0.05	44	119
252409.71	241163.33	Carrick	SW-6	Q3 17	01/09/2017	7.8	5	442	0.1	0.05	24	51
252473.21	241162.01	Carrick	SW-7	Q3 17	01/09/2017	7.8	6	430	0.09	0.05	24	49
252275.61	239871.62	Drumman	SW-8	Q3 17	01/09/2017	7.9	7	366	0.19	0.05	38	93
252950.37	238421.69	Drumman	SW-9	Q3 17	01/09/2017	7.6	6	274	0.02	0.05	42	122
251559.92	235341.71	Ballybeg	SW-11	Q4 17	17/11/2017	7.2	5	500	0.1	0.05	48	90
252206.09	235207.02	Ballybeg	SW-12	Q4 17	17/11/2017	7.2	5	324	0.05	0.05	100	278
251880.6	234593.13	Ballybeg	SW-13	Q4 17	17/11/2017	7.3	5	516	1.1	0.06	45	60
252250.49	235061.45	Ballybeg	SW-13A	Q4 17	17/11/2017	7.3	6	514	0.9	0.05	45	69
240485.16	235706.33	Torr	SW-14	Q4 17	16/11/2017	7	6	256	1.5	0.05	66	219
244391.76	235128.93	Torr	SW-15	Q4 17	16/11/2017	7.2	5	438	0.52	0.05	34	71
244435.64	235093.42	Torr	SW-16	Q4 17	16/11/2017	7.2	7	466	0.43	0.05	44	65
240425.65	234997.32	Torr	SW-17	Q4 17	23/11/2017	7.2	6	406	0.22	0.05	75	186
259415.3	256855.75	Bracklin	SW-29	Q4 17	23/11/2017	7.1	5	240	0.4	0.05	97	319
259519.45	257618.44	Bracklin	SW-30	Q4 17	23/11/2017	6.2	7	106	0.5	0.05	55	252

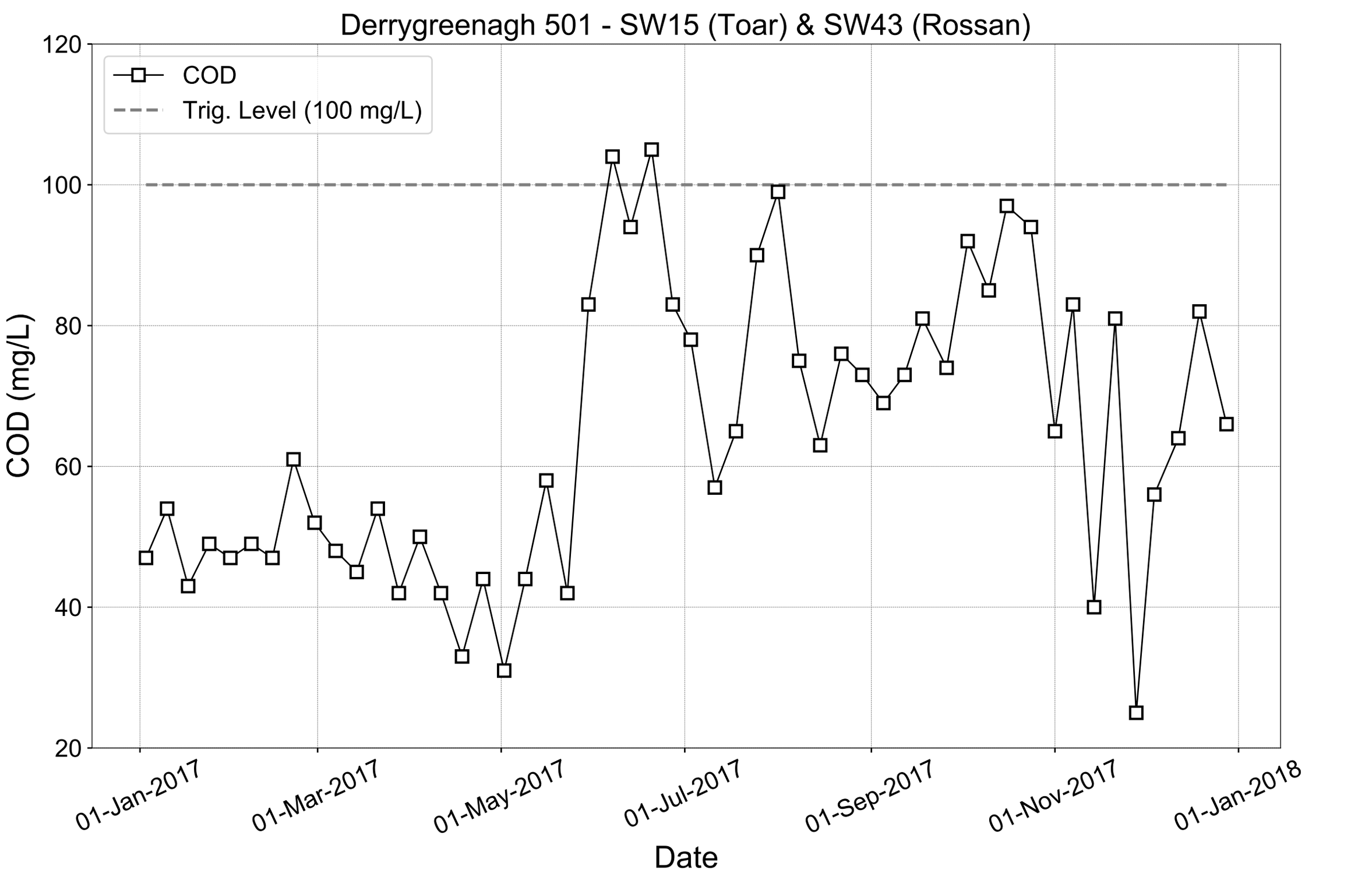


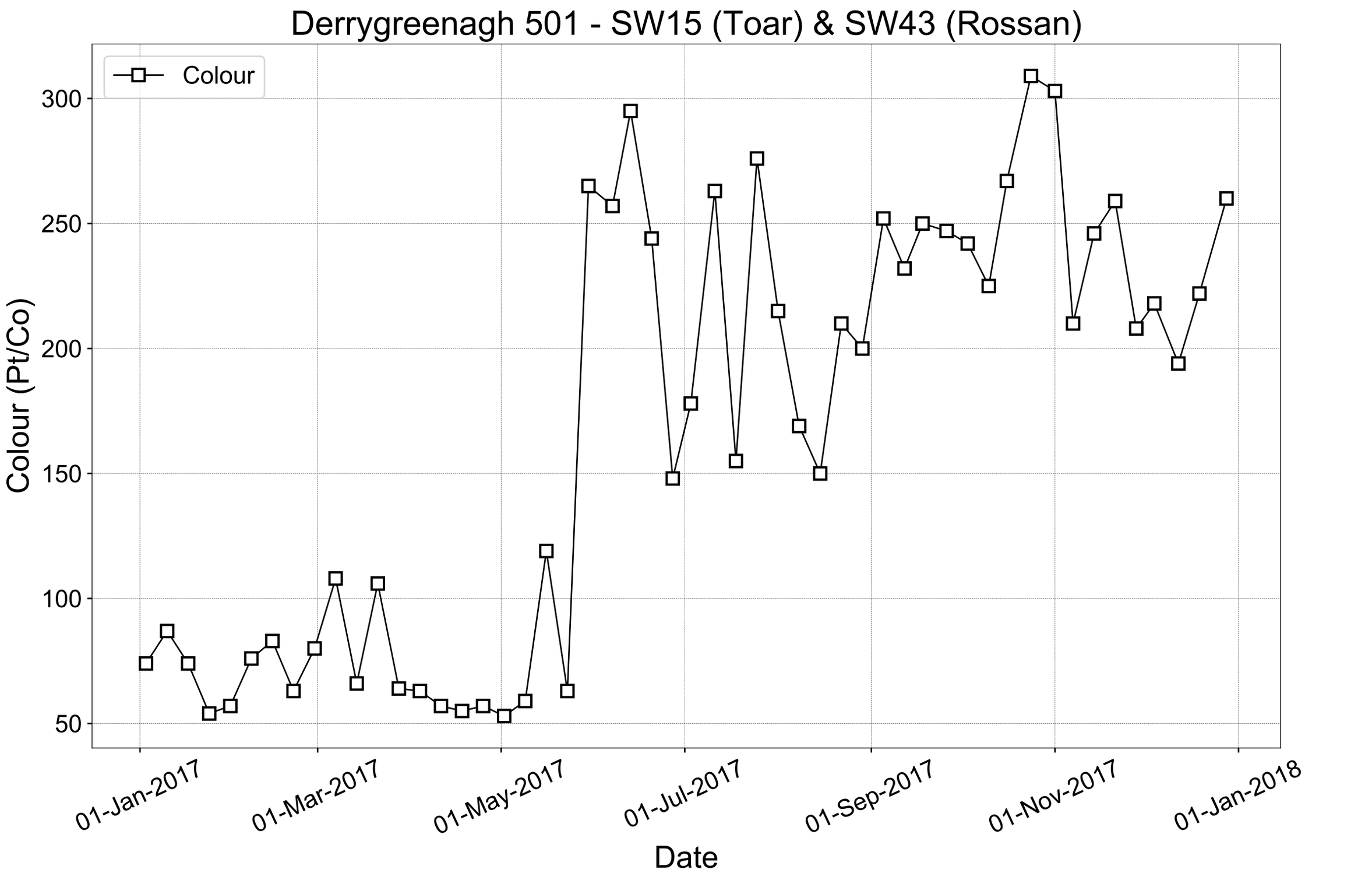
Toar bog is an active production bog with the composite sampler located here during 2015, 2016 and until May 2017 where it was moved to Rossan Bog within the Derrygreenagh IPC Licence. The composite sampler takes a flow proportional composite sample over a 24 hour period. The sampler had 0% downtime during this reporting period and returned 21 weekly ammonia results during the period of its location at Toar bog . The ammonia trigger level of 2.78mg/l, as agreed with the Agency, was not exceeded during the period. Combining the 2015,16 and May 2017 results above shows concentrations trending downwards over this 2.5 year period as peat extraction continues and this is in-line with the downwards trends submitted to the EPA in 2013 as required by condition 6.14. There is no obvious link between the summer production, winter maintenance, or silt pond maintenance events on the concentration of Ammonia discharging from this peatland. The only link expected would be that related to rainfall events and seasonal weather patterns and the subsequent surfacewater runoff and associated ammonia concentrations.

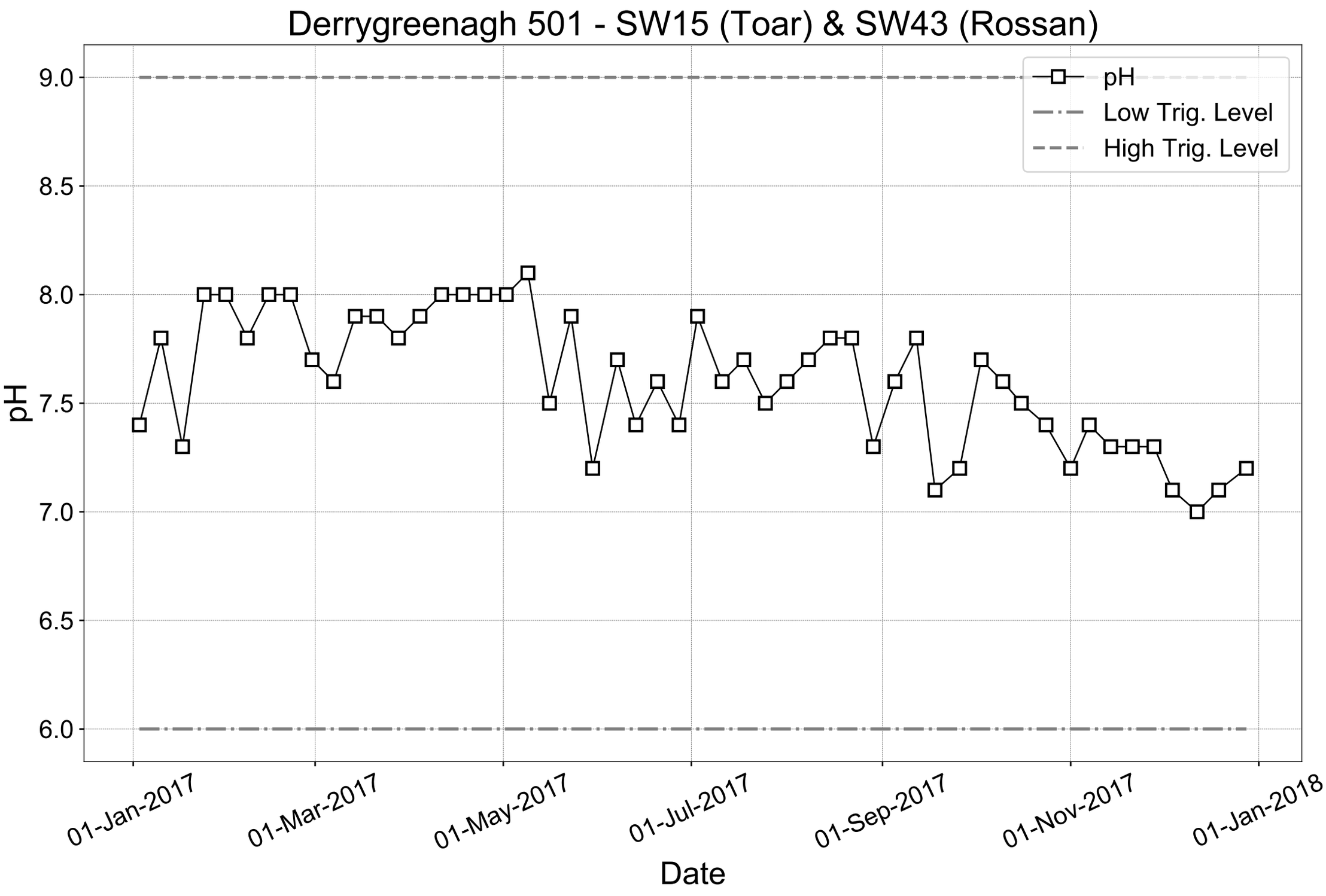


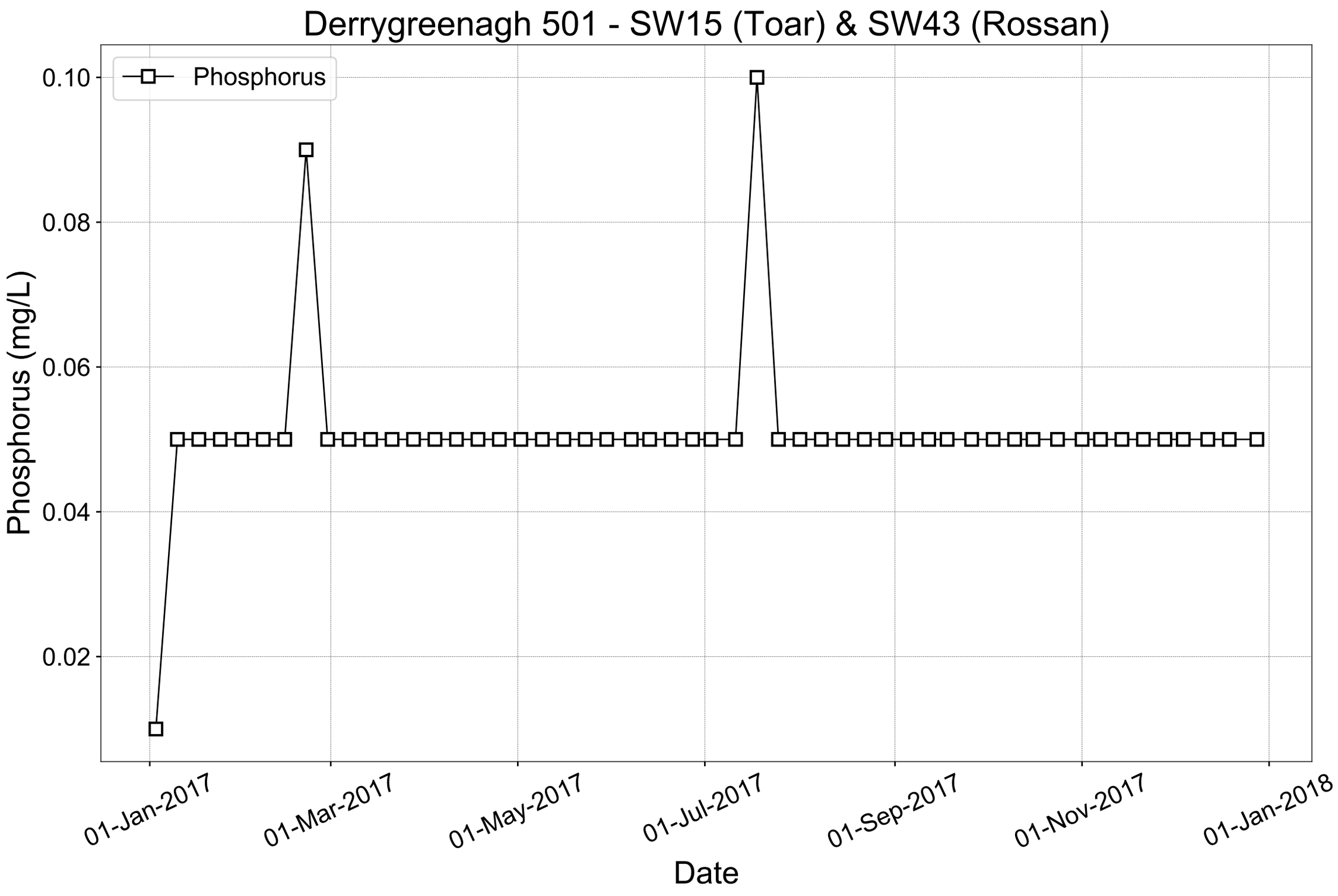
Rossan bog is an active horticultural production bog with the composite sampler located here from May 2017 where it was moved from Toar Bog within the Derrygreenagh IPC Licence. The composite sampler takes a flow proportional composite sample over a 24 hour period. The sampler had 0% downtime during this reporting period and returned 31 weekly ammonia results during the period. The ammonia trigger level of 2.78mg/l, as agreed with the Agency, was marginally exceeded once during the period. There sampling period of 31 weeks showed a slight increasing trend in ammonia, but as per previous sampler relocations, it will need up to two years at this locations and associated weekly ammonia spanning two seasonal production periods to establish the trend. There is no obvious link between the summer production, winter maintenance, or silt pond maintenance events on the concentration of Ammonia discharging from this peatland. The only link expected would be that related to rainfall events and seasonal weather patterns and the subsequent surfacewater runoff and associated ammonia concentrations.

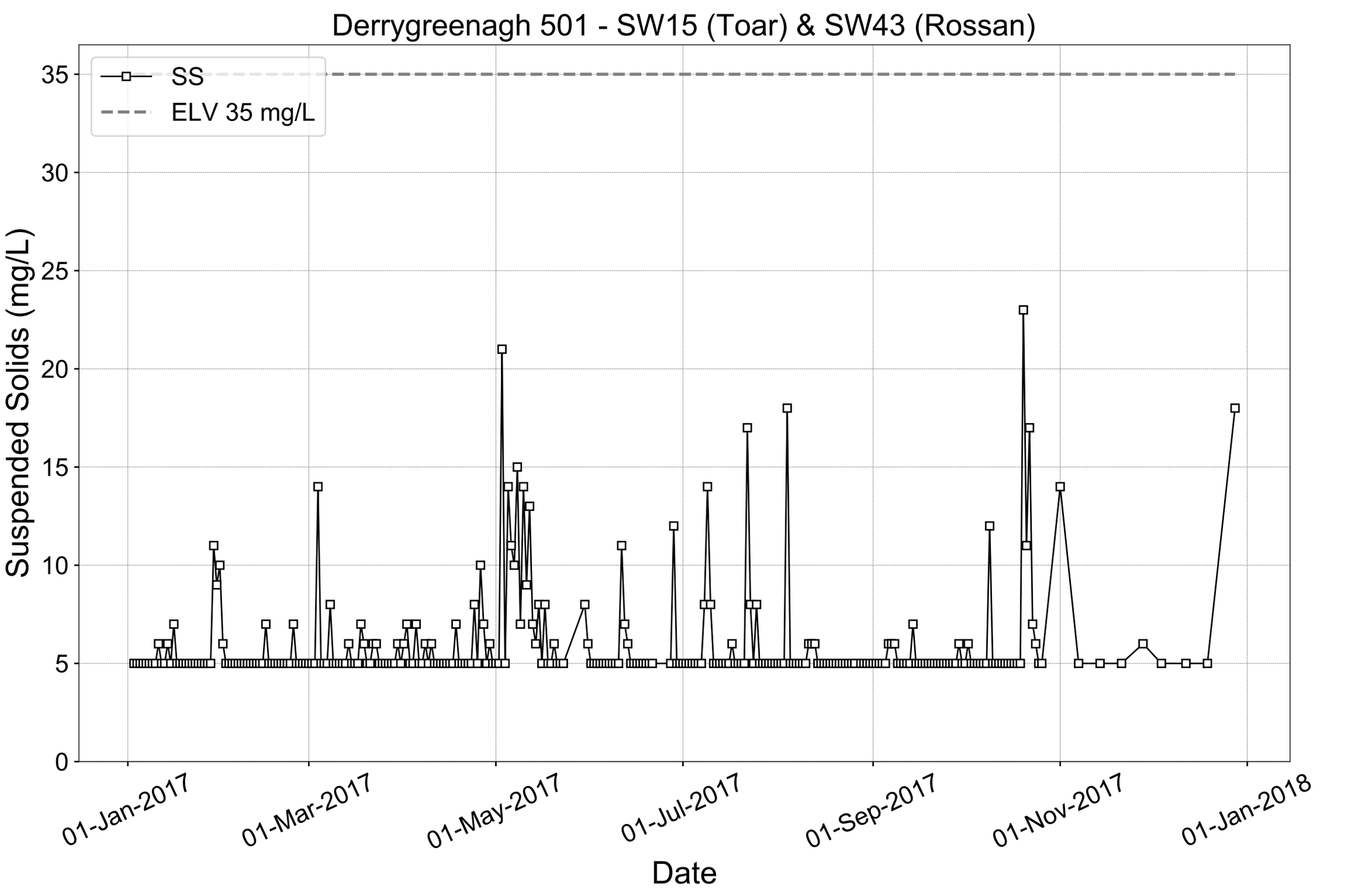

Derrygreenagh 501 - SW15 (Toar) & SW43 (Rossan)
Ammonia
Trig. Level (2.78 mg/L)
Ammonia (mg/L)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
01-Jan-2017
01-Mar-2017
01-May-2017
01-Jul-2017
01-Sep-2017
01-Nov-2017
01-Jan-2018
Date

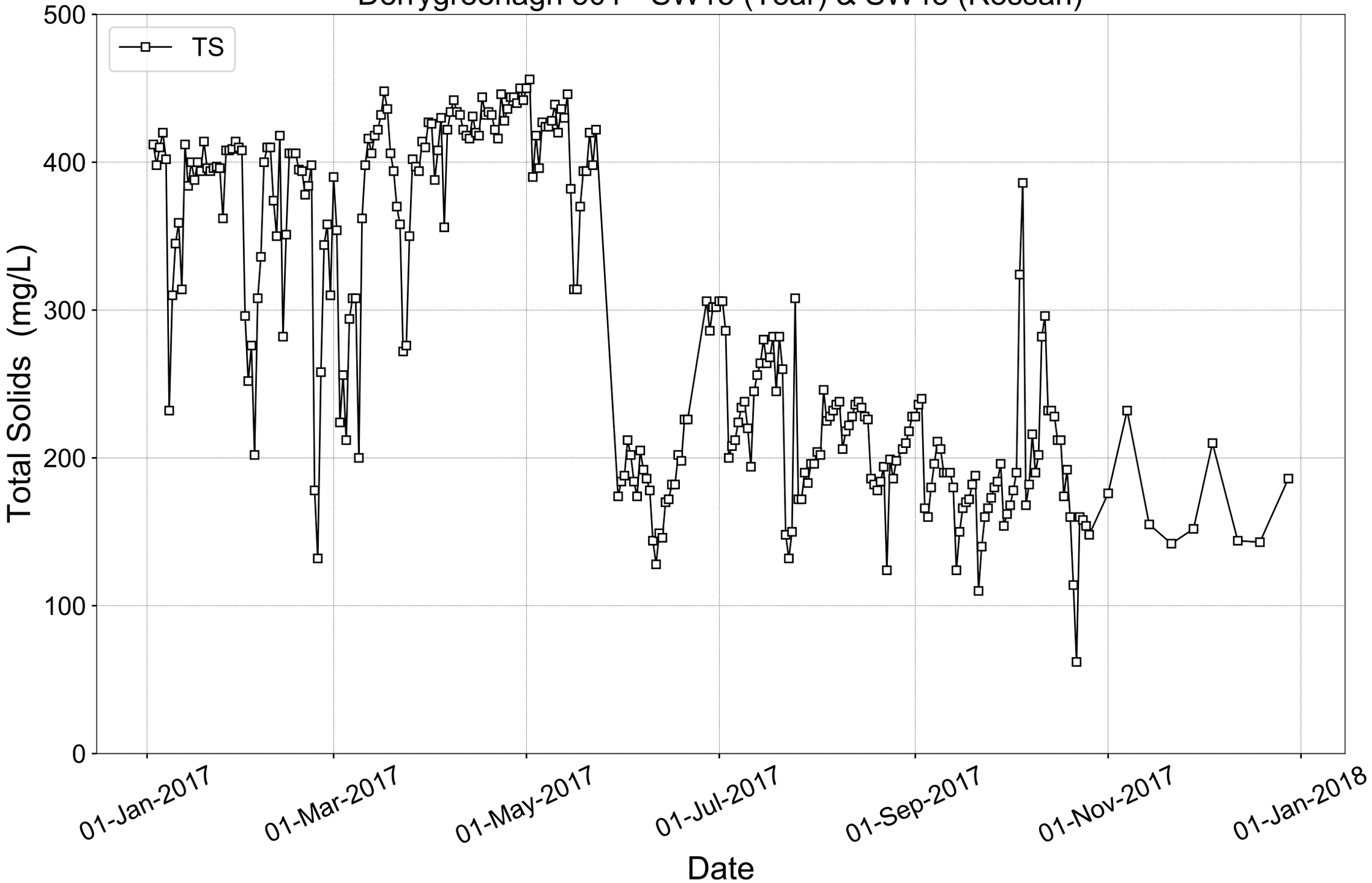

Derrygreenagh 501 - SW15 (Toar) & SW43 (Rossan)
COD
Trig. Level (100 mg/L)
COD (mg/L)
120
100
80
60
40
20
01-Jan-2017
01-Mar-2017
01-May-2017
01-Jul-2017
01-Sep-2017
01-Nov-2017
01-Jan-2018
Date


Derrygreenagh 501 - SW15 (Toar) & SW43 (Rossan)
Colour
Colour (Pt/Co)
300
250
200
150
100
50
01-Jan-2017
01-Mar-2017
01-May-2017
01-Jul-2017
01-Sep-2017
01-Nov-2017
01-Jan-2018
Date


Derrygreenagh 501 - SW15 (Toar) & SW43 (Rossan)
pH
Low Trig. Level
High Trig. Level
9.0
8.5
8.0
7.5
7.0
6.5
6.0
pH
01-Jan-2017
01-Mar-2017
01-May-2017
01-Jul-2017
01-Sep-2017
01-Nov-2017
01-Jan-2018
Date


Derrygreenagh 501 - SW15 (Toar) & SW43 (Rossan)
Phosphorus
0.10
0.08
0.06
0.04
0.02
Phosphorus (mg/L)
01-Jan-2017
01-Mar-2017
01-May-2017
01-Jul-2017
01-Sep-2017
01-Nov-2017
01-Jan-2018
Date


Derrygreenagh 501 - SW15 (Toar) & SW43 (Rossan)
SS
ELV 35 mg/L
Suspended Solids (mg/L)
0
5
10
15
20
25
30
35
01-Jan-2017
01-Mar-2017
01-May-2017
01-Jul-2017
01-Sep-2017
01-Nov-2017
01-Jan-2018
Date


Derrygreenagh 501 - SW15 (Toar) & SW43 (Rossan)
TS
Total Solids (mg/L)
500
400
300
200
100
0
01-Jan-2017
01-Mar-2017
01-May-2017
01-Jul-2017
01-Sep-2017
01-Nov-2017
01-Jan-2018
Date

Yard Discharge Results 2017		
Licence: P0501-01		
Works: Derrygreenagh		
Month	**D/Greenagh SWE 2 COD**	**Rossan SWE 1 COD**
Jan	30	64
Feb	52	70
Mar	41	34
Apr	40	11
May	36	31
June	33	83
July	23	20
Aug	14	87
Sep	34	41
Oct	39	91
Nov	46	69
Dec	30	70

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2017

1. FACILITY IDENTIFICATION

Parent Company Name	Bord na Mona Energy Limited
Facility Name	Bord na Móna Energy Limited (Derrygreenagh)
PRTR Identification Number	P0501
Licence Number	P0501-01

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Derrygreenagh Group
Address 2	c/o Derrygreenagh Works
Address 3	Rochfortbridge
Address 4	Mullingar
	Westmeath
Country	Ireland
Coordinates of Location	-7.25676 53.3910
River Basin District	IEEA
NACE Code	0892
Main Economic Activity	Extraction of peat
AER Returns Contact Name	Enda Mc Donagh
AER Returns Contact Email Address	enda.mcdonagh@bnm.ie
AER Returns Contact Position	Head of Environment
AER Returns Contact Telephone Number	0579345911
AER Returns Contact Mobile Phone Number	0862370816
AER Returns Contact Fax Number	0579345160
Production Volume	299912.0
Production Volume Units	Tonnes
Number of Installations	6
Number of Operating Hours in Year	2216
Number of Employees	60
User Feedback/Comments	In accordance with licence condition 6.2 of Technical Amendment A, quarterly sampling is now rotated every quarter and therefore suspended solids results are not factored into loading. Due to technical difficulties experienced with the composite sampler annual loading was not possible to calculate. All composite sampler results are attached for review in the AER document.
Web Address	www.bnm.ie

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General

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

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

4. WASTE IMPORTED/ACCEPTED ONTO SITE Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	No

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

4.1 RELEASES TO AIR Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

RELEASES TO AIR					Please enter all quantities in this section in KGs						
POLLUTANT		METHOD							QUANTITY		
			Method Used		DM01	DM02	DM03	DM04			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
210	**Dust**	E	OTH	VDI 2119 Blatt 2/Part 2	0.0	0.0	0.0	0.0	0.076468	0.0	0.076468

* 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: Bord na Móna Energy Limited (Derrygreenagh)

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 only concerns Releases from your facility

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		SW15	SW43			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
240	**Suspended Solids**	E	OTH	G/19 Based on ALPHA,1998,20th Edition, Method 2540D	0.0	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

4.4 RELEASES TO LAND

Link to previous years emissions data

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	01 01 02	No	169.7	wastes from mineral non-metalliferous excavation	D1	E	Volume Calculation	Onsite of generati	Bord na Mona Energy Ltd,P0501-01	Derrygreenagh,Rochfortbridge,Mullingar,Co Westmeath,Ireland		
Within the Country	02 01 04	No	119.14	waste plastics (except packaging)	R5	M	Weighed	Offsite in Ireland	Walker Recycling,NWCPO-14-11464-01	Clonkeen,Portlaoise,Co Laois,,Ireland		
To Other Countries	08 01 11	Yes	0.25	waste paint and varnish containing organic solvents or other dangerous substances	R2	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Recyfuel Ltd,BE0459.735.458,Enghis,.,.,.,Belgium	Enghis,.,.,.,Belgium
To Other Countries	11 01 13	Yes	0.39	degreasing wastes containing dangerous substances	R11	C	Volume Calculation	Abroad	Safety Kleen Ltd,99-1	Tallaght,.,.,.,Ireland	Solvent Recovery Management,PP33345F,Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom	Wheeland Rd,Knottingly,West Yorks,WF11 8DZ,United Kingdom
Within the Country	13 02 05	Yes	10.45	mineral-based non-chlorinated engine, gear and lubricating oils	R1	C	Volume Calculation	Offsite in Ireland	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Enva Ltd,184-1,Clonminam Industrial Estate,Portlaoise,Laois,,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	13 05 03	Yes	2.62	interceptor sludges	R1	C	Volume Calculation	Offsite in Ireland	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Enva Ltd,184-1,Clonminam Industrial Estate,Portlaoise,Laois,,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	15 01 03	No	14.26	wooden packaging	R1	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
To Other Countries	15 02 02	Yes	1.62	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R1	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Lindenschmidt,Reg no E97095037,IINDENSCHMIDT,Kreuztal,.,.,Germany	IINDENSCHMIDT,Kreuztal,.,.,Germany
To Other Countries	16 01 07	Yes	1.6	oil filters	R4	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	R.D. Recycling,Reg no 51727/1/KD,Houthalen,.,.,.,Belgium	Houthalen,.,.,.,Belgium
To Other Countries	16 06 01	Yes	0.82	lead batteries	R4	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Campine Recycling,MLAV/05-173/GVDA,Beerse,.,.,.,Belgium	Beerse,.,.,.,Belgium
Within the Country	17 04 07	No	54.8	mixed metals	R4	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
Within the Country	20 03 01	No	12.1	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
Within the Country	20 03 01	No	7.96	mixed municipal waste	D5	M	Volume Calculation	Offsite in Ireland	AES Ltd,WP-OY-08-061-01	Cappincur,Tullamore,Co Offaly,,Iceland		
Within the Country	17 09 04	No	180.0	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	R5	E	Volume Calculation	Offsite in Ireland	Anthony Cocoman,NWCPO-10-10642-02	Cloncant,Clonbullogue,Tullamore,Co Offaly,Ireland		
Within the Country	**20 01 21**	**Yes**	0.08	fluorescent tubes and other mercury-containing waste	R4	M	Weighed	Offsite in Ireland	KMK Metal Recycling Ltd,NWCPO-08-10607-02	Cappincur Ind Estate,Daingean Rd,Tullamore ,Co Offaly,Ireland	DELA GmbH,E11315322,Alte,Landstr 4,Essen,.,Germany	Alte,Landstr 4,Essen,.,Germany
Within the Country	16 02 14	No	2.36	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Offsite in Ireland	KMK Metal Recycling Ltd,NWCPO-08-10607-02	Cappincur Ind Estate,Daingean Rd,Tullamore ,Co Offaly,Ireland		

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

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					

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

Annual Environmental Report 2018

Bord na Mona Energy Ltd
(Derrygreenagh Group of Bogs)
IPC Licence P0501-01

LEABEG, TULLAMORE, CO. OFFALY, IRELAND
TELEPHONE: (05793) 45900. INT: +353-5793-45900. FAX :(05793) 45160. INT: +353-5793-45160

Facility Information Summary	
AER Reporting Year	2018
Licence Register Number	P0501-01
Name of site	Bord na Mona Derrygreenagh
Site Location	Derrygreenagh, Rochfortbridge, Co Westmeath
NACE Code	0892
Class/Classes of Activity	1.4
National Grid Reference (6E, 6 N)	249450, 238140

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.

Activities on site can be divided into two components, firstly the milling, harrowing, ridiging and harvesting of peat into stockpiles and secondly the transportation of that peat via an internal rail network to the Power Station and lorry outloading facilities. Production achieved was approximately 268,559 tonnes which was slightly up on the 2017 figure. Infrastructurally, there was no bog development. Quarterly grab sampling was 100% compliant, with the continuous composite sampling returning no non-compliances for suspended solids. There were three environmental complaints received during the reporting period, this was dust related and was resolved to the satisfaction of the complainants. The number of incidents reported rose in 2018. These were mainly trigger level exceedences for ammonia and COD due to the exceptionally dry summer we experienced. In relation to silt pond cleaning, 75% of ponds received two cleanings.The remaining 25% of silt ponds serviced a bog that was not operational in 2018 but were cleaned in December 2017, June 2018 and again in January 2019, so did receive two cleaning within the 12month period. Inspections dictate cleaning schedules. Decommissioning and Rehabilitation works are described in an attachment. During the period of reporting, a draft Rehabilitation plan was submitted along with consent sought and approved for two new trail projects, namely the trial cultivation of herbs and wildcrafting for indigenous herbs and plant water

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

E. Mullall	15-3-19
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

AIR-summary template

Lic No: P0501-01 Year 2018

Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables	No	Fugitive emissions only

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below	No	
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? Basic air monitoring checklist AGN2	Yes	

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

Note 1: Volumetric flow shall be included as a reportable parameter

Continuous Monitoring

4	Does your site carry out continuous air emissions monitoring?	No	
	If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)		
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	No	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	No	

AIR-summary template Lic No: P0501-01 Year 2018

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
DM-01	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	8176	71	0	0	Dust monitioring took place on 5 occasions for 28 days each time between April and September
DM-02	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	14448	178	0	0	
DM-03	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	30688	305	0	0	
DM-04	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	14280	178	0	0	
	SELECT				SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5 SELECT

Table A4: Solvent Management Plan Summary Total VOC Emission limit value Solvent regulations Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways	Solvents destroyed onsite	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2018

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	Monthly COD of yard run-off is attached.

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below		No	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box	External /Internal Lab Quality checklist / Assessment of results checklist	Yes	Surface water monitoring was carried out on a quarterly basis. The results of which are attached.

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision therof[Note 2]	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2018

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	Yes	Flow proportionate composite sampling

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	Yes	Total of 101 days over 365 days
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	Yes	
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	No	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
SW43	Water	Suspended Solids	35	24 hour	All results < 1.5 times ELV, plus from ten 8 results must be ELV >	mg/L				0	
SW43	Water	Ammonia (as N)	2.78	Weekly	NA	mg/L					
SW43	Water	Total phosphorus	NA	Weekly	NA	mg/L					
SW43	Water	COD	100	Weekly	NA	mg/L					
SW43	Water	volumetric flow	NA	24 hour	NA	m3/day			2424		Down time due to battery failure, and sampler repairs. Agency informed of repairs.
SW43	Water	Total Dissolved Solids	NA	Weekly	NA	mg/L					

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: P0501-01 Year 2018

Bund testing

dropdown menu click to see options

			Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed** the integrity test-**all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)	Yes	
2	Please provide integrity testing frequency period	Other (2 Yearly)	
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	Yes	
4	How many bunds are on site?	1	
5	How many of these bunds have been tested within the required test schedule?	1	
6	How many mobile bunds are on site?		
7	Are the mobile bunds included in the bund test schedule?	No	
8	How many of these mobile bunds have been tested within the required test schedule?	0	
9	How many sumps on site are included in the integrity test schedule?	0	
10	How many of these sumps are integrity tested within the test schedule?	0	
	Please list any sump integrity failures in table B1		
11	Do all sumps and chambers have high level liquid alarms?	N/A	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	N/A	
13	Is the Fire Water Retention Pond included in your integrity test programme?	N/A	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
Derrygreenagh Bund NO:501-37-01	reinforced concrete		Gas Oil	110,592	45000	Hydraulic test		22/05/2017	Yes	Pass	N/A	N/A	N/A	N/A

*Capacity required should comply with 25% or 110% containment rule as detailed in your licence

			Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?	SELECT	
16	Are channels/transfer systems to remote containment systems tested?	SELECT	
17	Are channels/transfer systems compliant in both integrity and available volume?	SELECT	

bunding and storage guidelines

Pipeline/underground structure testing

1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**	Yes	No underground tanks or pipelines on site
2	Please provide integrity testing frequency period	SELECT	

*please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	P0501-01	Year	2018

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	no		Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
2	Are you required to carry out soil monitoring as part of your licence requireme	no		
3	Do you extract groundwater for use on site? If yes please specify use in comment section	yes	Drinking water well	
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below. Groundwater monitoring template	no		
5	Is the contamination related to operations at the facility (either current and/or historic)	no		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	N/A		
7	Please specify the proposed time frame for the remediation strategy	N/A		
8	Is there a licence condition to carry out/update ELRA for the site?	N/A		
9	Has any type of risk assesment been carried out for the site?	N/A		
10	Has a Conceptual Site Model been developed for the site?	N/A		
11	Have potential receptors been identified on and off site?	N/A		
12	Is there evidence that contamination is migrating offsite?	N/A		Please enter interpretation of data here

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SELECT**	Upward trend in pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Groundwater/Soil monitoring template Lic No: P0501-01 Year 2018

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
							SELECT			SELECT
							SELECT			SELECT

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA.

Groundwater monitoring template

More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31)

Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013)

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)

Surface water EQS | Groundwater regulations GTV's | Drinking water (private supply) standards | Drinking water (public supply) standards | Interim Guideline Values (IGV)

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:	P0501-01	Year 2018	2018

Click here to access EPA guidance on Environmental Liabilities and Financial provision

		Commentary
ELRA initial agreement status	Not a licence requirement	
ELRA review status	NA	
Amount of Financial Provision cover required as determined by the latest ELRA	NA	
Financial Provision for ELRA status	NA	
Financial Provision for ELRA - amount of cover	NA	
Financial Provision for ELRA - type	NA	
Financial provision for ELRA expiry date	NA	
Closure plan initial agreement status	NA	Internal budget provision
Closure plan review status	NA	Internal budget provision
Financial Provision for Closure status	NA	Internal budget provision
Financial Provision for Closure - amount of cover	NA	Internal budget provision
Financial Provision for Closure - type	NA	Internal budget provision
Financial provision for Closure expiry date	NA	

Environmental Management Programme/Continuous Improvement Programme template

Lic No: P0501-01 Year 2018

Highlighted cells contain dropdown menu click to view

			Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	Internal unaccredited EMS.
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Hydraulic harrows will be deployed at dust sensitive locations. Continue with the collection of headland peat.	90	In total 34 personnel received training during 2018. Hydraulic harrows were depolyed at 4 locations. Headland peat was collected at all locations and returned with production figures.	Individual	Reduced emissions
Waste reduction/Raw material usage efficiency	Waste streamlining is a project we are particularly interested in continuing and hope to reduce wastes further in the future and be more efficient in dealing with all aspects of waste management	80	Installed a waste management system. Monthly waste reports are returned for records/filing and waste streams are segrated on site to maximise recycling potential.	Section Head	Improved Environmental Management Practices
Waste reduction/Raw material usage efficiency	Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.	100	In total 80.9 tonnes of polyethlene were sent off site for recycling. Procurement also exploring the possibility of securing further recyclers. In an attempt to curtail illegal dumping on Bord na Mona remain in contact with Meath and Westmeath Co Councils.	Individual	Improved Environmental Management Practices
Energy Management	As part of an Energy Awareness campaign all aspects of energy consumption will be communicated to personnel with the intention of reducing consumption through awareness	100	The monthly consumption of energy was regurally communicated to the relevant personnel. This included the KPI's for peat production, maintenance and transportation as well as bog pumping and workshop electrical consumption.	Section Head	Reduce overall energy output while maintaining productivity.
Reduction of emissions to Water	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Continue with the collection of headland peat.	90	In total 34 Personnel received training in 2018. Personnel are trained every two years in Environmental matters. Headland peat was collected at all locations and included as part of overall peat returns.	Individual	Improved Environmental Management Practices

Noise monitoring summary report

Lic No: P0501-01 Year 2018

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
2	Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	NA
3	Does your site have a noise reduction plan	NA
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	NA

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?

Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No: P0501-01 Year 2018

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	Sep-18	Report on file
2	Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	SEAI - Large Industry Energy Network (LIEN) Yes	ISO50001 accreditation attained from Certification Europe
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	NA	Not a Licence requirement

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	6100	5858	NA	NA
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	451	226	NA	NA
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	555.988	1692		
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.
** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3yr) :	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply							
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.
** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	92.8				
Non-Hazardous (Tonnes)	332.73				

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template Lic No: P0501-01 Year 2018

Complaints

	Additional information
Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	Yes

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
04/04/2018	Dust		Complaint about dust blowing into adjoining land and silage	Moved stockpile	Complete	05/04/2018	Reported to Agency Ref:LR034726
14/06/2018	Dust		Complaint about dust blowing into their house and property	No peat production adjacent to the homeowner in question	Complete	15/06/2018	Reported to the Agency Ref:LR035599
25/08/2018	Dust		Complaint about dust blowing into their house and property	Employees reminded of their environmental training.	Complete	25/08/2018	Reported to the Agency Ref:LR036695
	SELECT				SELECT		
	SELECT				SELECT		

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	3
Total complaints closed during reporting year	3
Balance of complaints end of reporting year	0

Complaints and Incidents summary template Lic No: P0501-01 Year 2018

Incidents		Additional information
Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	Yes	

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurence
16/02/2018	Trigger level reached	Lisclogher SW-20	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014018	New	Investigate	None Required	Complete	07/03/2018	Low
05/04/2018	Spillage	Toar Bog	1. Minor	Ground	Other (add details)	Plant or equipment breakdown	Normal activities	EPA INCI014221	New	Investigate	Material excavated and removed. Incident reporting re-emphasised to all personnel.	Complete	05/04/2018	Low
24/04/2018	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014395	New	Investigate	None Required	Complete	15/05/2018	Medium
07/06/2018	Trigger level reached	Ballivor Bog SW-35	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014714	New	Investigate	None Required	Complete	02/07/2018	Medium
07/06/2018	Trigger level reached	Ballivor Bog SW-38	1. Minor	Water	Other (add	Unknown	Normal activities	EPA INCI014715	New	Investigate	None Required	Complete	02/07/2018	Medium
07/06/2018	Trigger level reached	Ballivor Bog SW-39	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014716	New	Investigate	None Required	Complete	02/07/2018	Medium
07/06/2018	Trigger level reached	Ballivor Bog SW-40	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014717	New	Investigate	None Required	Complete	02/07/2018	Medium
07/06/2018	Trigger level reached	Ballivor Bog SW-41	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014719	New	Investigate	None Required	Complete	02/07/2018	Medium
07/06/2018	Trigger level reached	Carranstown Bog SW-31	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014720	New	Investigate	None Required	Complete	02/07/2018	Medium
07/06/2018	Trigger level reached	Carranstown Bog SW-32	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014732	New	Investigate	None Required	Complete	02/07/2018	Medium
07/06/2018	Trigger level reached	Carranstown Bog SW-33	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014733	New	Investigate	None Required	Complete	02/07/2018	Medium
07/06/2018	Trigger level reached	Carranstown Bog SW-34	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014734	New	Investigate	None Required	Complete	02/07/2018	Medium
12/06/2018	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014736	Recurring	Investigate	None Required	Complete	02/07/2018	Medium
26/06/2018	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI014737	New	Investigate	None Required	Complete	02/07/2018	Medium
01/10/2018	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI015376	Recurring	Investigate	None Required	Complete	18/10/2018	Medium
11/10/2018	Trigger level reached	Ballybeg Bog SW-12	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI015377	New	Investigate	None Required	Complete	18/10/2018	Medium
11/10/2018	Trigger level reached	Ballybeg Bog SW-13	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI015378	New	Investigate	None Required	Complete	18/10/2018	Medium
11/10/2018	Trigger level reached	Ballybeg Bog SW-13A	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI015379	New	Investigate	None Required	Complete	18/10/2018	Medium
11/10/2018	Trigger level reached	Toar Bog SW-14	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI015380	New	Investigate	None Required	Complete	18/10/2018	Medium
15/10/2018	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI015381	Recurring	Investigate	None Required	Complete	18/10/2018	Medium
24/09/2018	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI015382	Recurring	Investigate	None Required	Complete	25/09/2018	Medium
06/11/2018	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Other (add details)	Unknown	Normal activities	EPA INCI015641	Recurring	Investigate	None Required	Complete	05/12/2018	Medium
Total number of incidents current year	22													
Total number of incidents previous year	6													
% reduction/ increase	366%													

WASTE SUMMARY	Lic No:	P0501-01	Year	2018
SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES		PRTR facility logon	dropdown list click to see options	

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

			Additional Information
1	Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility ?; (waste generated within your boundaries is to be captured through PRTR reporting) If yes please enter details in table 1 below	N/A	
2	Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information	N/A	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	N/A	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code European Waste Catalogue EWC codes	Source of waste accepted	Description of waste accepted **Please enter an accurate and detailed description - which applies to relevant EWC code** European Waste Catalogue EWC codes	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ Increase over previous year +/ - %	Reason for reduction/ increase from previous reporting year	Packaging Content (%)- only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4	Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	SELECT	
5	Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	SELECT	
6	Does your facility have relevant nuisance controls in place?	SELECT	
7	Do you have an odour management system in place for your facility? If no why?	SELECT	
8	Do you maintain a sludge register on site?	SELECT	

SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY

Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments

WASTE SUMMARY	Lic No:	P0501-01	Year	2018

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	Licence permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste	Lined disposal area occupied by waste	Unlined area	Comments on liner type
										SELECT UNIT	SELECT UNIT	SELECT UNIT	

Table 4 Environmental monitoring-landfill only Landfill Manual-Monitoring Standards

Was meterological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments

.+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9	Is leachate from your site treated in a Waste Water Treatment Plant?	SELECT
10	Is leachate released to surface water? If yes please complete leachate mass load information below	SELECT

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
			SELECT	

Waste Summary Continued Lic No: P0501-01 Year 2018

European Waste Code (EWC)	Description of Waste (in line with applicable EWC code)	Hazardous - Yes/No	Quantity (Tonnes)	Name & Permit No. of Agent/Carrier	Treatment Type – Recovered / Disposed / Recycled	Name, Address & Licence/Permit No. of FINAL Destination	Location of Treatment - Country
02 01 04	waste plastics (except packaging)	No	80.9	ADN Materials Ltd.WFP-MN-12-0001-04	R05 - Recycling/reclamation of other inorganic materials	ADN Materials Ltd., Lossetts, Carrickmacross, Co. Monaghan - WFP-MN-12-0001-04	Ireland
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances	Yes	1	Enva Ireland Limited (Portlaoise) - W0184	R02 - Solvent reclamation/regeneration	Recyfuel Ltd., Enghis - BE0459.735.458	Belgium
11 01 13*	degreasing wastes containing hazardous substances	Yes	0.27	Safety Kleen Ireland Ltd - W0099	R11 - Use of waste obtained from any of the operations numbered R 1 to R 10	Solvent Recovery Management, PP33345F, Wheeland Rd., Knottingly, West Yorks	UK
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils	Yes	10.37	Enva Ireland Limited (Portlaoise) - W0184	R01 - Use principally as a fuel or other means to generate energy	Enva Ireland Limited, Clonminam Industrial Estate, Portlaoise - W0184	Ireland
13 05 03*	interceptor sludges	Yes	46.14	Enva Ireland Limited (Portlaoise) - W0184	R01 - Use principally as a fuel or other means to generate energy	Enva Ireland Limited, Clonminam Industrial Estate, Portlaoise - W0184	Ireland
15 01 03	wooden packaging	No	12.08	AES Ltd WP-OY-08-601-01	R01 - Use principally as a fuel or other means to generate energy	AES LTD, Cappincur, Tullamore, Co. Offaly - WP-OY-08-601-01	Ireland
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	Yes	1.01	Enva Ireland Limited (Portlaoise) - W0184	R01 - Use principally as a fuel or other means to generate energy	Lindenschmidt, Kreutzal - Reg No: E97095037	Germany
16 01 07*	oil filters	Yes	1.06	Enva Ireland Limited (Portlaoise) - W0184	R04 - Recycling/reclamation of metals and metal compounds	R.D. Recycling, Houthalen, Reg No: 51727/1KD	Belgium
16 06 01*	lead batteries	Yes	0.96	Enva Ireland Limited (Portlaoise) - W0184	R04 - Recycling/reclamation of metals and metal compounds	Campine Recycling, Beerse - MLAV/05173/GVDA	Belgium
17 04 07	mixed metals	No	57.78	AES Ltd WP-OY-08-601-01	R04 - Recycling/reclamation of metals and metal compounds	AES LTD, Cappincur, Tullamore, Co. Offaly - WP-OY-08-601-01	Ireland
20 03 01 A	Municipal mixed residual household	No	5.79	AES Ltd WP-OY-08-601-01	D05 - Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)	AES LTD, Cappincur, Tullamore, Co. Offaly - WP-OY-08-601-01	Ireland
20 03 01 B	Municipal mixed residual non-household	No	20.62	AES Ltd WP-OY-08-601-01	D05 - Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)	AES LTD, Cappincur, Tullamore, Co. Offaly - WP-OY-08-601-01	Ireland
17 05 03*	soil and stones containing hazardous substances	Yes	31.98	Enva Ireland Limited (Portlaoise) - W0184	D10 - Incineration on land	Enva Ireland Limited, Clonminam Industrial Estate, Portlaoise - W0184	Ireland

Derrygreenagh

Decommissioning and Rehabilitation
Bog Rehabilitation Progress Report 2018.

Within the Derrygreenagh licensed area (P0501-01) there were no entire bog units available for rehabilitation in 2018. Ongoing monitoring of cutaway within the Derrygreenagh licensing area included the re-survey of Drumman bog.
Monitoring of cutaway sites within the Derrygreenagh Bog Group is ongoing with Lisclogher East re-surveyed in 2018. The surveys comprised of baseline walkover surveys to identify and map pioneer and established habitats on the cutaway and to assess the condition of raised bog remnants along bog margins.

Some fertiliser (Ground Rock Phosphate) was applied to an area within Derryarkin Bog in 2018 to speed up natural recolonization, as part of the rehabilitation plan for this bog.

Bog restoration and drain-blocking is being carried out at a remnant section of high bog at Daingean Rathdrum. This work was completed in 2018.

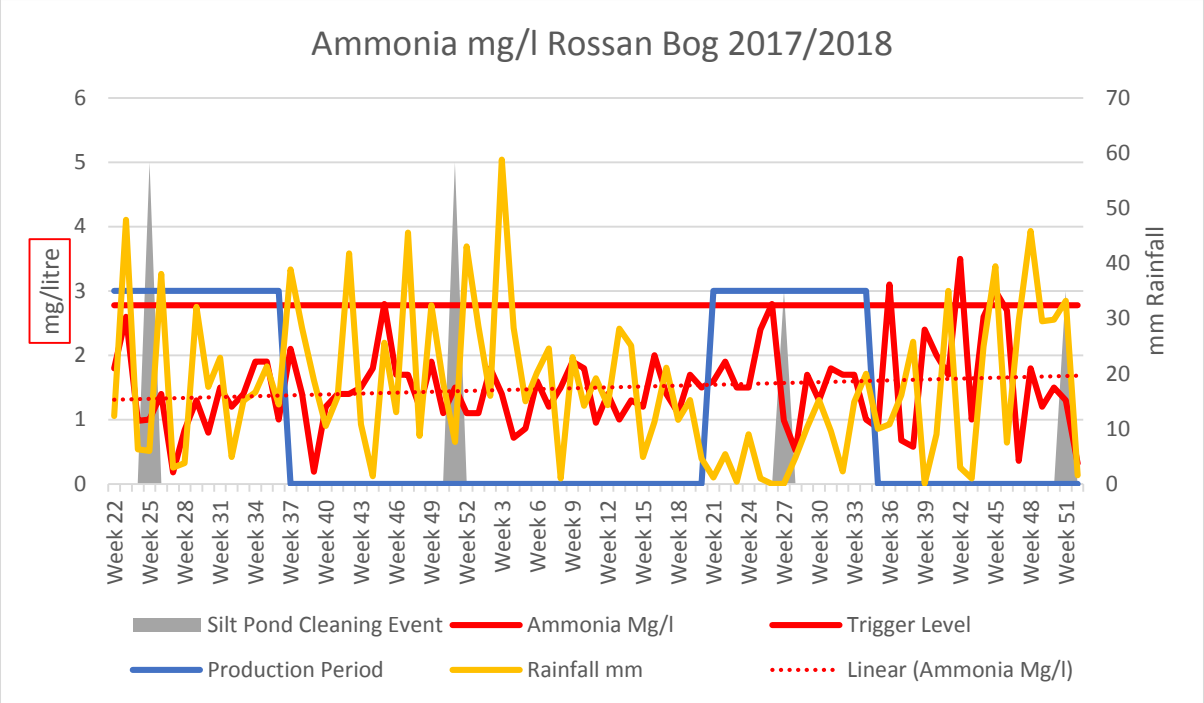
Draft rehabilitation plans for the Derrygreenagh bogs licensed area, including more detailed draft plans for each component bog unit were submitted to the EPA in 2013 and these were reviewed and updated in 2015, and 2017.

The new Biodiversity Action Plan (2016-2021) was launched in 2016 with the annual Biodiversity Action Plan review day being held in February 2017, this included an update on the progress of this plan, bog restoration and cutaway rehabilitation for a wide range on statutory and non-statutory consultees including members of the EPA, NPWS, BWI, Bord na Mona, Coillte, Inland Fisheries Ireland, An Taisce, IPCC, Irish Red Grouse Association, Irish Wildlife Trust, NARGC, local game councils, Midland Regional Planning Authority as well as a range of local community groups and Heritage Officers from counties Laois, Offaly, Kildare, Roscommon, Longford, Meath, Galway, Westmeath and Dublin.

A copy of our Biodiversity Action Plan is available to view and download at http://www.bordnamona.ie/our-company/biodiversity/

As required by condition *10.2 Cutaway Bog Rehabilitation Plans*, draft peatland rehabilitation plans for all the individual bog units were submitted to the agency in 2013, reviewed and amended in 2015 and re-submitted to the agency in 2015. All draft rehabilitation plans have been reviewed in 2017. These reviewed and amended plans will be re-submitted to the agency in due course.
Organic certification was sought for the majority of the Bord na Móna property with the aim of using some areas for the cultivation of plants for use in herbal medicine, this project is ongoing.

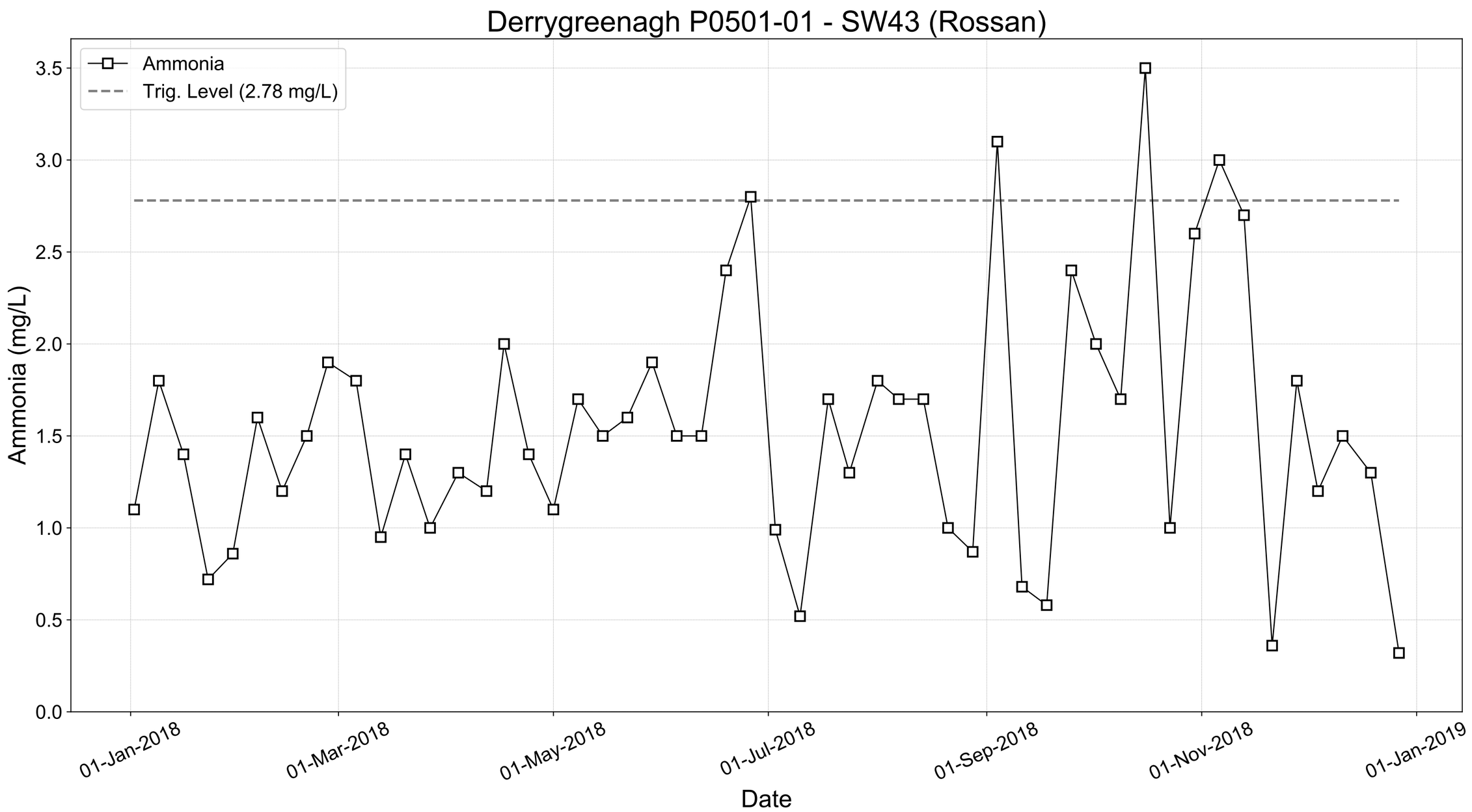
Bord na Mona Derrygreenagh PO501-01												
Grab Sampling 2018												
X	Y	Bog	SW	Monitoring	Sampled	pH	SS	TS	Ammonia	TP	COD	Colour
262436.96	258824.82	Lisclogher	SW-19	Q1 18	16/02/2018	6.8	5	124	0.1	0.05	72	340
262935.72	258722.5	Lisclogher	SW-20	Q1 18	16/02/2018	5.8	5	160	0.14	0.05	119	548
262969.12	258691.34	Lisclogher	SW-21	Q1 18	16/02/2018	5.4	5	116	0.11	0.05	96	417
263432.94	258465.16	Lisclogher	SW-22	Q1 18	16/02/2018	6.9	5	164	0.96	0.05	93	544
263467.21	258446.56	Lisclogher	SW-23	Q1 18	16/02/2018	7.3	5	196	1.6	0.06	82	399
263740.8	258367.96	Lisclogher	SW-24	Q1 18	16/02/2018	4.3	5	60	0.09	0.05	47	212
266022.62	259613.57	Lisclogher	SW-25	Q1 18	20/02/2018	7.4	5	358	2.9	0.12	85	277
260583.98	256514.28	Bracklin	SW-26	Q1 18	16/02/2018	6.4	5	96	0.71	0.06	57	191
260609.41	256526.33	Bracklin	SW-27	Q1 18	16/02/2018	7.1	5	224	1.6	0.05	72	326
263649.63	255035.41	Carranstown	SW-31	Q2 18	07/06/2018	7.6	5	171	0.03	0.05	126	230
265553.99	255989.11	Carranstown	SW-32	Q2 18	07/06/2018	7.6	5	394	0.54	0.1	140	176
265632.83	254865.04	Carranstown	SW-33	Q2 18	07/06/2018	7.1	35	414	2.8	0.65	124	178
265886.95	254984.18	Carranstown	SW-34	Q2 18	07/06/2018	7.4	12	432	0.99	0.12	142	272
265140.06	254114.54	Ballivor	SW-35	Q2 18	07/06/2018	7.7	15	476	0.06	0.09	144	242
265878.97	253506.58	Ballivor	SW-38	Q2 18	07/06/2018	8	8	212	0.24	0.08	136	238
265888.99	253456.63	Ballivor	SW-39	Q2 18	07/06/2018	7.9	5	286	0.07	0.11	115	104
266366.86	251598.58	Ballivor	SW-40	Q2 18	07/06/2018	7.6	9	436	1.6	0.12	124	134
266386.45	251579.18	Ballivor	SW-41	Q2 18	07/06/2018	7.8	6	356	0.02	0.07	110	102
255381.16	243606.05	Derryhinch	SW-1	Q3 18	10/09/2018	7.7	7	344	0.51	0.09	78	95
254528.83	242354.28	Derryhinch	SW-2	Q3 18	10/09/2018	7.6	5	228	1.1	0.06	61	119
253369.19	242417.94	Derryhinch	SW-3	Q3 18	10/09/2018	7.7	5	214	2.3	0.05	49	201
252602.78	242540.17	Derryhinch	SW-4	Q3 18	10/09/2018	7.8	5	432	0.08	0.05	52	105
252623.61	241470.16	Carrick	SW-4A	Q3 18	10/09/2018	7.9	5	288	0.95	0.05	61	227
252468.68	240919.32	Carrick	SW-5	Q3 18	10/09/2018	7.5	5	394	0.09	0.05	42	59
252409.71	241163.33	Carrick	SW-6	Q3 18	10/09/2018	7.6	5	462	0.1	0.05	42	66
252473.21	241162.01	Carrick	SW-7	Q3 18	10/09/2018	7.6	5	462	0.09	0.06	42	142
252275.61	239871.62	Drumman	SW-8	Q3 18	10/09/2018	8	5	366	0.35	0.05	50	166
252950.37	238421.69	Drumman	SW-9	Q3 18	10/09/2018	7.5	5	240	0.04	0.07	62	146
251559.92	235341.71	Ballybeg	SW-11	Q4 18	15/10/2018	7.2	5	418	0.12	0.05	61	119
252206.09	235207.02	Ballybeg	SW-12	Q4 18	15/10/2018	7.1	5	358	3	0.05	83	213
251880.6	234593.13	Ballybeg	SW-13	Q4 18	15/10/2018	7.3	5	368	3.7	0.05	74	184
252250.49	235061.45	Ballybeg	SW-13A	Q4 18	15/10/2018	7.2	5	402	3	0.05	71	148
240485.16	235706.33	Toar	SW-14	Q4 18	11/10/2018	7.2	14	396	3.2	0.05	35	42
244391.76	235128.93	Toar	SW-15	Q4 18	11/10/2018	7.5	9	418	0.42	0.05	37	44
244435.64	235093.42	Toar	SW-16	Q4 18	11/10/2018	7.8	5	452	0.15	0.25	44	59
240425.65	234997.32	Toar	SW-17	Q4 18	11/10/2018	8.1	5	328	0.02	0.1	10	32
259415.3	256855.75	Bracklin	SW-29	Q4 18	15/10/2018	7	5	164	2.6	0.28	91	345
259519.45	257618.44	Bracklin	SW-30	Q4 18	15/10/2018	6.6	5	136	2.4	0.05	95	90

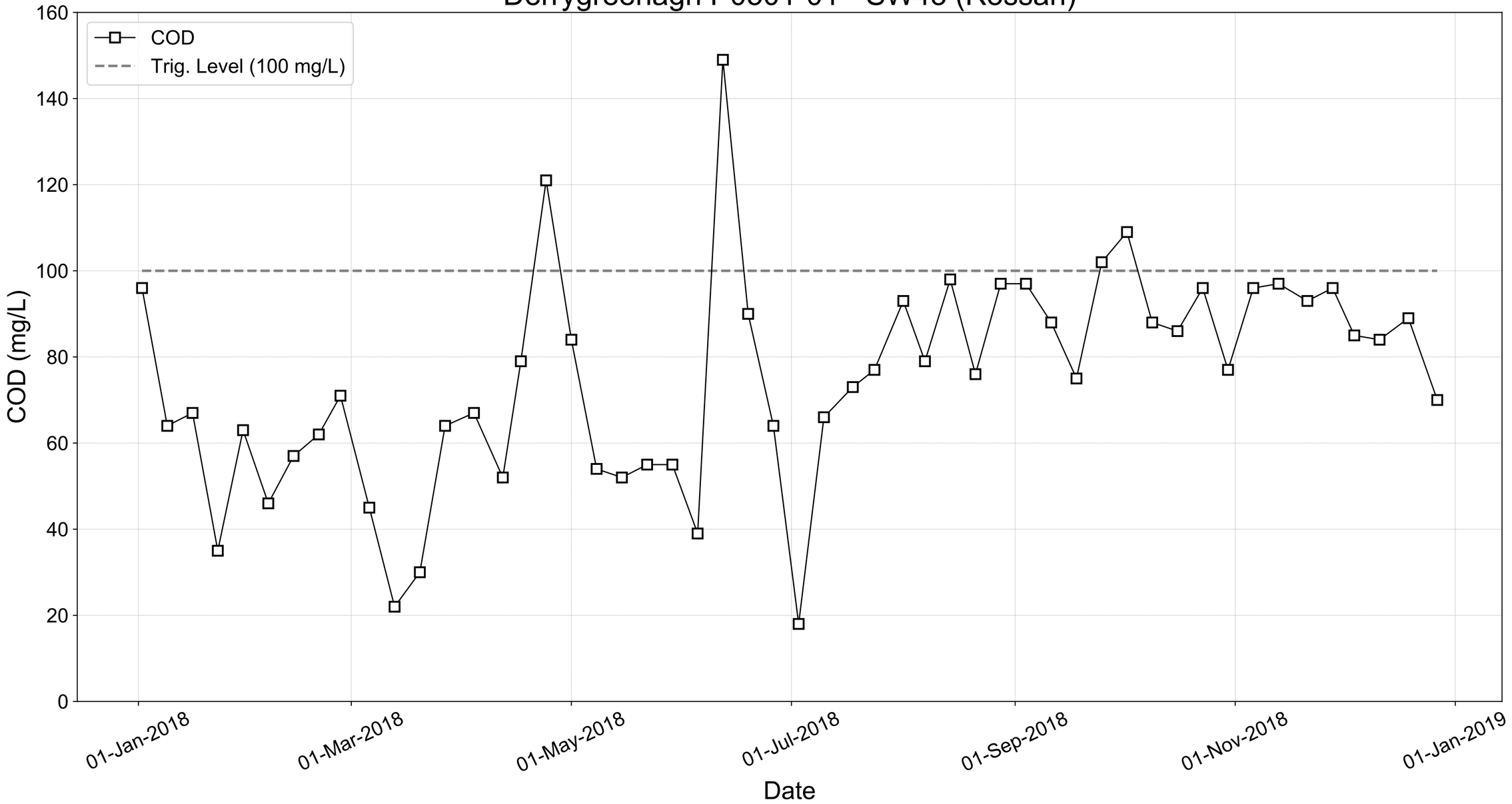


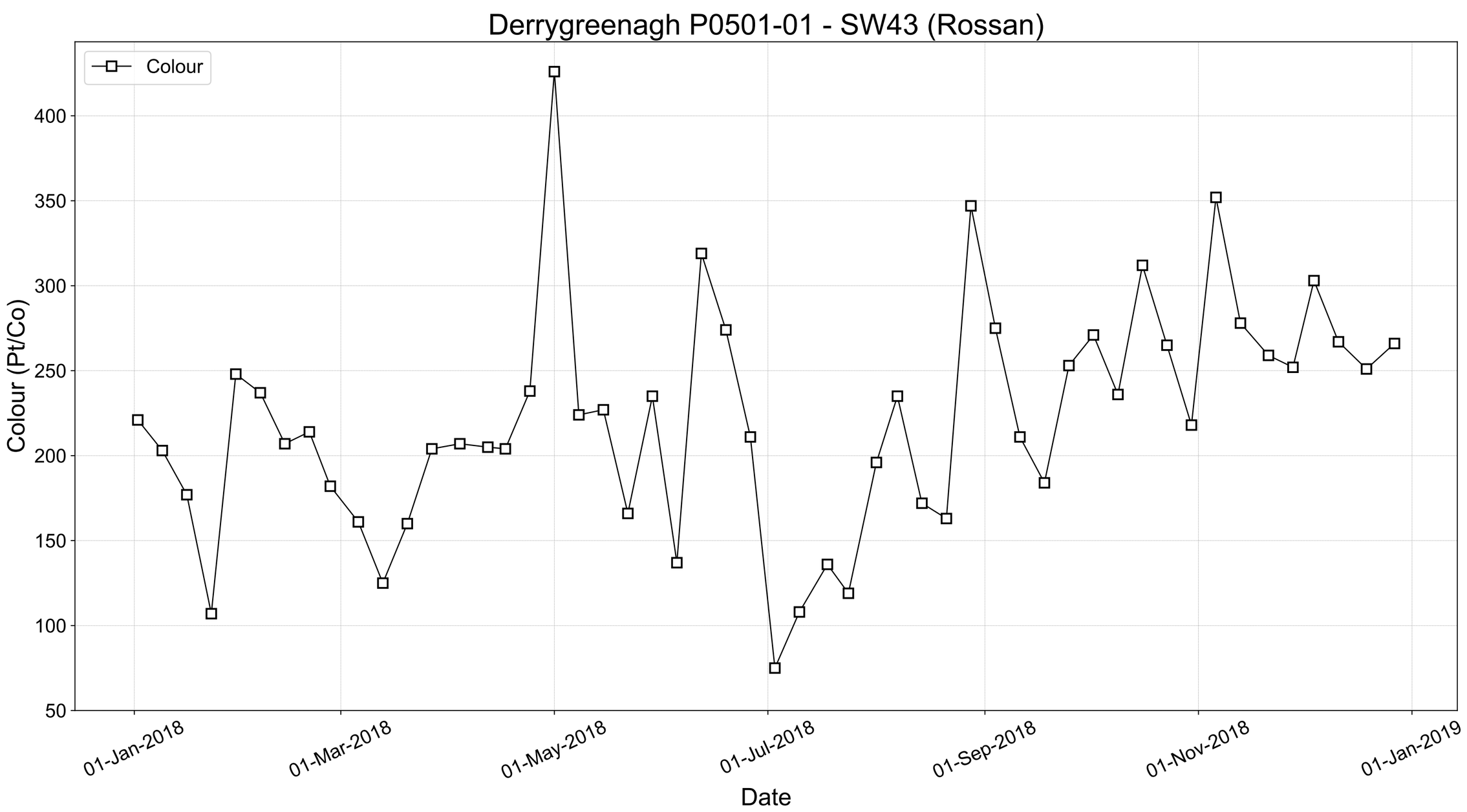
Rossan bog is an active horticultural production bog with the composite sampler located here from May 2017 where it was moved from Toar Bog within the Derrygreenagh IPC Licence. The composite sampler takes a flow proportional composite sample over a 24 hour period. The sampler had 0% downtime during this reporting period and returned 52 weekly ammonia results during the period. The ammonia trigger level of 2.78mg/l, as agreed with the Agency, was exceeded four times during the period, all reported to the Agency. Overall the sampling period of 82 weeks showed a slightly increasing trend in ammonia.

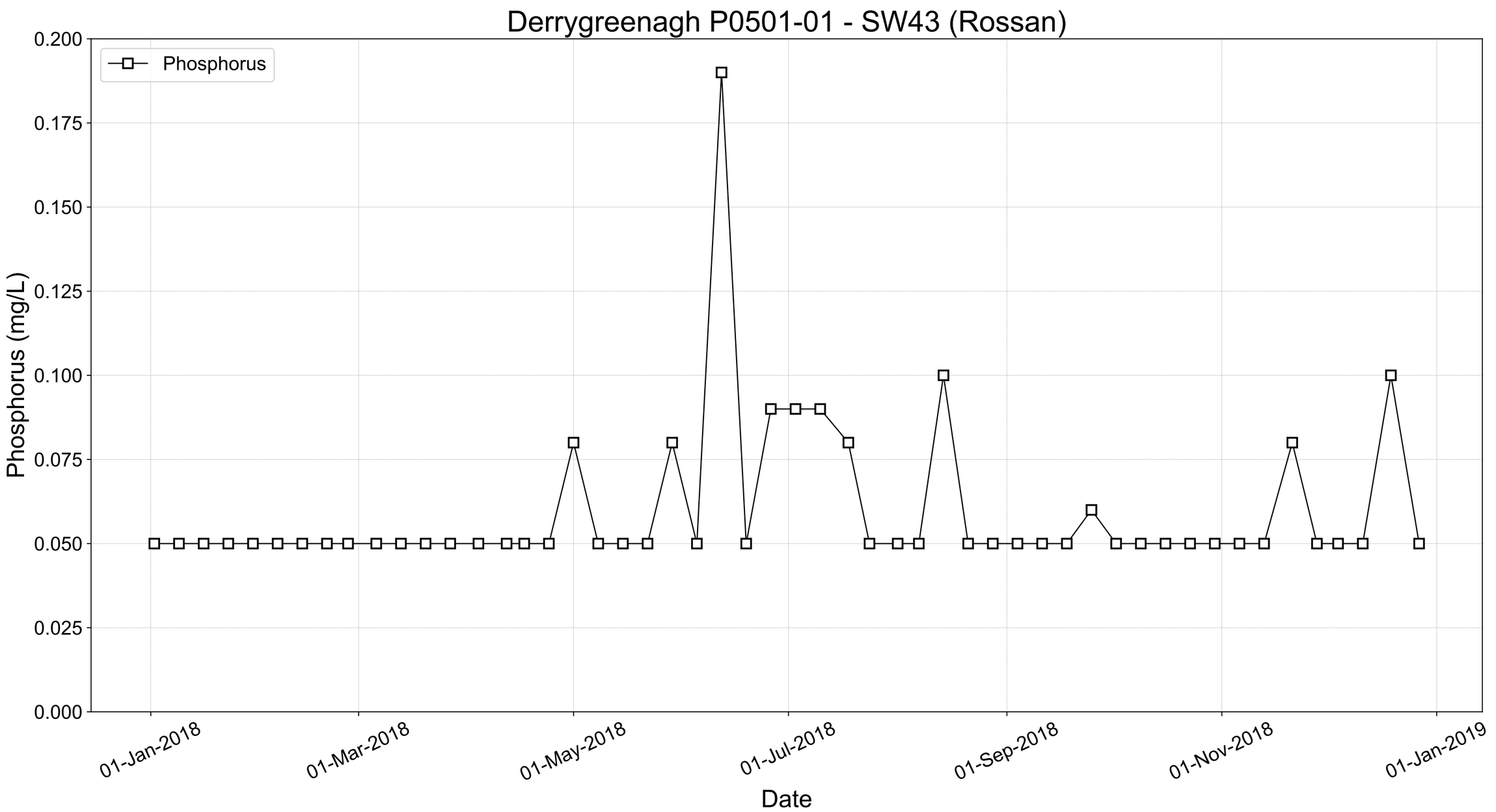
There is no obvious link between the summer production, winter maintenance, or silt pond maintenance events on the concentration of Ammonia discharging from this peatland. The only link expected would be that related to rainfall events and seasonal weather patterns and the subsequent surfacewater runoff and associated ammonia concentrations.

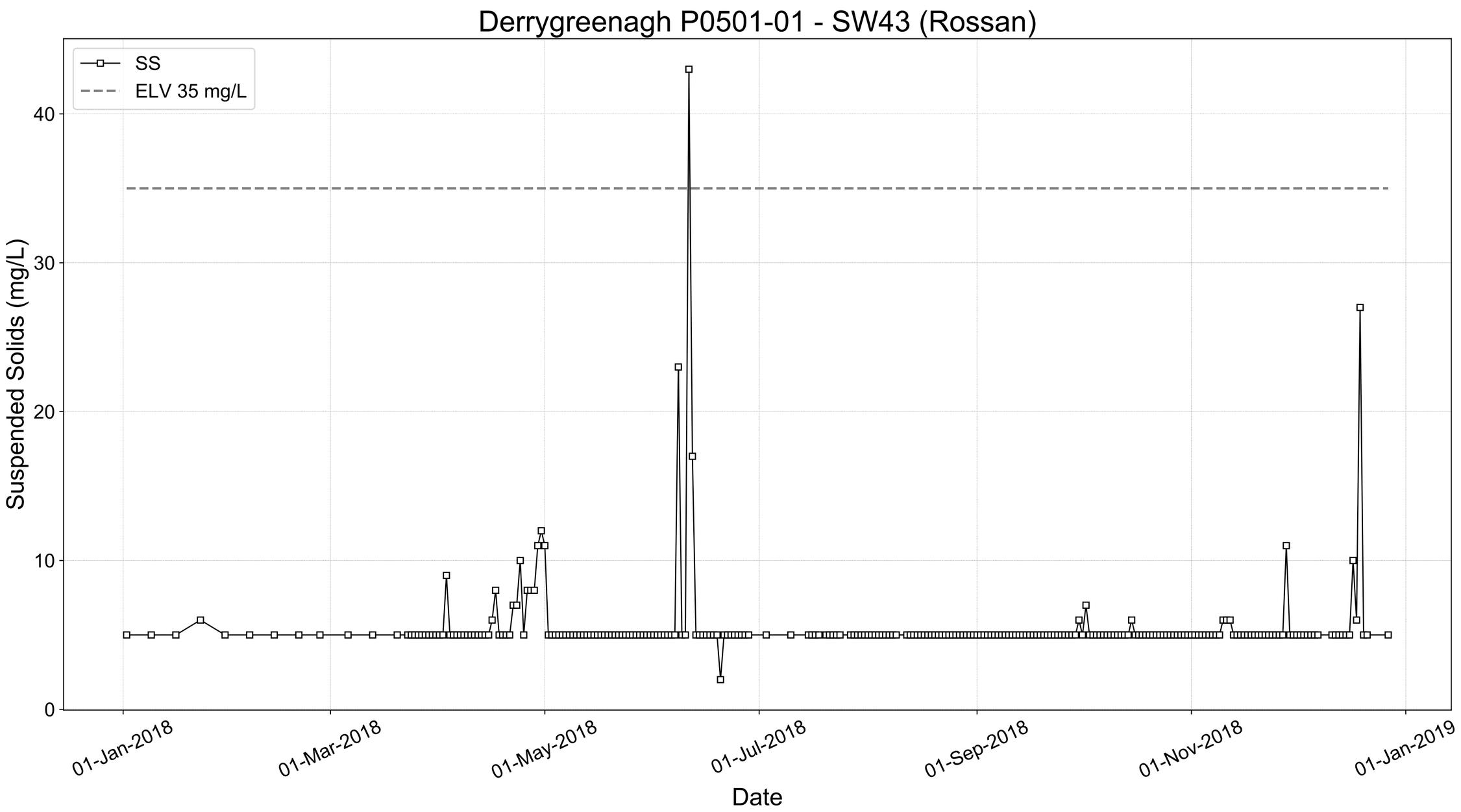
The sampler at this location may be relocated to fill any information gaps on other peatland catchments and to reflect the need to support the information gathering required for the Water Framework Directive's River Basin Management Plan. There is also an EPA lead research project commencing in 2019, called the SWAMP project, whose aims are to appraise and understand the nutrient impact from peatlands, to evaluate treatment technologies and to propose predictive tools for watershed management.

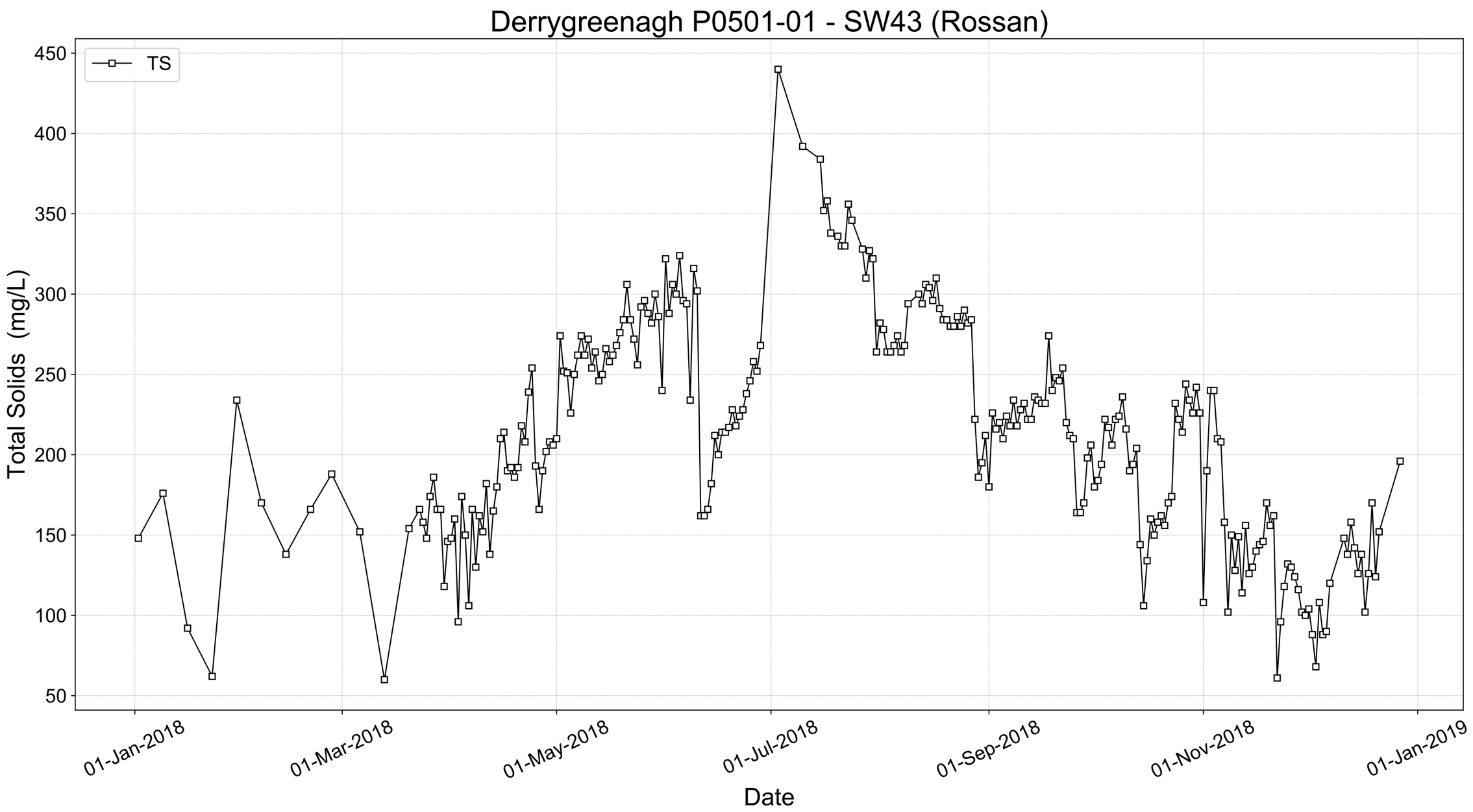

Derrygreenagh P0501-01 - SW43 (Rossan)
Ammonia
Trig. Level (2.78 mg/L)
Ammonia (mg/L)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
01-Jan-2018
01-Mar-2018
01-May-2018
01-Jul-2018
01-Sep-2018
01-Nov-2018
01-Jan-2019
Date

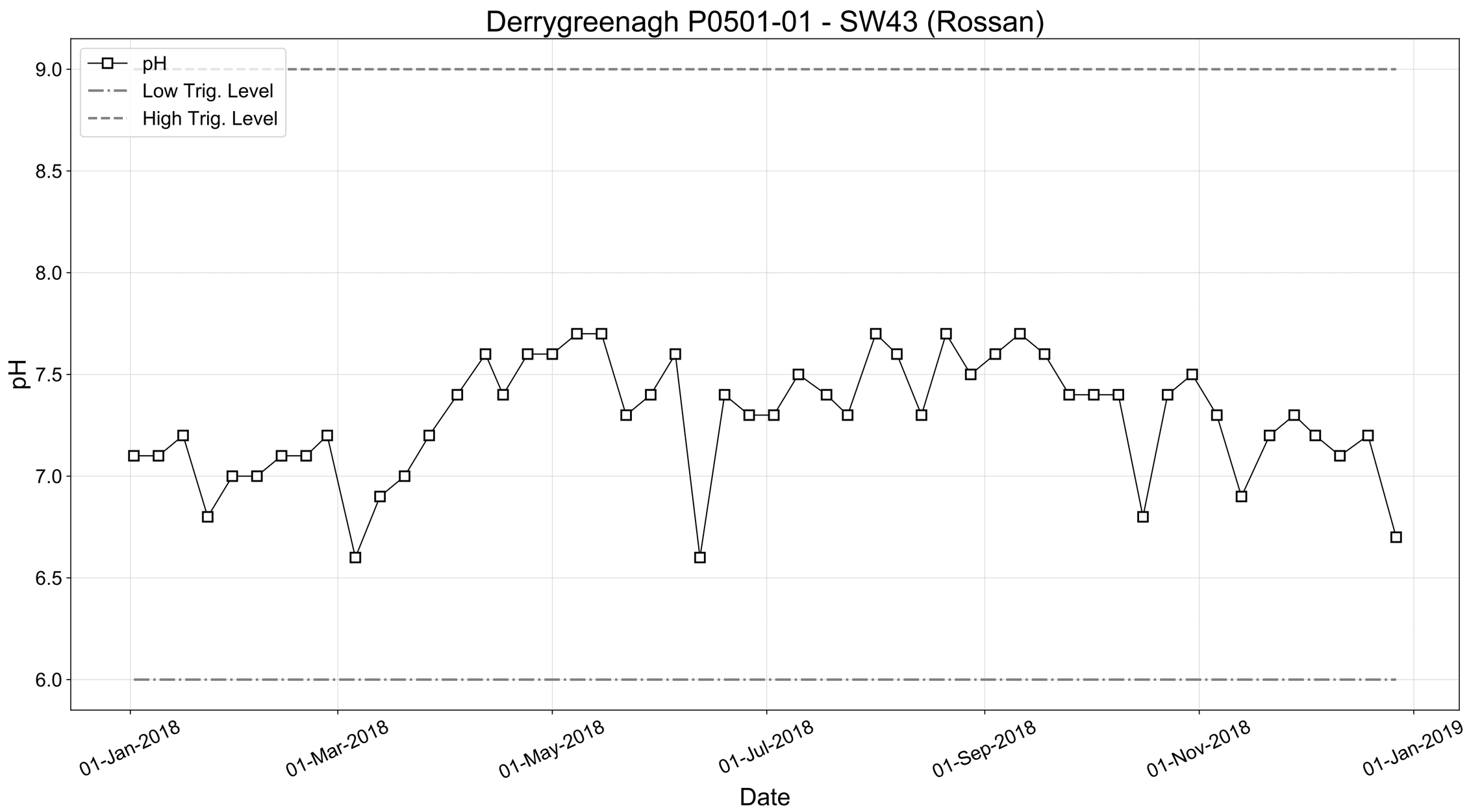

Derrygreenagh P0501-01 - SW43 (Rossan)
COD
Trig. Level (100 mg/L)
COD (mg/L)
0
20
40
60
80
100
120
140
160
01-Jan-2018
01-Mar-2018
01-May-2018
01-Jul-2018
01-Sep-2018
01-Nov-2018
01-Jan-2019
Date


Derrygreenagh P0501-01 - SW43 (Rossan)
Colour
Colour (Pt/Co)
400
350
300
250
200
150
100
50
01-Jan-2018
01-Mar-2018
01-May-2018
01-Jul-2018
01-Sep-2018
01-Nov-2018
01-Jan-2019
Date


Derrygreenagh P0501-01 - SW43 (Rossan)
Phosphorus
Phosphorus (mg/L)
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
01-Jan-2018
01-Mar-2018
01-May-2018
01-Jul-2018
01-Sep-2018
01-Nov-2018
01-Jan-2019
Date


Derrygreenagh P0501-01 - SW43 (Rossan)
SS
ELV 35 mg/L
Suspended Solids (mg/L)
0
10
20
30
40
01-Jan-2018
01-Mar-2018
01-May-2018
01-Jul-2018
01-Sep-2018
01-Nov-2018
01-Jan-2019
Date


Derrygreenagh P0501-01 - SW43 (Rossan)
TS
Total Solids (mg/L)
450
400
350
300
250
200
150
100
50
01-Jan-2018
01-Mar-2018
01-May-2018
01-Jul-2018
01-Sep-2018
01-Nov-2018
01-Jan-2019
Date


Derrygreenagh P0501-01 - SW43 (Rossan)
pH
Low Trig. Level
High Trig. Level
9.0
8.5
8.0
7.5
7.0
6.5
6.0
pH
01-Jan-2018
01-Mar-2018
01-May-2018
01-Jul-2018
01-Sep-2018
01-Nov-2018
01-Jan-2019
Date

Yard Discharge Results 2018

Licence: P0501-01

Works: Derrygreenagh

Month	D/Greenagh SWE 2 COD	Rossan SWE 1 COD
Jan	49	52
Feb	18	56
Mar	18	29
Apr	32	53
May	10	48
June	0	0
July	0	0
Aug	0	0
Sep	40	68
Oct	10	21
Nov	21	60
Dec	34	21

Note: 0 denotes no flow at emission point on day of sampling

Extractive Waste Management Plan Implementation AER Update.

March 2019.

IPC Licence P0501-01.

1.0 Extractive Wastes.

Waste classified as extractive waste from peat extraction operations arise from two operations associated with this activity.

- Silt Pond excavations and maintenance
- Bog Timbers

There has been no change to the type and nature of these two waste streams and no new waste streams added to this list. These wastes streams continue to be stored and maintained at between 1 and 3 metres in height.

2.0 Condition 7.5 Extractive Waste Management

- An extractive waste management plan (EWMP) was submitted to the Agency in September 2012 and was approved.
- The EWMP was reviewed in September 2017. There were no substantial changes to the operation of the plan, associated waste facilities or to the waste deposited.

3.0 Minimisation

- The IPC Licence has various conditions that require the installation, inspections and maintenance of silt ponds for operational areas and as such these requirements dictate the need for silt ponds and associated excavation materials and cleanings.
- Bog timbers arise from the active production footprint and are naturally occurring. The active footprint is dictated by the peat production targets and customer supply contract and service level agreements.

4.0 Treatment

- Silt pond excavation and maintenance materials do not require any treatment and are stored as per the EWMP, adjacent to the associated silt pond.
- There is no treatment of bog timbers arising and these are stockpiled at various locations in associated bogs.

5.0 Recovery

- As per the EWMP, there is still no opportunity to recover these silt pond associated materials
- Bog timbers stored on the bog are natural to the peat bog and while there have been trails to recover this waste material, these have not proved viable.

6.0 Disposal

- Silt pond cleanings continue to be disposed of adjacent to the associated silt pond and will be incorporated back into the rehabilitation plans for these bogs, post production and decommissioning.
- Bog timbers will continue to be stockpiled at suitable locations to be either incorporated back into the bog, as a supply of bog timbers for the crafting industry or will continue to decay naturally.

Annual Environmental Report 2019
Bord na Mona Energy Ltd
(Derrygreenagh Group of Bogs)
IPC Licence P0501-01

LEABEG, TULLAMORE, CO. OFFALY, IRELAND
TELEPHONE: (05793) 45900. INT: +353-5793-45900. FAX :(05793) 45160. INT: +353-5793-45160

Facility Information Summary	
AER Reporting Year	2019
Licence Register Number	P0501-01
Name of site	Bord na Mona Derrygreenagh
Site Location	Derrygreenagh, Rochfortbridge, Co Westmeath
NACE Code	0892
Class/Classes of Activity	1.4
National Grid Reference (6E, 6 N)	249450, 238140
A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.	Activities on site can be divided into two components, firstly the milling, harrowing, ridiging and harvesting of peat into stockpiles and secondly the transportation of that peat via an internal rail network to the Power Station and lorry outloading facilities. Production achieved was approximately 140,237 tonnes which is a 52% reduction on the 2018 figure. Quarterly grab sampling was 100% compliant with regard to the ELV, with the continuous composite sampling returning no non-compliances for suspended solids, with 29% downtime due to battery and maintenence issues but 52 weekly samples were achieved. The number of exceedances in trigger levels noted and reported to the Agency was 11 which was a 50% reduction on 2018, with the majority being exceedances in COD or Ammonia Trigger levels, with one spillage incident where a stolen tractor was driven into a drain with a resultant fuel spillage that required remediation. There was one environmental complaint received during the reporting period, this was dust related and was resolved to the satisfaction of the complainant and reported to the Agency. In relation to silt pond cleaning, 100% of all 58 silt ponds received the required two cleanings, with inspections dictating the cleaning schedules. During the reporting period, there were a number of notifications to the Agency including notification of an interim cessation of peat extraction at Derrygreenagh, pending regularisation. Decommissioning and Rehabilitation works are described in an attachment.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

Cathal Brenna	31/05/2020
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

AIR-summary template	Lic No:	P0501-01	Year	2019

Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables	No	Fugitive emissions only

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below	No	
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? Basic air monitoring checklist AGN2	Yes	

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments -reason for change in % mass load from previous year if applicable
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

Note 1: Volumetric flow shall be included as a reportable parameter

AIR-summary template	Lic No:	P0501-01	Year	2019

Continuous Monitoring

4	Does your site carry out continuous air emissions monitoring?	No	
	If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)		
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	No	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	No	

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
DM-01	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	4536	83	0	0	Dust monitioring took place on 4 occasions for 28 days each time between April and August
DM-02	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	8512	178	0	0	
DM-03	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	10808	166	0	0	
DM-04	Total Particulates	350	140 DAYS	Daily average < ELV	mg/m2/day	12740	261	0	0	
	SELECT				SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table

Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

AIR-summary template	Lic No:	P0501-01	Year	2019

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

SELECT

Table A4: Solvent Management Plan Summary
Total VOC Emission limit value

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g.	Solvents destroyed onsite	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2019

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If **you do not have** licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	Monthly COD of yard run-off is attached.

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below		No	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box	External /Internal Lab Quality checklist / Assessment of results checklist	Yes	Surface water monitoring was carried out on a quarterly basis. The results of which are attached.

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision therof[Note 2]	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: P0501-01 Year 2019

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	Yes	Flow proportionate composite sampling

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	Yes	Total of 108 days over 365 days
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	Yes	
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	No	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
SW43	Water	Suspended Solids	35	24 hour	All results < 1.5 times ELV, plus 8 from ten results must be < ELV	mg/L			2592	0	Down time due to battery failure, and sampler repairs. Agency informed of repairs. Its not possible to report average continuous emissions as this sampler is located on one of 58 silt ponds and samplers are moved around periodically to allow for analysis of other silt pond performance.
SW43	Water	Ammonia (as N)	2.78	Weekly	NA	mg/L					
SW43	Water	Total phosphorus	NA	Weekly	NA	mg/L					
SW43	Water	COD	100	Weekly	NA	mg/L					
SW43	Water	volumetric flow	NA	24 hour	NA	m3/day					
SW43	Water	Total Dissolved Solids	NA	Weekly	NA	mg/L					

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: P0501-01 Year 2019

Bund testing

dropdown menu click to see options

			Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed** the integrity test-**all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)	Yes	
2	Please provide integrity testing frequency period	Other (2 Yearly)	
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	Yes	
4	How many bunds are on site?	2	
5	How many of these bunds have been tested within the required test schedule?	2	
6	How many mobile bunds are on site?	0	
7	Are the mobile bunds included in the bund test schedule?	No	
8	How many of these mobile bunds have been tested within the required test schedule?	0	
9	How many sumps on site are included in the integrity test schedule?	0	
10	How many of these sumps are integrity tested within the test schedule?	0	
	Please list any sump integrity failures in table B1		
11	Do all sumps and chambers have high level liquid alarms?	N/A	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	N/A	
13	Is the Fire Water Retention Pond included in your integrity test programme?	N/A	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
Derrygreenagh Bund NO:501-37-01	reinforced concrete		Gas Oil	110,592	45000	Hydraulic test		22/07/2019	Yes	Pass	N/A	N/A	N/A	N/A
						Hydraulic test								

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence

			Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?	SELECT	
16	Are channels/transfer systems to remote containment systems tested?	SELECT	
17	Are channels/transfer systems compliant in both integrity and available volume?	SELECT	

bunding and storage guidelines

Pipeline/underground structure testing

			No underground tanks or pipelines on site
1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**	Yes	
2	Please provide integrity testing frequency period	SELECT	

*please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	P0501-01	Year	2019

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	no		Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
2	Are you required to carry out soil monitoring as part of your licence requirements?	no		
3	Do you extract groundwater for use on site? If yes please specify use in comment section	yes	Drinking water well	
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Groundwater monitoring template	no		
5	Is the contamination related to operations at the facility (either current and/or historic)	no		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	N/A		
7	Please specify the proposed time frame for the remediation strategy	N/A		
8	Is there a licence condition to carry out/update ELRA for the site?	N/A		
9	Has any type of risk assesment been carried out for the site?	N/A		
10	Has a Conceptual Site Model been developed for the site?	N/A		
11	Have potential receptors been identified on and off site?	N/A		
12	Is there evidence that contamination is migrating offsite?	N/A		

Please enter interpretation of data here

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SELECT**	
							SELECT			SELECT
							SELECT			SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	
							SELECT			SELECT
							SELECT			SELECT

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA.

Groundwater monitoring template

More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31)

Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)

Surface water EQS | Groundwater regulations GTV's | Drinking water (private supply) standards | Drinking water (public supply) standards | Interim Guideline Values (IGV)

Groundwater/Soil monitoring template Lic No: P0501-01 Year 2019

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:	P0501-01	Year 2017	2019

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Not a licence requirement	
2	ELRA review status	NA	
3	Amount of Financial Provision cover required as determined by the latest ELRA	NA	
4	Financial Provision for ELRA status	NA	
5	Financial Provision for ELRA - amount of cover	NA	
6	Financial Provision for ELRA - type	NA	
7	Financial provision for ELRA expiry date	NA	
8	Closure plan initial agreement status	NA	
9	Closure plan review status	NA	
10	Financial Provision for Closure status	NA	
11	Financial Provision for Closure - amount of cover	NA	
12	Financial Provision for Closure - type	NA	
13	Financial provision for Closure expiry date	NA	

Environmental Management Programme/Continuous Improvement Programme template

Lic No: P0501-01 Year 2019

Highlighted cells contain dropdown menu click to view

			Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	Internal unaccredited EMS.
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Hydraulic harrows will be deployed at dust sensitive locations. Continue with the collection of headland peat.	50	In total 0 Personnel received training in 2019. Training takes place every two years, so no training due in the period. Hydraulic harrows were depolyed at 4 locations. Headland peat was collected at all locations and returned with production figures.	Individual	Reduced emissions

Environmental Management Programme/Continuous Improvement Programme template				Lic No:	P0501-01	Year	2019
Waste reduction/Raw material usage efficiency	Waste streamlining is a project we are particularly interested in continuing and hope to reduce wastes further in the future and be more efficient in dealing with all aspects of waste management	80	Installed a waste management system. Monthly waste reports are returned for records/filing and waste streams are segrated on site to maximise recycling potential.	Section Head	Improved Environmental Management Practices		
Waste reduction/Raw material usage efficiency	Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.	100	In total 89.85 tonnes of polyethlene were sent off site for recycling. Procurement also exploring the possibility of securing further recyclers.	Individual	Improved Environmental Management Practices		
Energy Management	As part of an Energy Awareness campaign all aspects of energy consumption will be communicated to personnel with the intention of reducing consumption through awareness	80	The monthly consumption of energy is regurally communicated to the relevant personnel. This included the KPI's for peat production, maintenance and transportation as well as bog pumping and workshop electrical consumption.	Section Head	Reduce overall energy output while maintaining productivity.		
Reduction of emissions to Water	Continue to train all employees in environmental matters. Training will be by means of a new four module training programme delivered by dedicated Bord na Mona training specialists. This new training programme includes environmental compliance-IPPC, Biodiversity, Archaeology and Energy management. Continue with the collection of headland peat.	50	Personnel are trained every two years in Environmental matters. Headland peat was collected at all locations and included as part of overall peat returns.	Individual	Improved Environmental Management Practices		

Noise monitoring summary report	Lic No:	P0501-01	Year	2019

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
2	Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	NA
3	Does your site have a noise reduction plan	NA
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	NA

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No: P0501-01 Year 2019

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	Aug-19	Report on file
2	Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	Yes	SEAI - Large Industry Energy Network (LIEN)
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	NA	Not a Licence requirement

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	5858	4191.88	-52	-28
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	226	191.88	-52.00%	-15
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	1692	400	-52.00%	-76.00%
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply							
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Resource Usage/Energy efficiency summary	Lic No:	P0501-01	Year	2019

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	13.38			13.38	
Non-Hazardous (Tonnes)	331.59	45.88	0	122.35	163.36

Resource Usage/Energy efficiency summary Lic No: P0501-01 Year 2019

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template

Lic No: P0501-01 Year 2019

Complaints		
		Additional information
Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	Yes	

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
22/06/2019	Dust		Complaint about dust blowing onto house and property	Complainants property visited and damage assessed. Production suspended and amended. Employees reminded of their environmental training.	Complete	22/06/2019	Reported to Agency Ref:LR042924

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	1
Total complaints closed during reporting year	1
Balance of complaints end of reporting year	0

Incidents		
		Additional information
Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	Yes	All reported to the Agency

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurence
30/04/2019	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI016437	New	No corrective action available, naturally ocurring	None available	Complete	08/05/2019	Medium
25/06/2019	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI016838	New	No corrective action available, naturally ocurring	None available	Complete	18/07/2019	Medium
23/07/2019	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI016886	Recurring	No corrective action available, naturally ocurring	None available	Complete	26/07/2019	Medium

Complaints and Incidents summary template

Lic No: P0501-01 Year 2019

02/07/2019	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI016958	Recurring	No corrective action available, naturally ocurring	None available	Complete	08/08/2019	Medium
11/08/2019	Other(please specify)	Ballybeg Bog	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI017000	New	No corrective action available, naturally ocurring	None available	Complete	12/08/2019	Medium
10/09/2019	Trigger level reached	Carranstown Bog SW-31	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI017219	New	No corrective action available, naturally ocurring	None available	Complete	16/09/2019	Medium
23/09/2019	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI017379	Recurring	No corrective action available, naturally ocurring	None available	Complete	27/09/2019	Medium
06/08/2019	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI017394	Recurring	No corrective action available, naturally ocurring	None available	Complete	11/10/2019	Medium
13/08/2019	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI017396	Recurring	No corrective action available, naturally ocurring	None available	Complete	11/10/2019	Medium
30/07/2019	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI017435	Recurring	No corrective action available, naturally ocurring	None available	Complete	16/10/2019	Medium
11/11/2019	Trigger level reached	Rossan Bog SW-43	1. Minor	Water	Not related to site activities	Unknown	Normal activities	EPA INCI017600	Recurring	No corrective action available, naturally ocurring	None available	Complete	14/11/2019	Medium
Total number of incidents current year	11													
Total number of incidents previous year	22													
% reduction/ increase	50%													

Waste Summary Continued	Lic No:	P0501-01	Year	2019

European Waste Code (EWC)	Description of Waste (in line with applicable EWC code)	Hazardous - Yes/No	Quantity (Tonnes)	Name & Permit No. of Agent/Carrier	Treatment Type – Recovered / Disposed / Recycled	Name, Address & Licence/Permit No. of FINAL Destination	Location of Treatment - Country
02 01 04	waste plastics (except packaging)	No	89.85	ADN Materials Ltd.WFP-MN-12-0001-04	R05 - Recycling/reclamation of other inorganic materials	ADN Materials Ltd., Lossetts, Carrickmacross, Co. Monaghan - WFP-MN-12-0001-04	Ireland
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances	Yes	0	Enva Ireland Limited (Portlaoise) - W0184	R02 - Solvent reclamation/regeneration	Recyfuel Ltd., Enghis - BE0459.735.458	Belgium
11 01 13*	degreasing wastes containing hazardous substances	Yes	0.06	Safety Kleen Ireland Ltd - W0099	R11 - Use of waste obtained from any of the operations numbered R 1 to R 10	Solvent Recovery Management, PP33345F, Wheeland Rd., Knottingly, West Yorks	UK
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils	Yes	5.77	Enva Ireland Limited (Portlaoise) - W0184	R01 - Use principally as a fuel or other means to generate energy	Enva Ireland Limited, Clonminam Industrial Estate, Portlaoise - W0184	Ireland
13 05 03*	interceptor sludges	Yes	3.58	Enva Ireland Limited (Portlaoise) - W0184	R01 - Use principally as a fuel or other means to generate energy	Enva Ireland Limited, Clonminam Industrial Estate, Portlaoise - W0184	Ireland
15 01 03	wooden packaging	No	1.16	AES Ltd WP-OY-08-601-01	R01 - Use principally as a fuel or other means to generate energy	AES LTD, Cappincur, Tullamore, Co. Offaly - WP-OY-08-601-01	Ireland
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	Yes	0.21	Enva Ireland Limited (Portlaoise) - W0184	R01 - Use principally as a fuel or other means to generate energy	Lindenschmidt, Kreutzal - Reg No: E97095037	Germany
16 01 07*	oil filters	Yes	0.6	Enva Ireland Limited (Portlaoise) - W0184	R04 - Recycling/reclamation of metals and metal compounds	R.D. Recycling, Houthalen, Reg No: 51727/1KD	Belgium
16 06 01*	lead batteries	Yes	2.83	Enva Ireland Limited (Portlaoise) - W0184	R04 - Recycling/reclamation of metals and metal compounds	Campine Recycling, Beerse - MLAV/05173/GVDA	Belgium
17 04 07	mixed metals	No	31.34	AES Ltd WP-OY-08-601-01	R04 - Recycling/reclamation of metals and metal compounds	AES LTD, Cappincur, Tullamore, Co. Offaly - WP-OY-08-601-01	Ireland
20 03 01 A	Municipal mixed residual household	No	3.88	AES Ltd WP-OY-08-601-01	D05 - Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)	AES LTD, Cappincur, Tullamore, Co. Offaly - WP-OY-08-601-01	Ireland
20 03 01 B	Municipal mixed residual non-household	No	42	AES Ltd WP-OY-08-601-01	D05 - Specially engineered landfill (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)	AES LTD, Cappincur, Tullamore, Co. Offaly - WP-OY-08-601-01	Ireland
17 05 03*	soil and stones containing hazardous substances	Yes	0	Enva Ireland Limited (Portlaoise) - W0184	D10 - Incineration on land	Enva Ireland Limited, Clonminam Industrial Estate, Portlaoise - W0184	Ireland

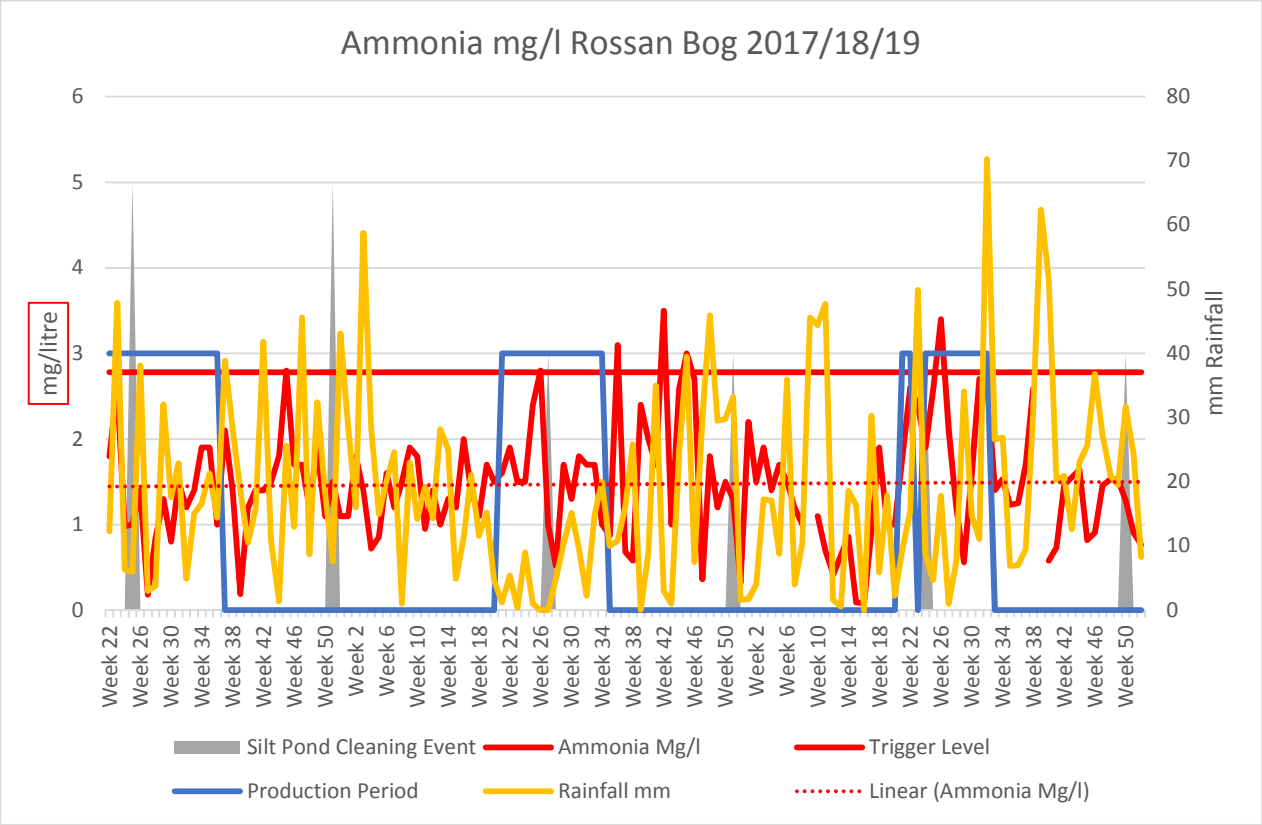
Derrygreenagh IPC Licence

Decommissioning and Rehabilitation

Bog Rehabilitation Progress Report 2019.

- No active peatland rehabilitation in Derrygreenagh licence area in 2019.
- There was ongoing monitoring of peatland rehabilitation carried out in previous years at Derryarkin, Drumman and Daingean-Rathdrum bogs.
- Fertiliser spread in Derryarkin in 2018 as part of the rehabilitation has had a positive impact and has increased vegetation cover
- Bog restoration in Daingean-Rathdrum carried out in 2019 has been successful in re-wetting this portion of bog.
- The majority of the Bord na Móna property in this bog group has been organically certified with the aim of using some areas for the cultivation of plants for use in herbal medicine into the future. This project in ongoing. Bord na Mona have committed not to use herbicides in organically certified areas to maintain industrial railways and other infrastructure.
- Draft rehabilitation plans for the Derrygreenagh bogs licensed area, including more detailed draft plans for each component bog unit were submitted to the EPA in 2013 and these were reviewed and updated in 2015 and 2017, and again submitted to the EPA May 2018.
- The new Biodiversity Action Plan (2016-2021) was launched in 2016 with the annual Biodiversity Action Plan review day being held in May 2018. This included an update on the progress of this plan, bog restoration and cutaway rehabilitation for a wide range on statutory and non-statutory consultees including members of the EPA, NPWS, BWI, Bord na Mona, Coillte, Inland Fisheries Ireland, An Taisce, IPCC, Irish Red Grouse Association, Irish Wildlife Trust, NARGC, local game councils, Midland Regional Planning Authority as well as a range of local community groups and Heritage Officers from counties Laois, Offaly, Kildare, Roscommon, Longford, Meath, Galway, Westmeath and Dublin.
- A copy of our Biodiversity Action Plan is available to view and download at http://www.bordnamona.ie/our-company/biodiversity/

		Bord na Mona Derrygreenagh			Siltpond Monitoring Frequency & Results							
			IPPC Licence P0501-01									
X	Y	Bog	SW	Monitoring	Sampled	pH	SS	TS	Ammonia	TP	COD	Colour
255381.2	243606.1	Derryhinch	SW-1	Q1 19	19/02/2019	7.4	5	222	1.3	0.05	73	139
254528.8	242354.3	Derryhinch	SW-2	Q1 19	19/02/2019	7.4	5	200	1.8	0.05	63	186
253369.2	242417.9	Derryhinch	SW-3	Q1 19	22/02/2019	7.4	5	276	1.9	0.05	50	125
252602.8	242540.2	Derryhinch	SW-4	Q1 19	22/02/2019	7.6	5	272	1	0.05	10	167
252623.6	241470.2	Carrick	SW-4A	Q1 19	19/02/2019	7.7	5	298	1.8	0.05	61	178
252468.7	240919.3	Carrick	SW-5	Q1 19	19/02/2019	7.7	5	258	0.2	0.05	41	55
252409.7	241163.3	Carrick	SW-6	Q1 19	19/02/2019	7.7	5	224	0.16	0.05	30	50
252473.2	241162	Carrick	SW-7	Q1 19	19/02/2019	7.8	5	254	0.13	0.05	36	47
252275.6	239871.6	Drumman	SW-8	Q1 19	22/02/2019	7.7	5	240	1.2	0.05	10	127
252950.4	238421.7	Drumman	SW-9	Q1 19	19/02/2019	7.7	5	228	0.15	0.05	54	118
251559.9	235341.7	Ballybeg	SW-11	Q 2 19	27/05/2019	7.4	5	554	0.11	0.05	52	112
252206.1	235207	Ballybeg	SW-12	Q 2 19	27/05/2019	7.8	5	574	0.6	0.05	69	133
251880.6	234593.1	Ballybeg	SW-13	Q 2 19	27/05/2019	7.9	5	584	1.5	0.05	19	49
252250.5	235061.5	Ballybeg	SW-13A	Q 2 19	27/05/2019	7.8	5	556	1.1	0.05	40	51
240485.2	235706.3	Torr	SW-14	Q 2 19	27/05/2019	7.8	7	552	2.8	0.05	34	50
244391.8	235128.9	Torr	SW-15	Q 2 19	27/05/2019	8	5	482	0.45	0.05	28	51
244435.6	235093.4	Torr	SW-16	Q 2 19	27/05/2019	7.6	5	530	0.39	0.05	29	49
240425.7	234997.3	Torr	SW-17	Q 2 19	27/05/2019	7.9	5	508	0.06	0.05	33	44
259415.3	256855.8	Bracklin	SW-29	Q 2 19	27/05/2019	7.4	5	305	1.4	0.05	60	166
259519.5	257618.4	Bracklin	SW-30	Q 2 19	27/05/2019	7.5	6	328	1.6	0.05	60	177
262437	258824.8	Lisclogher	SW-19	Q3 19	10/09/2019	7.8	2	369	0.176	0.07	66	380
262935.7	258722.5	Lisclogher	SW-20	Q3 19	10/09/2019	7.6	15	366	0.223	0.09	88	493
262969.1	258691.3	Lisclogher	SW-21	Q3 19	10/09/2019	8	7	385	0.174	0.05	65	325
263432.9	258465.2	Lisclogher	SW-22	Q3 19	10/09/2019	8.1	16	379	0.158	0.06	66	301
263467.2	258446.6	Lisclogher	SW-23	Q3 19	10/09/2019	8	15	352	0.166	0.06	68	337
263740.8	258368	Lisclogher	SW-24	Q3 19	10/09/2019	8.1	10	367	0.172	0.05	63	
266022.6	259613.6	Lisclogher	SW-25	Q3 19	10/09/2019	7.5	5	357	3.49	0.09	74	489
260584	256514.3	Bracklin	SW-26	Q3 19	10/09/2019	6.6	2	211	1.38	0.05	82	307
260609.4	256526.3	Bracklin	SW-27	Q3 19	10/09/2019	7.4	2	306	1.9	0.05	76	247
263649.6	255035.4	Carranstown	SW-31	Q3 19	10/09/2019	6.8	3	213	0.149	0.05	106	620
265554	255989.1	Carranstown	SW-32	Q4 19	05/12/2019	8	2	371	0.249	0.05	49	163
265632.8	254865	Carranstown	SW-33	Q4 19	05/12/2019	8	2	438	0.129	0.05	52	169
265887	254984.2	Carranstown	SW-34	Q4 19	05/12/2019	7.7	2	195	0.086	0.05	47	140
265140.1	254114.5	Ballivor	SW-35	Q4 19	05/12/2019	8.1	2	337	0.301	0.05	42	107
265879	253506.6	Ballivor	SW-38	Q4 19	05/12/2019	8	2	434	0.046	0.06	33	103
265889	253456.6	Ballivor	SW-39	Q4 19	05/12/2019	7.6	2	378	2.12	0.05	27	82.5
266366.9	251598.6	Ballivor	SW-40	Q4 19	Site backed up							
266386.5	251579.2	Ballivor	SW-41	Q4 19	Site backed up							



Rossan bog is an active horticultural production bog with the composite sampler located here from May 2017 to date. The composite sampler takes a flow proportional composite sample over a 24 hour period. The sampler had 29% downtime during this reporting period but returned 50 weekly ammonia results during the period. The ammonia trigger level of 2.78mg/l, as agreed with the Agency, was exceeded once during the reporting period, as reported to the Agency. Over the sampling period of 82 weeks up to 2018 the trending showed a slightly increasing trend in ammonia, however including the period of 2019, the ammonia seems to have levelled off. The rainfall levels were higher in 2019, but the average ammonia was slight reduced over 2018, so the ammonia concentration in this bog, may be heading in-line with the downwards trends in some bogs as production progresses, as submitted to the EPA in 2013 under condition 6.14.

There is no obvious link between the summer production, winter maintenance, or silt pond maintenance events on the concentration of Ammonia discharging from this peatland. The only link expected would be that related to rainfall events and seasonal weather patterns and the subsequent surfacewater runoff and associated ammonia concentrations.

The sampler at this location may be relocated to fill any information gaps on other peatland catchments and to reflect the need to support the information gathering required for the Water Framework Directive's River Basin Management Plan. There is also an EPA lead research project commencing in 2019, called the SWAMP project, whose aims are to appraise and understand the nutrient impact from peatlands, to evaluate treatment technologies and to propose predictive tools for watershed management.

Extractive Waste Management Plan Implementation AER Update 2019.

March 2020.

IPC Licence P0501-01.

1.0 Extractive Wastes.

Waste classified as extractive waste from peat extraction operations arise from two operations associated with this activity.

- Silt Pond excavations and maintenance
- Bog Timbers

There has been no change to the type and nature of these two waste streams and no new waste streams added to this list. These wastes streams continue to be stored and maintained at between 1 and 3 metres in height.

2.0 Condition 7.5 Extractive Waste Management

- An extractive waste management plan (EWMP) was submitted to the Agency in September 2012 and was approved.
- The EWMP was reviewed in September 2017. There were no substantial changes to the operation of the plan, associated waste facilities or to the waste deposited. The EWMP will be reviewed again in September 2022. At this stage, it is envisaged that many bogs will be entering a decommissioning and rehabilitation phase, which will see a significant reduction in the generation of bog timbers. In addition, and depending on the progress with bog stabilisation and rehabilitation, silt generation will significantly reduce which will lead to reduced volumes to be removed from the silt ponds.

3.0 Minimisation

- The IPC Licence has various conditions that require the installation, inspections and maintenance of silt ponds for operational areas and as such these requirements dictate the need for silt ponds and associated excavation materials and cleanings.
- Bog timbers arise from the active production footprint and are naturally occurring. The active footprint is dictated by the peat production targets and customer supply contract and service level agreements.

4.0 Treatment

- Silt pond excavation and maintenance materials do not require any treatment and are stored as per the EWMP, adjacent to the associated silt pond.
- There is no treatment of bog timbers arising and these are stockpiled at various locations in associated bogs.

5.0 Recovery

- As per the EWMP, there is still no opportunity to recover these silt pond associated materials
- Bog timbers stored on the bog are natural to the peat bog and while there have been trails to recover this waste material, these have not proved viable.

6.0 Disposal

- Silt pond cleanings continue to be disposed of adjacent to the associated silt pond and will be incorporated back into the rehabilitation plans for these bogs, post production and decommissioning.
- Bog timbers will continue to be stockpiled at suitable locations to be either incorporated back into the bog, as a supply of bog timbers for the crafting industry or will continue to decay naturally.

Annual Environmental Report (AER)

2020

Company Name: Bord na Mona Energy Ltd (Derrygreenagh Group)

Licence Number: P0501-01

Address: Bord na Mona, Derrygreenagh Works,

Rochfordsbridge, Co Westmeath.

Class of Activity[1]: 1.4

[1] See Appendix I

Purpose of this Report

One of the functions of the Environmental Protection Agency (EPA) is to licence and regulate the activities[2] of large scale industrial (e.g. chemical, food processors, power plants) and waste facilities. Submitting an Annual Environmental Report (AER) is a requirement of all EPA licences.

An AER is a public document. To this end, this format has been developed for industrial and waste licence holders (other than the intensive agriculture sector) to use as a template. This is to assist any member of the public to interpret and understand the environmental performance of the licensed facility.

The AER is a **summary** of environmental information for a given year. It includes:

- Details of the licence holder's environmental goals achieved, goals to maintain compliance and/or improve their environmental performance;
- Answers to questions regarding their facility's activities;
- Tables of results from monitoring emissions such as air, water, noise, and odour; and
- Details of waste generated, accepted and treated.

An AER does **not** provide detailed technical data. Such information is available in three ways:

1) Contacting the licence holder directly. The Contact Us section of this template enables the licence holder to provide details of where a member of the public can obtain further information on topics reported in this document.

[2] See Appendix I

2) Some documents[3] are available on the EPA website via the licence details page for each individual licence. This can be found by browsing either the http://www.epa.ie/licensing/ or http://www.epa.ie/enforcement/ pages of the EPA website.

3) All formal enforcement correspondence exchanged between the EPA and a licence holder during the regulatory process is available for public viewing by appointment at any EPA Office.

If you have a question or query about an AER or an individual EPA licensed facility see the EPA's website or contact the relevant EPA office. See http://www.epa.ie/about/contactus/ for contact details.

[3] This includes EPA site inspection and compliance monitoring reports, licence holders' self-monitoring reports, AERs and special reports

Contents

Glossary

Abatement Equipment	Technology used to reduce pollution
AER	Annual Environmental Report.
CRAMP	Closure, Restoration and Aftercare Management Plan.
ELRA	Environmental Liability Risk Assessment.
Emission Limit Value	Limits set for specified emissions, typically outlined in Schedule B of an EPA licence.
EMS	Environmental Management System.
Environmental Goal	An objective or target set by a licensee as part of an environmental management system (EMS).
Environmental Pollutant	Substance or material that due to its quantity and/or nature has a negative impact on the environment.
Facility	Any site or premises that holds an EPA industrial or waste licence.
FP	Financial Provision.
GJ	Giga joules, an international unit of energy measurement.
Groundwater	All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
Incident	As defined by an EPA industrial or waste licence.

Inert Waste	Is waste that will not undergo physical, chemical or biological change thereby, is unlikely to cause environmental pollution or harm human health.
List of Wastes (LoW)	A list of wastes drawn up by the European Commission and published as Commission Decision 2014/955/EU.
Noise Sensitive Location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Non-Renewable Resource	A resource of economic value that cannot be replaced at the same rate it is being consumed e.g. coal, peat, oil and natural gas.
Oil Separator	Separator system for light liquids (e.g. oil and petrol).
PRTR	Pollutant Release and Transfer Register.
Renewable Resource	Wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.
Sanitary Waste	Waste water from toilet, washroom and canteen facilities.
Storm Water	Rain water run-off from roof and non-process areas.

Surface Water	Lakes, rivers, streams, estuaries and coastal waters.
Trigger Level	A value set for a specific parameter, the achievement or exceedance of which requires certain actions to be taken by the licence holder.
Volatile Organic Compounds	Gases produced from solids or liquids that evaporate readily in ambient conditions.
Waste	Any substance or object which the holder discards or intends or is required to discard.

Disclaimer

These are **not** legal definitions. Legal definitions can be found in the corresponding legislation.

Declaration

I, Cathal Brennan, confirm that by ticking the box below, all information in this report is truthful and accurate to the best of my knowledge and belief.

In addition, I confirm that all monitoring and performance reporting required by our EPA licence and summarised herein is available for inspection by the EPA.

Tick here [X]

1) Introduction

See below a brief description of our facility and a summary of our environmental performance this year.

• The primary activity during the reporting period was peat sales and transport. Bord na Mona had a delayed start to peat production operations 2020, commencing on the 11th of June. However, activities ceased again at the end of June.
• In the reporting period there were no complaints, this is down from the one received in 2019. There were two reported incidents of an environmental nature, relating to trigger levels for ammonia and COD.
• During the period, there were approvals sought for cultivation trials of medicinal herbs, and notifications regarding late commencement of production and early cessation of activities.
• During the season, 37782 tonnes of peat were produced, down 71.6% on 2019.
• During the period, there was a 23.75% decrease in waste generated and this was mainly related to polythene and scrap steel.
• During the period, certification to ISO9001 and ISO 50001 were retained.
• In January 2021, Bord na Mona announced it was permanently ending all peat harvesting activities on its lands. Since then Bord na Mona have been engaged in the Governments Peatlands Climate Action Scheme (https://www.gov.ie/en/publication/136a7-bord-na-mona-bog-rehabilitation-scheme/), with a view to commencing applicable decommissioning & rehabilitation activities on a number of bogs under the Condition 10 obligations of this licence. In addition, Bord na Mona are continuing to sell and transport existing peat stock harvested in previous years.

Contact Us

If you have any questions or would like further information on any aspect of this report, please contact us directly.

See below details:

Enda McDonagh,
Bord na Mona Energy Ltd
Leabeg
Tullamore
Co Offaly
Enda.mcdonagh@bnm.ie
0579329701
www.bnm.ie

2) How we Manage our Facility

Bord na Mona have an Environmental Compliance Department with a team of five who manage the day to day IPC Licence requirements. This licence governs the extraction of peat and associated activities and manages emission to air, water and land.

The information below sets out the environmental goals for our facility to help us prevent environmental pollution and reduce our impact on the environment. Target dates for completing each goal and progress towards achieving the goal are outlined in Table 1.

Table 1 Environmental Goals

Environmental Goal	Target Date	Progress
2020 Training (no of people trained)	Dec 2020	None trained in 2020 due to Covid 19 restrictions
2020 Waste Management (any reduction in waste volumes on 2019)	Dec 2020	Decrease of 23.75% from 2019, due to decrease in polythene tonnes recycled and scrap steel recycling.
2020 Energy Efficiency (any reduction in electricity/energy use)	Dec 2020	86.86% decrease
2021 Reduction of Complaints	Dec 2021	Commenced
2021 Reduction of Incidents	Dec 2021	Commenced
2021Communication regarding decommissioning and rehabilitation.	Ongoing for applicable Bogs	Commenced

2021 Review of environmental monitoring programme	Ongoing in-line with PCAS & LAWPRO	Commenced
2021 Training & Awareness	May 2021	On Track
2021 Completion of Internal Audits	June 2021	On Track
2021 Decommissioning and Rehabilitation of 5 bogs in accordance with Condition 10 of the IPC Licence and in accordance with Peatlands Climate Action Scheme https://www.gov.ie/en/publication/136a7-bord-na-mona-bog-rehabilitation-scheme/	December 2021	Not Commenced

Add rows as necessary

Comment

Bord na Mona had a delayed start to peat production operations in 2020, commencing on the 11th June. However activities ceased again at the end of June.

In January 2021, Bord na Mona announced it was permanently ending all peat harvesting activities on its lands. Since then Bord na Mona have been engaged in the Governments Peatlands Climate Action Scheme (https://www.gov.ie/en/publication/136a7-bord-na-mona-bog-rehabilitation-scheme/), with a view to commencing applicable decommissioning & rehabilitation activities on a number of bogs under the Condition 10 obligations of this licence. In addition Bord na Mona are continuing to sell and transport existing peat stock harvested in previous years.

3) Energy & Water

Energy

Explanation
Fossil fuels such as coal, gas and oil are non-renewable resources. As a result, our EPA licence requires that we measure our energy use and set targets to improve the energy efficiency of our activities and reduce our overall use, where possible. Where we have the means and technology on-site to generate energy, this is also captured in this report.

The information below summarises the energy used this year compared to the previous year and includes renewable and non-renewable energy types.

Table 2 Energy Used

Energy Used (GJ)	Quantity	% Increase/ decrease on previous year
Electricity	413.78 GJ	-32.95%
Heavy Fuel Oil	-	
Light Fuel Oil	1693 GJ	-89%
Natural Gas	-	
Coal / Solid Fuel	-	
Peat	-	
Renewable Biomass	-	
Renewable Energy Generated On-site	-	
Total Energy Used	2106.78 GJ	-86.83%

Comment

Bord na Mona had a delayed start to peat production operations in 2020, commencing on the 11th June. However, activities ceased again at the end of June.

Bord na Mona Energy were certified to the energy management standard ISO50001 during the 2020 season.

The information below summarises the energy we generated on our site this year with specific focus on renewable energy generation.

Table 3 Energy Generated

Energy Generated (GJ)	**Quantity**	**% Increase/ decrease on previous year**
Renewable Energy	NA	
Total Energy Generated		

Comment

There are no renewable energy assets on this site.

Water

Explanation
Water is a natural resource and we are required by our EPA licence to identify ways to reduce our use where possible. Water used in industry can be extracted from groundwater, rivers and lakes (surface water), taken from public water supplies (Irish Water), recycled from the facility's processes or harvested from rainwater.

The information below summarises and compares the quantity of water used this year compared to the previous year.

Table 4 Water Used

Source of Water Used	**Quantity (m^3/year)**	**% Increase/ decrease on previous year**
Groundwater		
Surface Water	0	
Public Supply		
Recycled Water	0	
Rainwater	0	
Total Water Used		

Comment

Water is not used in any of the peat harvesting or transport processes. The only water used is that required to provide associated offices and workshop welfare facilities (canteen/toilets)

4) Environmental Complaints

Explanation
Our EPA licence requires that activities do not cause environmental nuisance such as odour, dust or noise. Our licence also requires that we have procedures in place to record, investigate and respond to environmental complaints if or when they arise.
We have an environmental complaints procedure in place where you can contact us[4] directly. You can also contact the EPA[5] if you wish to make an environmental complaint, confidentially or not.

See the information below for a summary of **all** the environmental complaints relating to our activities made directly to us and to the EPA this year.

Table 5 Summary of All Environmental Complaints Received in

Type of Complaint	Number of Complaints Received	Number Closed
Odour / Smells		
Noise		
Dust		
Water Quality		
Air Quality		
Waste		
Litter		
Vermin/Flies/Birds		
Soil Contamination		
Vibration		
Other		

[4] See Section 1, Introduction – Contact Us

[5] If you wish to contact the EPA to make an environmental complaint about an EPA licenced facility, please go to https://lema.epa.ie/complaints

Comment

As required environmental complaints are reportable to the EPA and as such must be investigated. In the 2020 reporting period, this licence had No complaints received and there were none carried over into 2021. At present there are no complaints from 2020 still open.

5) Environmental Incidents

Explanation
It is our responsibility as an EPA licensed facility to ensure we have systems in place to prevent incidents that have the potential to cause environmental pollution. If an incident occurs, we are required to report it to the EPA, investigate the cause and fix the problem.
The EPA classify environmental incidents into 5 categories based on the potential impact on the environment:

- Minor
- Limited
- Serious
- Very Serious
- Catastrophic

See Table 6 for the number of the environmental incidents we reported to the EPA this year.

Table 6 Number of Environmental Incidents

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Abatement Equipment Offline					
Breach of Ambient ELV					
Breach of Emission Limit					
Explosion					
Fire					
Monitoring Equipment Failure					
Odour					
Spillage					
Breach of trigger Level	2				
Uncontrolled Release					

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Other					

Comment

As required, incidents of an environmental nature are reportable to the EPA and as such must be investigated. In the 2020 reporting period, this licence recorded and reported 2 incidents. These incidents we primarily related to trigger level breach for ammonia and COD

6) Our Environmental Emissions

Explanation

We are required to ensure the emissions from our activities do not cause environmental pollution.

We are required to monitor any of the following emissions that we make:

- Storm water
- Waste water
- Air
- Groundwater
- Noise

We regularly test any such emissions for specific pollutants and materials to ensure they do not contain levels of pollution that exceed emission limit values (ELVs) or cause environmental pollution. If monitoring of an emission indicates an ELV is exceeded, we are required to report this to the EPA[6].

The next sub-sections of this report summarise our compliance with any ELVs set in our EPA licence. Some emissions monitored do not have specific ELVs, but we still carry out monitoring and report all incidents that may give rise to environmental pollution.

[6] See section 5, Incidents

Storm Water

Explanation
Storm water is rain water run-off from roof and non-process areas of a facility, e.g. carparks, and generally shall not contain any pollution.
Storm water is usually released into a local water body after a basic form of treatment. Our EPA licence requires that we manage storm water to ensure no polluting substances or materials are released into the environment.

The information below summarises how the storm water from our facility is treated, where it is released and the results of monitoring this year.

1. **Storm water from our facility is managed prior to release by;**

Either direct to drain where it is roof water only, or via petrol/oil interceptor.

2. **Storm water from our facility is released into the following water bodies:**

Yellow River, Kinnegad River & Boyne River. Curris River, Stoneyford River

Table 7 Summary of Storm Water Monitoring

Parameter measured	No. of Samples	% Compliant[7]	Comment
COD	17	100% Compliant	Oil Interceptors cleaned at Derrygreenagh W/shop, and Oil Interceptor & Rossan outloading facility.

Add rows as necessary

Comment

As required by the licence, stormwater is required to be separated where possible from process/non-process areas. Where this is not possible, stormwater is managed via oil-interceptors which are inspected on a monthly basis and sampled for associated discharges each month. Other than visual observations, the other main criteria to define adequate treatment is COD mg/l so this and visual inspections dictate when the interceptor is cleaned by an approved hazardous waste contractor.

[7] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Waste Water

Explanation
There are two types of waste water that can be produced:

- Process waste water produced from the activities and;
- Sanitary waste water from toilets, washrooms and canteens.

Our EPA licence requires us to manage our waste water on or off-site and ensure that it does not cause environmental pollution when discharged into the environment.

The information below summarises how we treat the waste water produced from our activities, where it is released and the results of monitoring this year.

1. **Waste water produced by our activities is treated as follows before discharge to a receiving waterbody**;

All production area runoff is treated via an associated silt pond designed, inspected and maintained in accordance with condition 6 of the IPC Licence

2. **Treated waste water from our facility is released into the following water bodies:**

Mongagh River, Yellow River, Castlejordan River, Kinnegad River, Deel River, Boyne River, Curris River, Stoneyford River

Table 8 Summary of Waste Water Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
Suspended Solids	123	100%	
Ammonia	75	98.67%	Trigger level reached on one occasion on Automatic Sampler
Total Solids	123	NA	
Total Phosphorus	75	NA	
pH	75	NA	
Colour	75	NA	
COD	92	98.92%	Trigger level reached on one occasion on Automatic Sampler

Add rows as necessary

Comment

Licence requirements are quarterly grab samples on a selected number of silt pond outlets as per condition 6.2 and one 24hr flow proportional composite sampler at Rossan bog.
The emission limit values are 35mg/l suspended solids, 4.0mg/l total ammonia and 100mg/l COD. The Trigger Level for COD in 2020 was reached on one occasion, down on 2019 levels, while the trigger level for Ammonia was reached once in 2020, same as in 2019. There is no obvious reason for reaching these trigger levels, other than naturally occuring background levels of ammonia and associated COD.

Air

Explanation
Generally, three types of air emissions are monitored from industry in Ireland: gases, dust (particulates) and odour. Our EPA licence requires us to ensure that any air emissions from our activities do not cause air pollution or create an odour nuisance.

The information below details the number of air emission points we monitor, the results from testing the air emissions and any odour assessments carried out by us and the EPA this year.

1. **We monitor air emissions from the following number of emission points at our facility.**

DM-01 Toar, DM-02 Derryhinch, DM-03 Ballivor, DM-04 Ballybeg

Table 9 Summary of Air Emissions Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
Fugitive Dust	12	100%	

Add rows as necessary

Comment

Due to peat extraction being suspended on two occasions in the reporting period, the bergerhoff dust gauges were only deployed on three occasions in 2020.

Table 10 Summary of Odour Assessments Carried Out

Assessment Conducted By	No. of Odour Assessments	% Compliant[8]	Comment
Licence Holder	NA		Not required
EPA	NA		Not required

Add rows where necessary

Comment

There are no odour emissions of note from the activity, no requirements to monitor and no associated complaints.

[8] A compliant odour assessment is based on EPA Odour Impact Assessment Guidance available at http://www.epa.ie/pubs/advice/air/emissions/ag5-odourassessment.html

Fugitive Solvent Emissions

Are you are required to monitor fugitive solvent air emissions from your facility?

Yes [ ] No [X]

Explanation
The use of solvents is regulated under Irish and European Union (EU) Regulations[9]. Solvents are chemicals that, by their nature, are volatile (evaporate readily under ambient conditions). Solvents can be found in many inks, glues and cleaning agents. Due to the volatility of solvents some emissions may be released into the atmosphere during our activities before being captured in our air treatment system. This type of emission is called a **fugitive solvent emission**.

The information below summarises the quantity of solvents used this year, the percentage of fugitive solvent emissions (% of total quantity used) and whether the percentage complied with the targets set in the EU Regulations.

Table 11 Summary of Fugitive Solvent Emissions

Quantity of Solvents Used (Kg)	% Fugitive Solvent Emissions	Compliant

Comment

100 word limit

[9] See Annex VII of the Industrial Emissions Directive
https://ec.europa.eu/environment/industry/stationary/ied/legislation.htm

Groundwater

Explanation
Groundwater is an important and sensitive resource in Ireland. Our EPA licence requires that we monitor groundwater to ensure our activities do not cause groundwater pollution.
Understanding how groundwater flows through soil and rock layers and eventually into surface and coastal waters is a complex science. Sometimes groundwater pollution that occurred in the past can take years and even decades to disappear. Therefore, it is important that experts help us monitor and interpret results from groundwater monitoring and testing.

The information below is a basic summary of the condition of the groundwater this year.

1. **Do you have a groundwater monitoring programme in place?**

Yes [ ] No [X]

2. **Have the groundwater monitoring results over the last 5 years indicated the presence of groundwater pollution?**

Yes [ ] No [X]

Table 12 List of Groundwater Pollutants Identified

Pollutants

Add rows as necessary

3. Give details of the investigations and subsequent actions taken, where applicable, to manage the groundwater pollution.

Comment

There are no licence requirements to monitor groundwater from the activity.

Noise

Explanation
Our EPA licence requires that we monitor noise emissions from our facility. Noise monitoring can be conducted at the boundary of our facility and/or at locations beyond the boundary referred to as “noise sensitive locations”. Noise monitoring requires the use of special noise monitoring equipment. Our EPA licence requires that noise produced by our facility shall not exceed the noise limit values and/or give rise to nuisance.

The information below gives a summary of when and where we conducted noise monitoring this year and if results complied with our EPA licence limits.

1. **We conducted noise monitoring on the following dates this year:**

NA

2. **Was the noise monitoring carried out at:**
   - i. **the boundary of our facility,**
   - ii. **noise sensitive locations off-site, or**
   - iii. **both?**

NA

3. **Were measured noise levels compliant with your EPA licence limits?**

Yes ☐ No ☐

If No, we took the following actions to address the noise level exceedances?

NA

Comment

There are no licence requirements to monitor noise from the activity, or any complaints regarding noise impact.

7) Waste

Waste Generated

Explanation
Our EPA licence requires us to manage the waste we generate in a manner that does not cause environmental pollution.
We manage, store and record hazardous, non-hazardous and inert waste we generate in accordance with our licence. We ensure that this waste is subsequently treated or disposed of in accordance with the relevant waste Regulations.

The information in table 13 is a summary of waste we generated this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste generated that was reused, recycled or recovered.

Table 13 Waste Generated

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous	17.47	30% increase	100%
Non-Hazardous	245.56	26% decrease	70.9%
Inert			
Total Tonnes	263.03	23.75% decrease	85%

Comment

The main wastes generated from this activity are Polythene, scrap metal, Silt Pond Waste, Peat Screenings, Waste Oil, Interceptor Waste, Oil Filters, Parts Wash all of which are recycled. The waste generated for landfill was general waste skips and wheelie bins from workshops and office waste.

Waste Accepted

Did you accept waste onto your facility for storage, treatment, recovery or disposal this year?

Yes [ ] No [X]

Explanation
Our EPA licence requires us to manage the waste we accept in a manner that does not cause environmental pollution.
We manage, store and record all incoming and outgoing hazardous, non-hazardous and inert waste. The waste we accept may be treated, recovered, disposed or stored at our facility depending on our licence requirements.

The information in Table 14 provides a summary of waste we accepted this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste accepted that was reused, recycled or recovered.

Table 14 Waste Accepted

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous			
Non-Hazardous			
Inert			
Total Tonnes			

Comment

No waste accepted during the period.

8) Financial Provision

Explanation
Our EPA licence requires us to assess the risk our activities pose to the environment if we cease our activities or if an incident occurred. If we are identified as a high risk facility[10] by the EPA, we are required to put provision in place such as a financial bond or insurance to cover the cost of restoring our site to a satisfactory condition. This financial provision can then be used to cover the cost of managing the restoration or clean up should such an event occur.

1. Are you required to have an agreed financial provision in place?

Yes [ ] No [X]

2. What year was your Closure, Restoration and Aftercare Management Plan (CRAMP) last agreed by the Agency?

Not required under the Licence. However, Bog Rehabilitation Plans are required to be submitted to the EPA. These were submitted to the Agency in May 2018. Since then, the EPA issued new Guidance on the process of preparing and implementing a bog rehabilitation plan and under the Peatlands Climate Action Plan www.bnmpcas.ie & https://www.gov.ie/en/publication/136a7-bord-na-mona-bog-rehabilitation-scheme/, Bord na Mona are preparing new rehabilitation plans to be submitted by March/April 2021.

3. What year was your Environmental Liability Assessment Report (ELRA) agreed by the Agency?

Not required under the Licence.

[10] See Appendix II

4. Has there been any significant changes on your site since the last agreements?

Yes [ ] No [X]

If yes, have you submitted details to the EPA?

Yes [X] No [ ] N/A [ ]

Appendix I

Class of Activity

Industrial and waste facilities are classed into different sectors depending on the nature of their activity and its potential impact on the environment. The EPA Act 1992 as amended, outlines these as follows:

Class 1	Minerals and other materials
Class 2	Energy
Class 3	Metals
Class 4	Mineral fibres and glass
Class 5	Chemicals
Class 6	Intensive Agriculture[11]
Class 7	Food and drink
Class 8	Wood, paper, textiles and leather
Class 9	Fossil fuels
Class 10	Cement, lime and magnesium oxide
Class 11	Waste

[11] This reporting template is not applicable to the **intensive agriculture sector**. Their annual environmental reporting structure is different and can be found at http://www.epa.ie/pubs/advice/aerprtr/aerguid/

Class 12 Surface Coatings

Class 13 Other Activities

Appendix II

High Environmental Risk Categories

If an industrial or waste licence falls into one of these categories it is deemed, by the EPA, as a high environmental risk. As a result, the licence holder is required to have financial provision in place. See section 8, Financial Provision.

1. Landfills
2. Non-Hazardous Waste Transfer Station
3. Incineration and Co-Incineration Waste Facilities
4. Category A – Extractive Waste Facilities
5. Upper and Lower Tier Seveso Facilities
6. Hazardous Waste Transfer Stations
7. High Risk Contaminated Land
8. Exceptional Circumstances

NOTE:

This list is subject to change.

See the link below for further information.

http://www.epa.ie/pubs/advice/licensee/fp/epaapproachtoenvironmentalliabilitiesandfinancialprovision.html

Annual Environmental Report (AER)

2021

Company Name: Bord na Móna Energy Ltd (Derrygreenagh Group)

Licence Number: P0501-01

Address: Bord na Móna, Derrygreenagh Works, Rochfordsbridge, Co Westmeath.

Class of Activity[1]: 1.4

[1] See Appendix I

Purpose of this Report

One of the functions of the Environmental Protection Agency (EPA) is to licence and regulate the activities[2] of large scale industrial (e.g. chemical, food processors, power plants) and waste facilities. Submitting an Annual Environmental Report (AER) is a requirement of all EPA licences.

An AER is a public document. To this end, this format has been developed for industrial and waste licence holders (other than the intensive agriculture sector) to use as a template. This is to assist any member of the public to interpret and understand the environmental performance of the licensed facility.

The AER is a **summary** of environmental information for a given year. It includes:

- Details of the licence holder's environmental goals achieved, goals to maintain compliance and/or improve their environmental performance;
- Answers to questions regarding their facility's activities;
- Tables of results from monitoring emissions such as air, water, noise, and odour; and
- Details of waste generated, accepted and treated.

An AER does **not** provide detailed technical data. Such information is available in three ways:

1) Contacting the licence holder directly. The Contact Us section of this template enables the licence holder to provide details of where a member of the public can obtain further information on topics reported in this document.

[2] See Appendix I

2) Some documents[3] are available on the EPA website via the licence details page for each individual licence. This can be found by browsing either the http://www.epa.ie/licensing/ or http://www.epa.ie/enforcement/ pages of the EPA website.

3) All formal enforcement correspondence exchanged between the EPA and a licence holder during the regulatory process is available for public viewing by appointment at any EPA Office.

If you have a question or query about an AER or an individual EPA licensed facility see the EPA's website or contact the relevant EPA office. See http://www.epa.ie/about/contactus/ for contact details.

[3] This includes EPA site inspection and compliance monitoring reports, licence holders' self-monitoring reports, AERs and special reports

Contents

Glossary

Abatement Equipment	Technology used to reduce pollution
AER	Annual Environmental Report.
CRAMP	Closure, Restoration and Aftercare Management Plan.
ELRA	Environmental Liability Risk Assessment.
Emission Limit Value	Limits set for specified emissions, typically outlined in Schedule B of an EPA licence.
EMS	Environmental Management System.
Environmental Goal	An objective or target set by a licensee as part of an environmental management system (EMS).
Environmental Pollutant	Substance or material that due to its quantity and/or nature has a negative impact on the environment.
Facility	Any site or premises that holds an EPA industrial or waste licence.
FP	Financial Provision.
GJ	Giga joules, an international unit of energy measurement.
Groundwater	All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
Incident	As defined by an EPA industrial or waste licence.

Inert Waste	Is waste that will not undergo physical, chemical or biological change thereby, is unlikely to cause environmental pollution or harm human health.
List of Wastes (LoW)	A list of wastes drawn up by the European Commission and published as Commission Decision 2014/955/EU.
Noise Sensitive Location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Non-Renewable Resource	A resource of economic value that cannot be replaced at the same rate it is being consumed e.g. coal, peat, oil and natural gas.
Oil Separator	Separator system for light liquids (e.g. oil and petrol).
PRTR	Pollutant Release and Transfer Register.
Renewable Resource	Wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.
Sanitary Waste	Waste water from toilet, washroom and canteen facilities.
Storm Water	Rain water run-off from roof and non-process areas.

Surface Water	Lakes, rivers, streams, estuaries and coastal waters.
Trigger Level	A value set for a specific parameter, the achievement or exceedance of which requires certain actions to be taken by the licence holder.
Volatile Organic Compounds	Gases produced from solids or liquids that evaporate readily in ambient conditions.
Waste	Any substance or object which the holder discards or intends or is required to discard.

Disclaimer

These are **not** legal definitions. Legal definitions can be found in the corresponding legislation.

Declaration

I, Cathal Brennan, confirm that by ticking the box below, all information in this report is truthful and accurate to the best of my knowledge and belief.

In addition, I confirm that all monitoring and performance reporting required by our EPA licence and summarised herein is available for inspection by the EPA.

Tick here ☑

1) Introduction

See below a brief description of our facility and a summary of our environmental performance this year.

-
- During the reporting period, Bord na Móna notified the Agency, that in line with its Brown to Green strategy, it had decided to end all peat harvesting on Bord na Móna lands. It is now progressing with its requirements under Condition 10 of the relevant IPC Licences to decommission and rehabilitate available bogs under the Peatlands Climate Action Scheme PCAS (February 2021).
- During the reporting period the primary activity was peat sales of existing stock.
- In the period, there were no complaints of an environmental nature, the same as in 2020.
- During the period, there was a 102.98% increase in waste generated, mostly related to a decrease in activity but an increase in polythene recycling and scrap steel recycling
- In the period, there was one reported incident of an environmental nature relating to exceedances in trigger level. This was of minor significance and was closed out during the period.
- During the period, there were notifications submitted regarding new waste contractors, relocation of composite samplers, and notification of planning applications.
- Monthly water quality sampling data was submitted for sampling undertaken during the period, which included peatlands prior to the rehabilitation undertaken in 2021 and to provide baseline data for peatlands to be rehabilitated in subsequent years.
- During the period, certification to ISO9001 was retained.

Contact Us

If you have any questions or would like further information on any aspect of this report, please contact us directly.

See below details:

Enda McDonagh,
Bord na Mona Energy Ltd
Leabeg
Tullamore
Co Offaly
www.bnm.ie

2) How we Manage our Facility

Bord na Mona have an Environmental Compliance Department with a team of five who manage the day to day IPC Licence requirements. This licence governs the extraction of peat and associated activities and manages emission to air, water and land.

The information below sets out the environmental goals for our facility to help us prevent environmental pollution and reduce our impact on the environment. Target dates for completing each goal and progress towards achieving the goal are outlined in Table 1.

Table 1 Environmental Goals

Environmental Goal	Target Date	Progress
Training/awareness for all area leaders and operatives in advance of decommissioning and rehabilitation of the 2022 bogs	May2022	Underway
Waste Management – Removal of all waste that are deemed a risk the environment in bogs scheduled to be decommissioned in 2022	Dec 2022	Underway
Communication of Decommissioning and Rehabilitation plans to all neighbours within 1km of the proposed activity for 2022	June 2022	One bog is scheduled for 2022 and has had letters and associated details delivered.
Completion of internal audits/inspections of applicable bogs scheduled for decommissioning and rehabilitation as required by condition 10 and the Peatlands Climate Action Scheme	Sept 2022	Not commenced yet

Maintain surface water quality compliance with emission limit values for Suspended Solids during the proposed decommissioning and rehabilitation programme.	Dec 2022	Underway
Decommissioning and Rehabilitation of one bog in accordance with Condition 10 of the IPC Licence and in accordance with Peatlands Climate Action Scheme https://www.gov.ie/en/publication/136a7-bord-na-mona-bog-rehabilitation-scheme/	December 2022 to March 2023	To commence on the 1st April 2022

Add rows as necessary

Comment

As peat extraction on all bogs in this licence ceased in 2020, all environmental goals for 2022 are linked to the remaining bog activity which is the decommissioning and rehabilitation of the one bog planned for 2022.

3) Energy & Water

Energy

Explanation
Fossil fuels such as coal, gas and oil are non-renewable resources. As a result, our EPA licence requires that we measure our energy use and set targets to improve the energy efficiency of our activities and reduce our overall use, where possible. Where we have the means and technology on-site to generate energy, this is also captured in this report.

The information below summarises the energy used this year compared to the previous year and includes renewable and non-renewable energy types.

Table 2 Energy Used

Energy Used (GJ)	Quantity	% Increase/ decrease on previous year
Electricity	716.99 GJ	73.28%
Heavy Fuel Oil	-	
Light Fuel Oil	5645 GJ	233.43%
Natural Gas	-	
Coal / Solid Fuel	-	
Peat	-	
Renewable Biomass	-	
Renewable Energy Generated On-site	-	
Total Energy Used	6361.99 GJ	201.9%

Comment

Electricity usage increased in 2021 as did fuel usage. This was mainly due to ongoing peat stock sales and continual requirements to pumps relevant bogs in advance of any planned decommissioning and rehabilitation.

The information below summarises the energy we generated on our site this year with specific focus on renewable energy generation.

Table 3 Energy Generated

Energy Generated (GJ)	**Quantity**	**% Increase/ decrease on previous year**
Renewable Energy	N/A	
Total Energy Generated		

Comment

There are no renewable energy assets on this site.

Water

Explanation
Water is a natural resource and we are required by our EPA licence to identify ways to reduce our use where possible. Water used in industry can be extracted from groundwater, rivers and lakes (surface water), taken from public water supplies (Irish Water), recycled from the facility's processes or harvested from rainwater.

The information below summarises and compares the quantity of water used this year compared to the previous year.

Table 4 Water Used

Source of Water Used	**Quantity (m^3/year)**	**% Increase/ decrease on previous year**
Groundwater		
Surface Water	0	
Public Supply		
Recycled Water	0	
Rainwater	0	
Total Water Used		

Comment

Water is not used in any of the peat harvesting or transport processes. The only water used is that required to provide associated offices and workshop welfare facilities (canteen/toilets)

4) Environmental Complaints

Explanation
Our EPA licence requires that activities do not cause environmental nuisance such as odour, dust or noise. Our licence also requires that we have procedures in place to record, investigate and respond to environmental complaints if or when they arise.
We have an environmental complaints procedure in place where you can contact us[4] directly. You can also contact the EPA[5] if you wish to make an environmental complaint, confidentially or not.

See the information below for a summary of **all** the environmental complaints relating to our activities made directly to us and to the EPA this year.

Table 5 Summary of All Environmental Complaints Received in

Type of Complaint	Number of Complaints Received	Number Closed
Odour / Smells		
Noise		
Dust		
Water Quality		
Air Quality		
Waste		
Litter		
Vermin/Flies/Birds		
Soil Contamination		
Vibration		
Other		

[4] See Section 1, Introduction – Contact Us

[5] If you wish to contact the EPA to make an environmental complaint about an EPA licenced facility, please go to https://lema.epa.ie/complaints

Comment

As required environmental complaints are reportable to the EPA and as such must be investigated. In the 2021 reporting period, this licence received no complaints of an environmental nature.

5) Environmental Incidents

Explanation
It is our responsibility as an EPA licensed facility to ensure we have systems in place to prevent incidents that have the potential to cause environmental pollution. If an incident occurs, we are required to report it to the EPA, investigate the cause and fix the problem.
The EPA classify environmental incidents into 5 categories based on the potential impact on the environment:

- Minor
- Limited
- Serious
- Very Serious
- Catastrophic

See Table 6 for the number of the environmental incidents we reported to the EPA this year.

Table 6 Number of Environmental Incidents

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Abatement Equipment Offline					
Breach of Ambient ELV					
Breach of Emission Limit					
Explosion					
Fire					
Monitoring Equipment Failure					
Odour					
Spillage					
Breach of trigger Level	1				
Uncontrolled Release					

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Other					

Comment

As required, incidents of an environmental nature are reportable to the EPA and as such must be investigated. In the 2021 reporting period, this licence recorded and reported 1 incident. This incident was related to trigger level breach for COD, which was investigated and closed out.

6) Our Environmental Emissions

Explanation

We are required to ensure the emissions from our activities do not cause environmental pollution.

We are required to monitor any of the following emissions that we make:

- Storm water
- Waste water
- Air
- Groundwater
- Noise

We regularly test any such emissions for specific pollutants and materials to ensure they do not contain levels of pollution that exceed emission limit values (ELVs) or cause environmental pollution. If monitoring of an emission indicates an ELV is exceeded, we are required to report this to the EPA[6].

The next sub-sections of this report summarise our compliance with any ELVs set in our EPA licence. Some emissions monitored do not have specific ELVs, but we still carry out monitoring and report all incidents that may give rise to environmental pollution.

[6] See section 5, Incidents

Storm Water

Explanation
Storm water is rain water run-off from roof and non-process areas of a facility, e.g. carparks, and generally shall not contain any pollution.
Storm water is usually released into a local water body after a basic form of treatment. Our EPA licence requires that we manage storm water to ensure no polluting substances or materials are released into the environment.

The information below summarises how the storm water from our facility is treated, where it is released and the results of monitoring this year.

1. **Storm water from our facility is managed prior to release by;**

Either direct to drain where it is roof water only, or via petrol/oil interceptor.

2. **Storm water from our facility is released into the following water bodies:**

Yellow River, Kinnegad River & Boyne River. Curris River, Stoneyford River

Table 7 Summary of Storm Water Monitoring

Parameter measured	No. of Samples	% Compliant[7]	Comment
COD	18	100% Compliant	Oil Interceptors cleaned at Derrygreenagh W/shop, and Oil Interceptor & Rossan outloading facility.

Add rows as necessary

Comment

As required by the licence, stormwater is required to be separated where possible from process/non-process areas. Where this is not possible, stormwater is managed via oil-interceptors which are inspected on a monthly basis and sampled for associated discharges each month. Other than visual observations, the other main criteria to define adequate treatment is COD mg/l so this and visual inspections dictate when the interceptor is cleaned by an approved hazardous waste contractor.

[7] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Waste Water

Explanation

There are two types of waste water that can be produced:

- Process waste water produced from the activities and;
- Sanitary waste water from toilets, washrooms and canteens.

Our EPA licence requires us to manage our waste water on or off-site and ensure that it does not cause environmental pollution when discharged into the environment.

The information below summarises how we treat the waste water produced from our activities, where it is released and the results of monitoring this year.

1. **Waste water produced by our activities is treated as follows before discharge to a receiving waterbody**;

All production area runoff is treated via an associated silt pond designed, inspected and maintained in accordance with condition 6 of the IPC Licence

2. **Treated waste water from our facility is released into the following water bodies:**

Mongagh River, Yellow River, Castlejordan River, Kinnegad River, Deel River, Boyne River, Curris River, Stoneyford River

Table 8 Summary of Waste Water Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
Suspended Solids	115	100%	
Ammonia	76	100%	
Total Solids	115	NA	
Total Phosphorus	76	NA	
pH	76	NA	
Colour	76	NA	
COD	94	98.94%	Trigger level reached on one occasion on Automatic Sampler

Add rows as necessary

Comment

Licence requirements are quarterly grab samples on a selected number of silt pond outlets as per condition 6.2 and one 24hr flow proportional composite sampler at Rossan bog.
The emission limit values are 35mg/l suspended solids, 2.78mg/l total ammonia and 100mg/l COD. The Trigger Level for COD in 2021 was reached on one occasion, the same as 2020. There is no obvious reason for reaching these trigger levels, other than naturally occuring background levels associated with COD.

7)

Air

Explanation

Generally, three types of air emissions are monitored from industry in Ireland: gases, dust (particulates) and odour. Our EPA licence requires us to ensure that any air emissions from our activities do not cause air pollution or create an odour nuisance.

The information below details the number of air emission points we monitor, the results from testing the air emissions and any odour assessments carried out by us and the EPA this year.

1. **We monitor air emissions from the following number of emission points at our facility.**

N/A

Table 9 Summary of Air Emissions Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
Fugitive Dust			

Add rows as necessary

Comment

Due to the cessation of production it is no longer a requirement to monitor Air Emissions

Table 10 Summary of Odour Assessments Carried Out

Assessment Conducted By	No. of Odour Assessments	% Compliant[8]	Comment
Licence Holder	NA		Not required
EPA	NA		Not required

Add rows where necessary

Comment

There are no odour emissions of note from the activity, no requirements to monitor and no associated complaints.

[8] A compliant odour assessment is based on EPA Odour Impact Assessment Guidance available at http://www.epa.ie/pubs/advice/air/emissions/ag5-odourassessment.html

Fugitive Solvent Emissions

Are you are required to monitor fugitive solvent air emissions from your facility?

Yes [ ] No [X]

Explanation
The use of solvents is regulated under Irish and European Union (EU) Regulations[9]. Solvents are chemicals that, by their nature, are volatile (evaporate readily under ambient conditions). Solvents can be found in many inks, glues and cleaning agents. Due to the volatility of solvents some emissions may be released into the atmosphere during our activities before being captured in our air treatment system. This type of emission is called a **fugitive solvent emission**.

The information below summarises the quantity of solvents used this year, the percentage of fugitive solvent emissions (% of total quantity used) and whether the percentage complied with the targets set in the EU Regulations.

Table 11 Summary of Fugitive Solvent Emissions

Quantity of Solvents Used (Kg)	% Fugitive Solvent Emissions	Compliant

Comment

N/A

[9] See Annex VII of the Industrial Emissions Directive
https://ec.europa.eu/environment/industry/stationary/ied/legislation.htm

Groundwater

Explanation
Groundwater is an important and sensitive resource in Ireland. Our EPA licence requires that we monitor groundwater to ensure our activities do not cause groundwater pollution.
Understanding how groundwater flows through soil and rock layers and eventually into surface and coastal waters is a complex science. Sometimes groundwater pollution that occurred in the past can take years and even decades to disappear. Therefore, it is important that experts help us monitor and interpret results from groundwater monitoring and testing.

The information below is a basic summary of the condition of the groundwater this year.

1. **Do you have a groundwater monitoring programme in place?**

Yes [ ] No [X]

2. **Have the groundwater monitoring results over the last 5 years indicated the presence of groundwater pollution?**

Yes [ ] No [X]

Table 12 List of Groundwater Pollutants Identified

Pollutants

Add rows as necessary

3. Give details of the investigations and subsequent actions taken, where applicable, to manage the groundwater pollution.

N/A

Comment

There are no licence requirements to monitor groundwater from the activity.

Noise

Explanation
Our EPA licence requires that we monitor noise emissions from our facility. Noise monitoring can be conducted at the boundary of our facility and/or at locations beyond the boundary referred to as “noise sensitive locations”. Noise monitoring requires the use of special noise monitoring equipment. Our EPA licence requires that noise produced by our facility shall not exceed the noise limit values and/or give rise to nuisance.

The information below gives a summary of when and where we conducted noise monitoring this year and if results complied with our EPA licence limits.

1. **We conducted noise monitoring on the following dates this year:**

N/A

2. **Was the noise monitoring carried out at:**
   i. **the boundary of our facility,**
   ii. **noise sensitive locations off-site, or**
   iii. **both?**

N/A

3. **Were measured noise levels compliant with your EPA licence limits?**

Yes ☐ No ☐

If No, we took the following actions to address the noise level exceedances?

NA

Comment

There are no licence requirements to monitor noise from the activity, or any complaints regarding noise impact.

8) Waste

Waste Generated

Explanation
Our EPA licence requires us to manage the waste we generate in a manner that does not cause environmental pollution.
We manage, store and record hazardous, non-hazardous and inert waste we generate in accordance with our licence. We ensure that this waste is subsequently treated or disposed of in accordance with the relevant waste Regulations.

The information in table 13 is a summary of waste we generated this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste generated that was reused, recycled or recovered.

Table 13 Waste Generated

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous	14.74	15.62% decrease	100%
Non-Hazardous	519.17	111% increase	95.52%
Inert			
Total Tonnes	533.91	102.9% increase	95.65%

Comment

The main wastes generated from this activity are Polythene, scrap metal, Silt Pond Waste, Peat Screenings, Waste Oil, Interceptor Waste, Oil Filters, Parts Wash all of which are recycled. The waste generated for landfill was general waste skips and wheelie bins from workshops and office waste.

Waste Accepted

Did you accept waste onto your facility for storage, treatment, recovery or disposal this year?

Yes [ ] No [X]

Explanation
Our EPA licence requires us to manage the waste we accept in a manner that does not cause environmental pollution.
We manage, store and record all incoming and outgoing hazardous, non-hazardous and inert waste. The waste we accept may be treated, recovered, disposed or stored at our facility depending on our licence requirements.

The information in Table 14 provides a summary of waste we accepted this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste accepted that was reused, recycled or recovered.

Table 14 Waste Accepted

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous			
Non-Hazardous			
Inert			
Total Tonnes			

Comment

No waste accepted during the period.

9) Financial Provision

Explanation
Our EPA licence requires us to assess the risk our activities pose to the environment if we cease our activities or if an incident occurred. If we are identified as a high risk facility[10] by the EPA, we are required to put provision in place such as a financial bond or insurance to cover the cost of restoring our site to a satisfactory condition. This financial provision can then be used to cover the cost of managing the restoration or clean up should such an event occur.

1. Are you required to have an agreed financial provision in place?

Yes [ ] No [X]

2. What year was your Closure, Restoration and Aftercare Management Plan (CRAMP) last agreed by the Agency?

Not required under the licence. However, the equivalent Bog Rehabilitation Plans, which include closure, restoration and aftercare are being submitted to the Agency in advance of any decommissioning and rehabilitation.

3. What year was your Environmental Liability Assessment Report (ELRA) agreed by the Agency?

Not required under the Licence.

4. Has there been any significant changes on your site since the last agreements?

Yes [ ] No [X]

[10] See Appendix II

If yes, have you submitted details to the EPA?

Yes [ ] No [ ] N/A [X]

Appendix I

Class of Activity

Industrial and waste facilities are classed into different sectors depending on the nature of their activity and its potential impact on the environment. The EPA Act 1992 as amended, outlines these as follows:

Class 1	Minerals and other materials
Class 2	Energy
Class 3	Metals
Class 4	Mineral fibres and glass
Class 5	Chemicals
Class 6	Intensive Agriculture[11]
Class 7	Food and drink
Class 8	Wood, paper, textiles and leather
Class 9	Fossil fuels
Class 10	Cement, lime and magnesium oxide
Class 11	Waste
Class 12	Surface Coatings
Class 13	Other Activities

[11] This reporting template is not applicable to the **intensive agriculture sector**. Their annual environmental reporting structure is different and can be found at http://www.epa.ie/pubs/advice/aerprtr/aerguid/

Appendix II

High Environmental Risk Categories

If an industrial or waste licence falls into one of these categories it is deemed, by the EPA, as a high environmental risk. As a result, the licence holder is required to have financial provision in place. See section 8, Financial Provision.

1. Landfills
2. Non-Hazardous Waste Transfer Station
3. Incineration and Co-Incineration Waste Facilities
4. Category A – Extractive Waste Facilities
5. Upper and Lower Tier Seveso Facilities
6. Hazardous Waste Transfer Stations
7. High Risk Contaminated Land
8. Exceptional Circumstances

NOTE:

This list is subject to change.

See the link below for further information.

http://www.epa.ie/pubs/advice/licensee/fp/epaapproachtoenvironmentalliabilitiesandfinancialprovision.html

Annual Environmental Report (AER)

2022

Company Name: Bord na Móna Energy Ltd (Derrygreenagh Group)

Licence Number: P0501-01

Address: Bord na Móna, Derrygreenagh Works, Rochfordsbridge, Co Westmeath.

Class of Activity[1]: 1.4

[1] See Appendix I

Purpose of this Report

One of the functions of the Environmental Protection Agency (EPA) is to licence and regulate the activities[2] of large scale industrial (e.g. chemical, food processors, power plants) and waste facilities. Submitting an Annual Environmental Report (AER) is a requirement of all EPA licences.

An AER is a public document. To this end, this format has been developed for industrial and waste licence holders (other than the intensive agriculture sector) to use as a template. This is to assist any member of the public to interpret and understand the environmental performance of the licensed facility.

The AER is a **summary** of environmental information for a given year. It includes:

- Details of the licence holder's environmental goals achieved, goals to maintain compliance and/or improve their environmental performance;
- Answers to questions regarding their facility's activities;
- Tables of results from monitoring emissions such as air, water, noise, and odour; and
- Details of waste generated, accepted and treated.

An AER does **not** provide detailed technical data. Such information is available in three ways:

1) Contacting the licence holder directly. The Contact Us section of this template enables the licence holder to provide details of where a member of the public can obtain further information on topics reported in this document.

[2] See Appendix I

2) Some documents[3] are available on the EPA website via the licence details page for each individual licence. This can be found by browsing either the http://www.epa.ie/licensing/ or http://www.epa.ie/enforcement/ pages of the EPA website.

3) All formal enforcement correspondence exchanged between the EPA and a licence holder during the regulatory process is available for public viewing by appointment at any EPA Office.

If you have a question or query about an AER or an individual EPA licensed facility see the EPA's website or contact the relevant EPA office. See http://www.epa.ie/about/contactus/ for contact details.

[3] This includes EPA site inspection and compliance monitoring reports, licence holders' self-monitoring reports, AERs and special reports

Contents

Glossary

Abatement Equipment	Technology used to reduce pollution
AER	Annual Environmental Report.
CRAMP	Closure, Restoration and Aftercare Management Plan.
ELRA	Environmental Liability Risk Assessment.
Emission Limit Value	Limits set for specified emissions, typically outlined in Schedule B of an EPA licence.
EMS	Environmental Management System.
Environmental Goal	An objective or target set by a licensee as part of an environmental management system (EMS).
Environmental Pollutant	Substance or material that due to its quantity and/or nature has a negative impact on the environment.
Facility	Any site or premises that holds an EPA industrial or waste licence.
FP	Financial Provision.
GJ	Giga joules, an international unit of energy measurement.
Groundwater	All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
Incident	As defined by an EPA industrial or waste licence.

Inert Waste	Is waste that will not undergo physical, chemical or biological change thereby, is unlikely to cause environmental pollution or harm human health.
List of Wastes (LoW)	A list of wastes drawn up by the European Commission and published as Commission Decision 2014/955/EU.
Noise Sensitive Location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Non-Renewable Resource	A resource of economic value that cannot be replaced at the same rate it is being consumed e.g. coal, peat, oil and natural gas.
Oil Separator	Separator system for light liquids (e.g. oil and petrol).
PRTR	Pollutant Release and Transfer Register.
Renewable Resource	Wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.
Sanitary Waste	Waste water from toilet, washroom and canteen facilities.
Storm Water	Rain water run-off from roof and non-process areas.

Surface Water	Lakes, rivers, streams, estuaries and coastal waters.
Trigger Level	A value set for a specific parameter, the achievement or exceedance of which requires certain actions to be taken by the licence holder.
Volatile Organic Compounds	Gases produced from solids or liquids that evaporate readily in ambient conditions.
Waste	Any substance or object which the holder discards or intends or is required to discard.

Disclaimer

These are **not** legal definitions. Legal definitions can be found in the corresponding legislation.

Declaration

I, Cathal Brennan, confirm that by ticking the box below, all information in this report is truthful and accurate to the best of my knowledge and belief.

In addition, I confirm that all monitoring and performance reporting required by our EPA licence and summarised herein is available for inspection by the EPA.

Tick here ☑

1) Introduction

See below a brief description of our facility and a summary of our environmental performance this year.

- During the reporting period the primary activity was peat sales of existing stock and decommissioning and rehabilitation of bogs in this IPC Licence.
- In the period, there were no complaints of an environmental nature, as was the case in 2021.
- During the reporting period, 137 Ha's or 75% of peatlands at Carranstown Bog was rehabilitated with some of this works extending into the 2023 period.
- During the period, there was a 102.98% increase in waste generated, mostly related to a decrease in activity but an increase in polythene and scrap metal recycling and general waste disposal.
- During 2022, Rehabilitation plans, maps and associated assessments were submitted to the Agency for Carranstown Bog and these are available to view at https://www.bnmpcas.ie/bogs-peatlands-climate-action-scheme/
- During the period, there were notifications submitted regarding general compliance reporting obligations and the 2021 Annual Environmental Reports.
- During 2022 Bord na Mona retained certification to ISO9001 for the decommissioning and rehabilitation of peatlands to support the climate action scheme.

Contact Us

If you have any questions or would like further information on any aspect of this report, please contact us directly.

See below details:

Enda McDonagh,
Bord na Mona Energy Ltd
Leabeg
Tullamore
Co Offaly
www.bnm.ie

2) How we Manage our Facility

Bord na Mona have an Environmental Compliance Department with a team of five who manage the day to day IPC Licence requirements. This licence governs the extraction of peat and associated activities and manages emission to air, water and land.

The information below sets out the environmental goals for our facility to help us prevent environmental pollution and reduce our impact on the environment. Target dates for completing each goal and progress towards achieving the goal are outlined in Table 1.

Table 1 Environmental Goals

Environmental Goal	Target Date	Progress
Training/awareness for all area leaders and operatives in advance of decommissioning and rehabilitation of the 2023 bogs	May 2023	Underway
Waste Management – Removal of all waste that are deemed a risk the environment in bogs scheduled to be decommissioned in 2023	Dec 2023	Underway
Communication of Decommissioning and Rehabilitation plans to all neighbours within 1km of the proposed activity for 2023	June 2023	Two bogs are scheduled for 2023 and will have had letters and associated details delivered/
Completion of internal audits/inspections of applicable bogs scheduled for decommissioning and rehabilitation as required by condition 10 and the Peatlands Climate Action Scheme	December 2023	Not commenced yet

Maintain surface water quality compliance with emission limit values for Suspended Solids during the proposed decommissioning and rehabilitation programme.	Dec 2023	Underway
Decommissioning and Rehabilitation of 2023 bogs in accordance with Condition 10 of the IPC Licence and in accordance with Peatlands Climate Action Scheme https://www.gov.ie/en/publication/136a7-bord-na-mona-bog-rehabilitation-scheme/	January to December 2023	To commence once approved by NPWS and EPA

Add rows as necessary

Comment

As peat extraction on all bogs in this licence ceased in 2020, all environmental goals for 2023 are linked to the remaining bog activity which is the decommissioning and rehabilitation of the bogs planned for 2023.

3) Energy & Water

Energy

Explanation
Fossil fuels such as coal, gas and oil are non-renewable resources. As a result, our EPA licence requires that we measure our energy use and set targets to improve the energy efficiency of our activities and reduce our overall use, where possible. Where we have the means and technology on-site to generate energy, this is also captured in this report.

The information below summarises the energy used this year compared to the previous year and includes renewable and non-renewable energy types.

Table 2 Energy Used

Energy Used (GJ)	Quantity	% Increase/ decrease on previous year
Electricity	715.05 GJ	0.27% decrease
Heavy Fuel Oil	-	
Light Fuel Oil	2,583.8 GJ	54.2% decrease
Natural Gas	-	
Coal / Solid Fuel	-	
Peat	-	
Renewable Biomass	-	
Renewable Energy Generated On-site	-	
Total Energy Used	3,298.85GJ	48.14% decrease

Comment

Electricity usage decreased in 2022 as did fuel usage. Energy use fluctuations are mainly defined by ceasing peat extraction activities in 2020, peat stock depletion and ramping up of decommissioning and rehabilitation activity.

The information below summarises the energy we generated on our site this year with specific focus on renewable energy generation.

Table 3 Energy Generated

Energy Generated (GJ)	**Quantity**	**% Increase/ decrease on previous year**
Renewable Energy	N/A	
Total Energy Generated		

Comment

There are no renewable energy assets on this site.

Water

Explanation
Water is a natural resource and we are required by our EPA licence to identify ways to reduce our use where possible. Water used in industry can be extracted from groundwater, rivers and lakes (surface water), taken from public water supplies (Irish Water), recycled from the facility's processes or harvested from rainwater.

The information below summarises and compares the quantity of water used this year compared to the previous year.

Table 4 Water Used

Source of Water Used	**Quantity (m^3/year)**	**% Increase/ decrease on previous year**
Groundwater		
Surface Water	0	
Public Supply		
Recycled Water	0	
Rainwater	0	
Total Water Used		

Comment

Water is not used in any of the peat harvesting or transport processes. The only water used is that required to provide associated offices and workshop welfare facilities (canteen/toilets)

4) Environmental Complaints

Explanation
Our EPA licence requires that activities do not cause environmental nuisance such as odour, dust or noise. Our licence also requires that we have procedures in place to record, investigate and respond to environmental complaints if or when they arise.
We have an environmental complaints procedure in place where you can contact us[4] directly. You can also contact the EPA[5] if you wish to make an environmental complaint, confidentially or not.

See the information below for a summary of **all** the environmental complaints relating to our activities made directly to us and to the EPA this year.

Table 5 Summary of All Environmental Complaints Received in

Type of Complaint	Number of Complaints Received	Number Closed
Odour / Smells		
Noise		
Dust		
Water Quality		
Air Quality		
Waste		
Litter		
Vermin/Flies/Birds		
Soil Contamination		
Vibration		
Other		

[4] See Section 1, Introduction – Contact Us

[5] If you wish to contact the EPA to make an environmental complaint about an EPA licenced facility, please go to https://lema.epa.ie/complaints

Comment

As required environmental complaints are reportable to the EPA and as such must be investigated. In the 2022 reporting period, this licence did not receive any complaints of an environmental nature.

5) Environmental Incidents

Explanation
It is our responsibility as an EPA licensed facility to ensure we have systems in place to prevent incidents that have the potential to cause environmental pollution. If an incident occurs, we are required to report it to the EPA, investigate the cause and fix the problem.
The EPA classify environmental incidents into 5 categories based on the potential impact on the environment:

- Minor
- Limited
- Serious
- Very Serious
- Catastrophic

See Table 6 for the number of the environmental incidents we reported to the EPA this year.

Table 6 Number of Environmental Incidents

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Abatement Equipment Offline					
Breach of Ambient ELV					
Breach of Emission Limit					
Explosion					
Fire					
Monitoring Equipment Failure					
Odour					
Spillage					
Breach of trigger Level					
Uncontrolled Release					

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Other					

Comment

As required, incidents of an environmental nature are reportable to the EPA and as such must be investigated. In the 2022 reporting period, this licence recorded no incidents of an environmental nature.

6) Our Environmental Emissions

Explanation

We are required to ensure the emissions from our activities do not cause environmental pollution.

We are required to monitor any of the following emissions that we make:

- Storm water
- Waste water
- Air
- Groundwater
- Noise

We regularly test any such emissions for specific pollutants and materials to ensure they do not contain levels of pollution that exceed emission limit values (ELVs) or cause environmental pollution. If monitoring of an emission indicates an ELV is exceeded, we are required to report this to the EPA[6].

The next sub-sections of this report summarise our compliance with any ELVs set in our EPA licence. Some emissions monitored do not have specific ELVs, but we still carry out monitoring and report all incidents that may give rise to environmental pollution.

[6] See section 5, Incidents

Storm Water

Explanation
Storm water is rain water run-off from roof and non-process areas of a facility, e.g. carparks, and generally shall not contain any pollution.
Storm water is usually released into a local water body after a basic form of treatment. Our EPA licence requires that we manage storm water to ensure no polluting substances or materials are released into the environment.

The information below summarises how the storm water from our facility is treated, where it is released and the results of monitoring this year.

1. **Storm water from our facility is managed prior to release by;**

Either direct to drain where it is roof water only, or via petrol/oil interceptor.

2. **Storm water from our facility is released into the following water bodies:**

Yellow River, Kinnegad River & Boyne River. Curris River, Stoneyford River

Table 7 Summary of Storm Water Monitoring

Parameter measured	No. of Samples	% Compliant[7]	Comment
COD	11	100% Compliant	

Add rows as necessary

Comment

As required by the licence, stormwater is required to be separated where possible from process/non-process areas. Where this is not possible, stormwater is managed via oil-interceptors which are inspected on a monthly basis and sampled for associated discharges each month. Other than visual observations, the other main criteria to define adequate treatment is COD mg/l so this and visual inspections dictate when the interceptor is cleaned by an approved hazardous waste contractor.

[7] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Waste Water

Explanation
There are two types of waste water that can be produced:

- Process waste water produced from the activities and;
- Sanitary waste water from toilets, washrooms and canteens.

Our EPA licence requires us to manage our waste water on or off-site and ensure that it does not cause environmental pollution when discharged into the environment.

The information below summarises how we treat the waste water produced from our activities, where it is released and the results of monitoring this year.

1. **Waste water produced by our activities is treated as follows before discharge to a receiving waterbody**;

All production area runoff is treated via an associated silt pond designed, inspected and maintained in accordance with condition 6 of the IPC Licence

2. **Treated waste water from our facility is released into the following water bodies:**

Mongagh River, Yellow River, Castlejordan River, Kinnegad River, Deel River, Boyne River, Curris River, Stoneyford River

Table 8 Summary of Waste Water Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
Suspended Solids	105	100%	
Ammonia	63	100%	
Total Solids	105	NA	
Total Phosphorus	63	NA	
pH	63	NA	
Colour	63	NA	
COD	82	95.2%	

Add rows as necessary

Comment

Licence requirements are quarterly grab samples on a selected number of silt pond outlets as per condition 6.2 and one 24hr flow proportional composite sampler at Rossan bog.
The emission limit values are 35mg/l suspended solids, 2.78mg/l total ammonia and 100mg/l COD. The Trigger Level for COD in 2022 was reached on four occasions. There is no obvious reason for reaching these trigger levels, other than naturally occurring background levels associated with COD.

7)

Air

Explanation
Generally, three types of air emissions are monitored from industry in Ireland: gases, dust (particulates) and odour. Our EPA licence requires us to ensure that any air emissions from our activities do not cause air pollution or create an odour nuisance.

The information below details the number of air emission points we monitor, the results from testing the air emissions and any odour assessments carried out by us and the EPA this year.

1. **We monitor air emissions from the following number of emission points at our facility.**

N/A

Table 9 Summary of Air Emissions Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
Fugitive Dust			

Add rows as necessary

Comment

Due to the cessation of production it is no longer a requirement to monitor Air Emissions

Table 10 Summary of Odour Assessments Carried Out

Assessment Conducted By	No. of Odour Assessments	% Compliant[8]	Comment
Licence Holder	NA		Not required
EPA	NA		Not required

Add rows where necessary

Comment

There are no odour emissions of note from the activity, no requirements to monitor and no associated complaints.

[8] A compliant odour assessment is based on EPA Odour Impact Assessment Guidance available at http://www.epa.ie/pubs/advice/air/emissions/ag5-odourassessment.html

Fugitive Solvent Emissions

Are you are required to monitor fugitive solvent air emissions from your facility?

Yes [ ] No [X]

Explanation
The use of solvents is regulated under Irish and European Union (EU) Regulations[9]. Solvents are chemicals that, by their nature, are volatile (evaporate readily under ambient conditions). Solvents can be found in many inks, glues and cleaning agents. Due to the volatility of solvents some emissions may be released into the atmosphere during our activities before being captured in our air treatment system. This type of emission is called a **fugitive solvent emission**.

The information below summarises the quantity of solvents used this year, the percentage of fugitive solvent emissions (% of total quantity used) and whether the percentage complied with the targets set in the EU Regulations.

Table 11 Summary of Fugitive Solvent Emissions

Quantity of Solvents Used (Kg)	% Fugitive Solvent Emissions	Compliant

Comment

N/A

[9] See Annex VII of the Industrial Emissions Directive
https://ec.europa.eu/environment/industry/stationary/ied/legislation.htm

Groundwater

Explanation
Groundwater is an important and sensitive resource in Ireland. Our EPA licence requires that we monitor groundwater to ensure our activities do not cause groundwater pollution.
Understanding how groundwater flows through soil and rock layers and eventually into surface and coastal waters is a complex science. Sometimes groundwater pollution that occurred in the past can take years and even decades to disappear. Therefore, it is important that experts help us monitor and interpret results from groundwater monitoring and testing.

The information below is a basic summary of the condition of the groundwater this year.

1. **Do you have a groundwater monitoring programme in place?**

Yes [ ] No [X]

2. **Have the groundwater monitoring results over the last 5 years indicated the presence of groundwater pollution?**

Yes [ ] No [X]

Table 12 List of Groundwater Pollutants Identified

Pollutants

Add rows as necessary

3. Give details of the investigations and subsequent actions taken, where applicable, to manage the groundwater pollution.

N/A

Comment

There are no licence requirements to monitor groundwater from the activity.

Noise

Explanation
Our EPA licence requires that we monitor noise emissions from our facility. Noise monitoring can be conducted at the boundary of our facility and/or at locations beyond the boundary referred to as “noise sensitive locations”. Noise monitoring requires the use of special noise monitoring equipment. Our EPA licence requires that noise produced by our facility shall not exceed the noise limit values and/or give rise to nuisance.

The information below gives a summary of when and where we conducted noise monitoring this year and if results complied with our EPA licence limits.

1. **We conducted noise monitoring on the following dates this year:**

N/A

2. **Was the noise monitoring carried out at:**
   i. **the boundary of our facility,**
   ii. **noise sensitive locations off-site, or**
   iii. **both?**

N/A

3. **Were measured noise levels compliant with your EPA licence limits?**

Yes ☐ No ☐

If No, we took the following actions to address the noise level exceedances?

NA

Comment

There are no licence requirements to monitor noise from the activity, or any complaints regarding noise impact.

8) Waste

Waste Generated

Explanation
Our EPA licence requires us to manage the waste we generate in a manner that does not cause environmental pollution.
We manage, store and record hazardous, non-hazardous and inert waste we generate in accordance with our licence. We ensure that this waste is subsequently treated or disposed of in accordance with the relevant waste Regulations.

The information in table 13 is a summary of waste we generated this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste generated that was reused, recycled or recovered.

Table 13 Waste Generated

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous	8.39	43.08% decrease	100%
Non-Hazardous	751.84	44.8% increase	98.5%
Inert			
Total Tonnes	760.23	42.38% increase	98.5%

Comment

The main wastes generated from this activity are Polythene, scrap metal, Silt Pond Waste, Peat Screenings, Waste Oil, Interceptor Waste, Oil Filters, Parts Wash all of which are recycled. The waste generated for landfill was general waste skips and wheelie bins from workshops and office waste.

Waste Accepted

Did you accept waste onto your facility for storage, treatment, recovery or disposal this year?

Yes [ ] No [X]

Explanation
Our EPA licence requires us to manage the waste we accept in a manner that does not cause environmental pollution.
We manage, store and record all incoming and outgoing hazardous, non-hazardous and inert waste. The waste we accept may be treated, recovered, disposed or stored at our facility depending on our licence requirements.

The information in Table 14 provides a summary of waste we accepted this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste accepted that was reused, recycled or recovered.

Table 14 Waste Accepted

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous			
Non-Hazardous			
Inert			
Total Tonnes			

Comment

No waste accepted during the period.

9) Financial Provision

Explanation
Our EPA licence requires us to assess the risk our activities pose to the environment if we cease our activities or if an incident occurred. If we are identified as a high risk facility[10] by the EPA, we are required to put provision in place such as a financial bond or insurance to cover the cost of restoring our site to a satisfactory condition. This financial provision can then be used to cover the cost of managing the restoration or clean up should such an event occur.

1. Are you required to have an agreed financial provision in place?

Yes [ ] No [X]

2. What year was your Closure, Restoration and Aftercare Management Plan (CRAMP) last agreed by the Agency?

Not required under the licence. However, the equivalent Bog Rehabilitation Plans, which include closure, restoration and aftercare are being submitted to the Agency in advance of any decommissioning and rehabilitation.

3. What year was your Environmental Liability Assessment Report (ELRA) agreed by the Agency?

Not required under the Licence.

4. Has there been any significant changes on your site since the last agreements?

Yes [ ] No [X]

[10] See Appendix II

If yes, have you submitted details to the EPA?

Yes [ ] No [ ] N/A [X]

Appendix I

Class of Activity

Industrial and waste facilities are classed into different sectors depending on the nature of their activity and its potential impact on the environment. The EPA Act 1992 as amended, outlines these as follows:

Class 1	Minerals and other materials
Class 2	Energy
Class 3	Metals
Class 4	Mineral fibres and glass
Class 5	Chemicals
Class 6	Intensive Agriculture[11]
Class 7	Food and drink
Class 8	Wood, paper, textiles and leather
Class 9	Fossil fuels
Class 10	Cement, lime and magnesium oxide
Class 11	Waste
Class 12	Surface Coatings
Class 13	Other Activities

[11] This reporting template is not applicable to the **intensive agriculture sector**. Their annual environmental reporting structure is different and can be found at http://www.epa.ie/pubs/advice/aerprtr/aerguid/

Appendix II

High Environmental Risk Categories

If an industrial or waste licence falls into one of these categories it is deemed, by the EPA, as a high environmental risk. As a result, the licence holder is required to have financial provision in place. See section 8, Financial Provision.

1. Landfills
2. Non-Hazardous Waste Transfer Station
3. Incineration and Co-Incineration Waste Facilities
4. Category A – Extractive Waste Facilities
5. Upper and Lower Tier Seveso Facilities
6. Hazardous Waste Transfer Stations
7. High Risk Contaminated Land
8. Exceptional Circumstances

NOTE:

This list is subject to change.

See the link below for further information.

http://www.epa.ie/pubs/advice/licensee/fp/epaapproachtoenvironmentalliabilitiesandfinancialprovision.html

Annual Environmental Report (AER)

2023

Company Name: Bord na Mona Energy Ltd (Derrygreenagh Group)

Licence Number: P0501-01

Address: Bord na Mona, Derrygreenagh Works, Rochfordbridge, Co Westmeath.

Class of Activity[1]: 1.4

[1] See Appendix I

Purpose of this Report

One of the functions of the Environmental Protection Agency (EPA) is to licence and regulate the activities[2] of large scale industrial (e.g. chemical, food processors, power plants) and waste facilities. Submitting an Annual Environmental Report (AER) is a requirement of all EPA licences.

An AER is a public document. To this end, this format has been developed for industrial and waste licence holders (other than the intensive agriculture sector) to use as a template. This is to assist any member of the public to interpret and understand the environmental performance of the licensed facility.

The AER is a **summary** of environmental information for a given year. It includes:

- Details of the licence holder's environmental goals achieved, goals to maintain compliance and/or improve their environmental performance;
- Answers to questions regarding their facility's activities;
- Tables of results from monitoring emissions such as air, water, noise, and odour; and
- Details of waste generated, accepted and treated.

An AER does **not** provide detailed technical data. Such information is available in three ways:

1) Contacting the licence holder directly. The Contact Us section of this template enables the licence holder to provide details of where a member of the public can obtain further information on topics reported in this document.

[2] See Appendix I

2) Some documents[3] are available on the EPA website via the licence details page for each individual licence. This can be found by browsing either the http://www.epa.ie/licensing/ or http://www.epa.ie/enforcement/ pages of the EPA website.

3) All formal enforcement correspondence exchanged between the EPA and a licence holder during the regulatory process is available for public viewing by appointment at any EPA Office.

If you have a question or query about an AER or an individual EPA licensed facility see the EPA's website or contact the relevant EPA office. See http://www.epa.ie/about/contactus/ for contact details.

[3] This includes EPA site inspection and compliance monitoring reports, licence holders' self-monitoring reports, AERs and special reports

Contents

Glossary

Abatement Equipment	Technology used to reduce pollution
AER	Annual Environmental Report.
Beyond Compliance	Beyond compliance is concept to help deliver greater organisational performance and long-term value for the environment, society and the economy.
CRAMP	Closure, Restoration and Aftercare Management Plan.
ELRA	Environmental Liability Risk Assessment.
Emission Limit Value	Limits set for specified emissions, typically outlined in Schedule B of an EPA licence.
EMS	Environmental Management System.
Environmental Goal	An objective or target set by a licensee as part of an environmental management system (EMS).
Environmental Pollutant	Substance or material that due to its quantity and/or nature has a negative impact on the environment.
Facility	Any site or premises that holds an EPA industrial or waste licence.
FP	Financial Provision.
GJ	Giga joules, an international unit of energy measurement.

Groundwater	All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
Incident	As defined by an EPA industrial or waste licence.
Inert Waste	Is waste that will not undergo physical, chemical or biological change thereby, is unlikely to cause environmental pollution or harm human health.
List of Wastes (LoW)	A list of wastes drawn up by the European Commission and published as Commission Decision 2014/955/EU.
Noise Sensitive Location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Non-Renewable Resource	A resource of economic value that cannot be replaced at the same rate it is being consumed e.g. coal, peat, oil and natural gas.
Oil Separator	Separator system for light liquids (e.g. oil and petrol).
PRTR	Pollutant Release and Transfer Register.
Renewable Resource	Wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.
Sanitary Waste	Waste water from toilet, washroom and canteen facilities.

Storm Water	Rain water run-off from roof and non-process areas.
Surface Water	Lakes, rivers, streams, estuaries and coastal waters.
Trigger Level	A value set for a specific parameter, the achievement or exceedance of which requires certain actions to be taken by the licence holder.
Volatile Organic Compounds	Gases produced from solids or liquids that evaporate readily in ambient conditions.
Waste	Any substance or object which the holder discards or intends or is required to discard.

Disclaimer

These are **not** legal definitions. Legal definitions can be found in the corresponding legislation.

Declaration

I, Cathal Brennan PCAS Operations Manager, confirm that by ticking the box below, all information in this report is truthful and accurate to the best of my knowledge and belief.

In addition, I confirm that all monitoring and performance reporting required by our EPA licence and summarised herein is available for inspection by the EPA.

Tick here ☑

1) Introduction

See below a brief description of our facility and a summary of our environmental performance this year.

- During the reporting period the main activity was decommissioning and rehabilitation of several bogs in this IPC Licence.
- During the reporting period 80 hectares of peatlands at Carranstown Bog were rehabilitated, with any balance of the rehabilitation extending into the 2024 period.
- Similarly, 289 Ha's of peatlands were decommissioned, with plant, equipment and waste materials removed at this bog.
- During the period, there was no complaints received of an environmental nature.
- During the reporting period, there was a 28.9% decrease in waste generated for recycling or disposal. One of the main activities during 2023 was the decommissioning of bog and workshop activities as required under Condition 10.1.
- In the period,10% of sampling reported exceedances in the COD trigger levels related to emissions from peatlands. This was of minor significance and was closed out during the period as they are not linked to any ongoing activity.
- During the period, there were various submissions to the Agency including the 2022 AER, mapping clarifications, review of silt pond maintenance, the annual monitoring returns, and various updates on relevant activities.
- In 2023, rehabilitation plans, maps and associated assessments were submitted to the Agency for Bracklin and Lisclogher West Bogs and these are available to view at www.bnmpcas.ie
- Bord na Mona continued to retain certification to ISO9001 for the decommissioning and rehabilitation of peatlands to support the climate action scheme (PCAS).

Contact Us

If you have any questions or would like further information on any aspect of our licensed activity, please contact us directly.

See below details:

Enda McDonagh,
Bord na Mona Energy Ltd.,
Leabeg,
Tullamore,
Co. Offaly.

2) How we Manage our Facility

Environmental Management System

Explanation
To ensure our facility's activities do not cause environmental pollution we are required to have detailed documentation systems in place to help us manage and track our environmental performance. These systems are referred to as Environmental Management Systems (EMS). We review our EMS every year and set up-to-date **environmental goals** to continually improve our environmental performance.

The information below sets out the environmental goals for our facility to help us prevent environmental pollution and reduce our impact on the environment. Target dates for completing each goal and progress towards achieving the goal are outlined in Table 1.

Table 1 Environmental Goals

Environmental Goal	Target Date	Progress
Training/awareness for all area leaders and operatives in advance of decommissioning and rehabilitation of the 2024 bogs	May 2024	Underway
Waste Management – Removal of all waste that are deemed a risk the environment in bogs scheduled to be decommissioned in 2024	Dec 2024	Underway
Communication of Decommissioning and Rehabilitation plans to all neighbours within 1km of the proposed activity for 2024 where applicable.	June 2024	Any bogs scheduled for 2024.
Completion of internal audits/inspections of applicable bogs scheduled for decommissioning and rehabilitation as	Sept 2024	Not yet commenced

required by condition 10 and the Peatlands Climate Action Scheme		
Maintain surface water quality compliance with emission limit values for Suspended Solids during the proposed decommissioning and rehabilitation programme.	Dec 2024	Underway
Decommissioning and Rehabilitation of bogs in accordance with Condition 10 of the IPC Licence and in accordance with Peatlands Climate Action Scheme https://www.gov.ie/en/publication/136a7-bord-na-mona-bog-rehabilitation-scheme/	Dec 2024	To commence on the 1st April 2023

Add rows as necessary

Comment

As peat extraction on all bogs in this licence ceased in 2020, all environmental goals for 2024 are linked to the remaining bog activity which is the decommissioning and rehabilitation of bogs planned for 2024.

Beyond Compliance

Explanation
We are legally required to comply with our environmental licence. However, the EPA realise that some sites go further than just complying with their environmental licence requirements. Some projects carried out at facilities can have long term positive impacts on the environment and local communities.
The EPA's beyond compliance initiative is encouraging us to identify and report on these environmental and sustainability projects. For example, the project could involve renewable energy, biodiversity, water conservation or exemplar community engagement.

Did any project completed on your site in the reporting year go beyond your licence requirements?

Yes ☑ No ☐

If yes, provide details of one case study in Appendix III that demonstrates how the project went beyond compliance of your licence.

3) Energy & Water

Energy

Explanation
Fossil fuels such as coal, gas and oil are non-renewable resources. As a result, our EPA licence requires that we measure our energy use and set targets to improve the energy efficiency of our activities and reduce our overall use, where possible. Where we have the means and technology on-site to generate energy, this is also captured in this report.

The information below summarises the energy used this year compared to the previous year and includes renewable and non-renewable energy types.

Table 3 Energy Used

Energy Used	Quantity (GJ)	% Increase/ decrease on previous year
Electricity	469.07	- 34.4% decrease
Heavy Fuel Oil		
Light Fuel Oil	1178.8	- 54.37% decrease
Natural Gas		
Coal / Solid Fuel		
Peat		
Renewable Biomass		
Renewable Energy Generated On-site		
Total Energy Used	1647.87	- 50.04% decrease

Comment

Electricity usage decreased in 2023 as did fuel usage, due to decommissioning and Rehabilitation

The information below summarises the energy we generated on our site this year with specific focus on renewable energy generation.

Table 4 Energy Generated

Energy Generated	**Quantity (GJ)**	**% Increase/ decrease on previous year**
Renewable Energy	N/A	
Total Energy Generated		

Comment

There are no renewable energy assets on this site.

Water

Explanation
Water is a natural resource and we are required by our EPA licence to identify ways to reduce our use where possible. Water used in industry can be extracted from groundwater, rivers and lakes (surface water), taken from public water supplies (Irish Water), recycled from the facility's processes or harvested from rainwater.

The information below summarises and compares the quantity of water used this year compared to the previous year.

Table 5 Water Used

Source of Water Used	**Quantity (m^3/year)**	**% Increase/ decrease on previous year**
Groundwater		
Surface Water	0	
Public Supply		
Recycled Water	0	
Rainwater	0	
Total Water Used		

Comment

The only water used is that required to provide associated offices and workshop welfare facilities (canteen/toilets)

4) Environmental Complaints

Explanation
Our EPA licence requires that activities do not cause environmental nuisance such as odour, dust or noise. Our licence also requires that we have procedures in place to record, investigate and respond to environmental complaints if or when they arise.
We have an environmental complaints procedure in place where you can contact us[4] directly. You can also contact the EPA[5] if you wish to make an environmental complaint, confidentially or not.

See the information below for a summary of **all** the environmental complaints relating to our activities made directly to us and to the EPA this year.

Table 6 Summary of All Environmental Complaints Received in

Type of Complaint	Number of Complaints	Number Closed
Odour / Smells		
Noise		
Dust		
Water Quality		
Air Quality		
Waste		
Litter		
Vermin/Flies/Birds		
Soil Contamination		
Vibration		
Other		

[4] See Section 1, Introduction – Contact Us

[5] If you wish to contact the EPA to make an environmental complaint about an EPA licenced facility, please go to https://lema.epa.ie/complaints

Comment

As required environmental complaints are reportable to the EPA and as such must be investigated. In the 2023 reporting period, this licence did not receive any complaints of an environmental nature.

5) Environmental Incidents

Explanation
It is our responsibility as an EPA licensed facility to ensure we have systems in place to prevent incidents that have the potential to cause environmental pollution. If an incident occurs, we are required to report it to the EPA, investigate the cause and fix the problem.
The EPA classify environmental incidents into 5 categories based on the potential impact on the environment:

- Minor
- Limited
- Serious
- Very Serious
- Catastrophic

See Table 6 for the number of the environmental incidents we reported to the EPA this year.

Table 7 Number of Environmental Incidents

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Abatement Equipment Offline					
Breach of Ambient ELV					
Breach of Emission Limit					
Explosion					
Fire					
Monitoring Equipment Failure					
Odour					
Spillage					
Breach of trigger Level	7				
Uncontrolled Release					

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Other					

Comment

As required, incidents of an environmental nature are reportable to the EPA and as such must be investigated. In the 2023 reporting period, this licence recorded 7 incidents, all of which are closed in the EPA's Eden reporting system

6) Our Environmental Emissions

Explanation

We are required to ensure the emissions from our activities do not cause environmental pollution.

We are required to monitor any of the following emissions that we make:

- Storm water
- Waste water
- Air
- Groundwater
- Noise

We regularly test any such emissions for specific pollutants and materials to ensure they do not contain levels of pollution that exceed emission limit values (ELVs) or cause environmental pollution. If monitoring of an emission indicates an ELV is exceeded, we are required to report this to the EPA[6].

The next sub-sections of this report summarise our compliance with any ELVs set in our EPA licence. Some emissions monitored do not have specific ELVs, but we still carry out monitoring and report all incidents that may give rise to environmental pollution.

[6] See section 5, Incidents

Storm Water

Explanation
Storm water is rain water run-off from roof and non-process areas of a facility, e.g. carparks, and generally shall not contain any pollution.
Storm water is usually released into a local water body after a basic form of treatment. Our EPA licence requires that we manage storm water to ensure no polluting substances or materials are released into the environment.

The information below summarises how the storm water from our facility is treated, where it is released and the results of monitoring this year.

1. **Storm water from our facility is managed prior to release by;**

Either direct to drain where it is roof water only, or via petrol/oil interceptor.

2. **Storm water from our facility is released into the following water bodies:**

Yellow River, Kinnegad River & Boyne River. Curris River, Stoneyford River

Table 8 Summary of Storm Water Monitoring

Parameter measured	No. of Samples	% Compliant[7]	Comment
COD	8	100% Compliant	

Add rows as necessary

Comment

As required by the licence, stormwater is required to be separated where possible from process/non-process areas. Where this is not possible, stormwater is managed via oil-interceptors which are inspected monthly and sampled for associated discharges each month. Other than visual observations, the other main criteria to define adequate treatment is COD mg/l so this and visual inspections dictate when the interceptor is cleaned by an approved hazardous waste contractor. The number of samples is dictated by there been no flow at time of inspection

[7] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Waste Water

Explanation

There are two types of waste water that can be produced:

- Process waste water produced from the activities and;
- Sanitary waste water from toilets, washrooms and canteens.

Our EPA licence requires us to manage our waste water on or off-site and ensure that it does not cause environmental pollution when discharged into the environment.

The information below summarises how we treat the waste water produced from our activities, where it is released and the results of monitoring this year.

1. **Waste water produced by our activities is treated as follows before discharge to a receiving waterbody**;

All production area runoff is treated via an associated silt pond designed, inspected and maintained in accordance with condition 6 of the IPC Licence

2. **Treated waste water from our facility is released into the following water bodies:**

Mongagh River, Yellow River, Castlejordan River, Kinnegad River, Deel River, Boyne River, Curris River, Stoneyford River

Table 9 Summary of Waste Water Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
Suspended Solids	183	100%	
Ammonia	69	100%	
Total Solids	183	N/A	
Total Phosphorus	69	N/A	
PH	69	N/A	
Colour	69	N/A	
COD	77	91%	

Comment

Licence requirements are quarterly grab samples on a selected number of silt pond outlets as per condition 6.2 and one 24hr flow proportional composite sampler at Rossan bog. The emission limit values are 35mg/l suspended solids, 2.78mg/l total ammonia (N) and 100mg/l COD. The Trigger Level for COD in 2023 was breached on seven occasions. There is no obvious reason for breaching these trigger levels, other than naturally occurring background levels associated with COD, with these exceedances reported to the Agency.	

Air

Explanation
Generally, three types of air emissions are monitored from industry in Ireland: gases, dust (particulates) and odour. Our EPA licence requires us to ensure that any air emissions from our activities do not cause air pollution or create an odour nuisance.

The information below details the number of air emission points we monitor, the results from testing the air emissions and any odour assessments carried out by us and the EPA this year.

1. **We monitor air emissions from the following number of emission points at our facility.**

N/A

Table 10 Summary of Air Emissions Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
Fugitive Dust			

Add rows as necessary

Comment

Due to the cessation of production, it is no longer a requirement to monitor Air Emissions

Table 11 Summary of Odour Assessments Carried Out

Assessment Conducted By	No. of Odour Assessments	% Compliant[8]	Comment
Licence Holder	N/A		
EPA	N/A		

Add rows where necessary

Comment

There are no odour emissions of note from the activity, no requirements to monitor and no associated complaints.

[8] A compliant odour assessment is based on EPA Odour Impact Assessment Guidance available at Air Enforcement | Environmental Protection Agency (epa.ie)

Fugitive Solvent Emissions

Are you required to monitor fugitive solvent air emissions from your facility?

Yes ☐ No ☑

Explanation
The use of solvents is regulated under Irish and European Union (EU) Regulations[9]. Solvents are chemicals that, by their nature, are volatile (evaporate readily under ambient conditions). Solvents can be found in many inks, glues and cleaning agents. Due to the volatility of solvents some emissions may be released into the atmosphere during our activities before being captured in our air treatment system. This type of emission is called a **fugitive solvent emission**.

The information below summarises the quantity of solvents used this year, the percentage of fugitive solvent emissions (% of total quantity used) and whether the percentage complied with the targets set in the EU Regulations.

Table 12 Summary of Fugitive Solvent Emissions

Quantity of Solvents Used (Kg)	% Fugitive Solvent Emissions	Compliant

Comment

N/A

[9] See Annex VII of the Industrial Emissions Directive
https://ec.europa.eu/environment/industry/stationary/ied/legislation.htm

Groundwater

Explanation
Groundwater is an important and sensitive resource in Ireland. Our EPA licence requires that we monitor groundwater to ensure our activities do not cause groundwater pollution.
Understanding how groundwater flows through soil and rock layers and eventually into surface and coastal waters is a complex science. Sometimes groundwater pollution that occurred in the past can take years and even decades to disappear. Therefore, it is important that experts help us monitor and interpret results from groundwater monitoring and testing.

The information below is a basic summary of the condition of the groundwater this year.

1. **Do you have a groundwater monitoring programme in place?**

Yes ☐ No ☑

2. **Have the groundwater monitoring results over the last 5 years indicated the presence of groundwater pollution?**

Yes ☐ No ☑

Table 13 List of Groundwater Pollutants Identified

Pollutants

Add rows as necessary

3. Give details of the investigations and subsequent actions taken, where applicable, to manage the groundwater pollution.

N/A

Comment

There are no licence requirements to monitor groundwater from the activity.

Noise

Explanation
Our EPA licence requires that we monitor noise emissions from our facility. Noise monitoring can be conducted at the boundary of our facility and/or at locations beyond the boundary referred to as “noise sensitive locations”. Noise monitoring requires the use of special noise monitoring equipment. Our EPA licence requires that noise produced by our facility shall not exceed the noise limit values and/or give rise to nuisance.

The information below gives a summary of when and where we conducted noise monitoring this year and if results complied with our EPA licence limits.

1. **We conducted noise monitoring on the following dates this year:**

N/A

2. **Where was the noise monitoring carried out?**
   - i. **the boundary of our facility;**
   - ii. **noise sensitive locations off-site; or**
   - iii. **both.**

N/A

3. **Were measured noise levels compliant with your EPA licence limits?**

Yes ☐ No ☐

If No, we took the following actions to address the noise level exceedances?

N/A

Comment

There are no licence requirements to monitor noise from the activity, or any complaints regarding noise impact.

7) Waste

Waste Generated

Explanation
Our EPA licence requires us to manage the waste we generate in a manner that does not cause environmental pollution.
We manage, store and record hazardous, non-hazardous and inert waste we generate in accordance with our licence. We ensure that this waste is subsequently treated or disposed of in accordance with the relevant waste Regulations.

The information in Table 14 is a summary of waste we generated this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste generated that was reused, recycled or recovered.

Table 14 Waste Generated

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous	16.17	49.72% increase	100%
Non-Hazardous	524.01	30.3% decrease	97.52%
Inert			
Total Tonnes	540.18	28.9% decrease	97.59%

Comment

The main wastes generated from this activity are polythene, scrap metal, Silt Pond Waste, Peat Screenings, Waste Oil, Interceptor Waste, Oil Filters, Parts Wash all of which are recycled. The waste generated for landfill was general waste skips and wheelie bins from workshops and office waste.

Waste Accepted

Did you accept waste onto your facility for storage, treatment, recovery or disposal this year?

Yes ☐ No ☑

Explanation
Our EPA licence requires us to manage the waste we accept in a manner that does not cause environmental pollution.
We manage, store and record all incoming and outgoing hazardous, non-hazardous and inert waste. The waste we accept may be treated, recovered, disposed or stored at our facility depending on our licence requirements.

The information in Table 15 provides a summary of waste we accepted this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste accepted that was reused, recycled or recovered.

Table 15 Waste Accepted

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous			
Non-Hazardous			
Inert			
Total Tonnes			

Comment

No Waste accepted during the period.

8) Financial Provision

Explanation
Our EPA licence requires us to assess the risk our activities pose to the environment if we cease our activities or if an incident occurred. If we are identified as a high risk facility[10] by the EPA, we are required to put provision in place such as a financial bond or insurance to cover the cost of restoring our site to a satisfactory condition. This financial provision can then be used to cover the cost of managing the restoration or clean up should such an event occur.

1. Are you required to have an agreed financial provision in place?

Yes ☐ No ☑

2. What year was your Closure, Restoration and Aftercare Management Plan (CRAMP) last agreed by the Agency?

Not required under the licence. However, the equivalent Bog Rehabilitation Plans, which include closure, restoration and aftercare are being submitted to the Agency in advance of any decommissioning and rehabilitation.

3. What year was your Environmental Liability Assessment Report (ELRA) agreed by the Agency?

Not required under the Licence

4. Has there been any significant changes on your site since the last agreements?

Yes ☐ No ☑

[10] See Appendix II

If yes, have you submitted details to the EPA?

Yes ☐ No ☐ N/A ☑

Appendix I

Class of Activity

Industrial and waste facilities are classed into different sectors depending on the nature of their activity and its potential impact on the environment. The EPA Act 1992 as amended, outlines these as follows:

Class 1	Minerals and other materials
Class 2	Energy
Class 3	Metals
Class 4	Mineral fibres and glass
Class 5	Chemicals
Class 6	Intensive Agriculture[11]
Class 7	Food and drink
Class 8	Wood, paper, textiles and leather
Class 9	Fossil fuels
Class 10	Cement, lime and magnesium oxide
Class 11	Waste
Class 12	Surface Coatings
Class 13	Other Activities

[11] This reporting template is not applicable to the **intensive agriculture sector**. Their annual environmental reporting structure is different and can be found at Compliance & Enforcement: Licensees: Reporting Publications | Environmental Protection Agency (epa.ie)

Appendix II

High Environmental Risk Categories

If an industrial or waste licence falls into one of these categories it is deemed, by the EPA, as a high environmental risk. As a result, the licence holder is required to have financial provision in place. See section 8, Financial Provision.

1. Landfills
2. Non-Hazardous Waste Transfer Station
3. Incineration and Co-Incineration Waste Facilities
4. Category A – Extractive Waste Facilities
5. Upper and Lower Tier Seveso Facilities
6. Hazardous Waste Transfer Stations
7. High Risk Contaminated Land
8. Exceptional Circumstances

NOTE:

This list is subject to change.

See the link below for further information.

Compliance & Enforcement: Financial Provisions Publications | Environmental Protection Agency (epa.ie)

Appendix III

Beyond Compliance

The case study below shows how we went beyond the requirements of our licence in the reporting year.

The Government implemented a scheme called the 'Peatlands Climate Action Scheme' (PCAS), also known as the Peatlands Enhanced Decommissioning, Rehabilitation and Restoration Scheme (EDRRS). The Scheme commenced in 2021 and was devised so that Bord na Móna could carry out enhanced rehabilitation of its industrial peatlands, having ceased peat extraction in 2020. The scheme is supported by Government through the Climate Action Fund, and Ireland's National Recovery and Resilience Plan administered by the Department of Environment, Climate and Communications (DECC), while the National Parks and Wildlife Service (NPWS) act as the Scheme regulator and the Environmental Protection Agency regulate rehabilitation plan under Condition 10 of this IPC Licence. This Scheme will significantly go beyond what is required to meet rehabilitation and decommissioning obligations under the existing EPA IPC licence conditions. Improvements supported by the Scheme will ensure that environmental stabilisation is achieved (meaning IPC obligations are met), and importantly, significant additional benefits, particularly relating to climate action and other ecosystem services, will also be delivered.

To measure and verify the rehabilitation outcomes, the scheme has increased the water monitoring requirements of the licence, the range of parameters to be included and the frequency of monitoring.

These co-benefits include supporting the objectives of the Irelands Climate Action Plan, the preservation of wetland archaeology, the reduction of peak flows to receiving water, supporting Irelands Biodiversity objectives, reduction in carbon emissions, improvements in water quality and reduction in water abstraction pressures associated with drainage. For further details see www.bnmpcas.ie