BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Annual Environmental Report 2010
P0504-01

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 P0504-01

1.2 Name & Location of Site

Name:	Bord na Mona Energy Limited.
Address:	Mountdillon Group C/o Mountdillon Works Lanesboro Co. Longford.
Telephone No:	043 21117 Fax No 043 21259
Contact Name	Danny Murray
Position	Resource Manager
National Grid Reference	E204720 N268880

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 the following location.
Power station

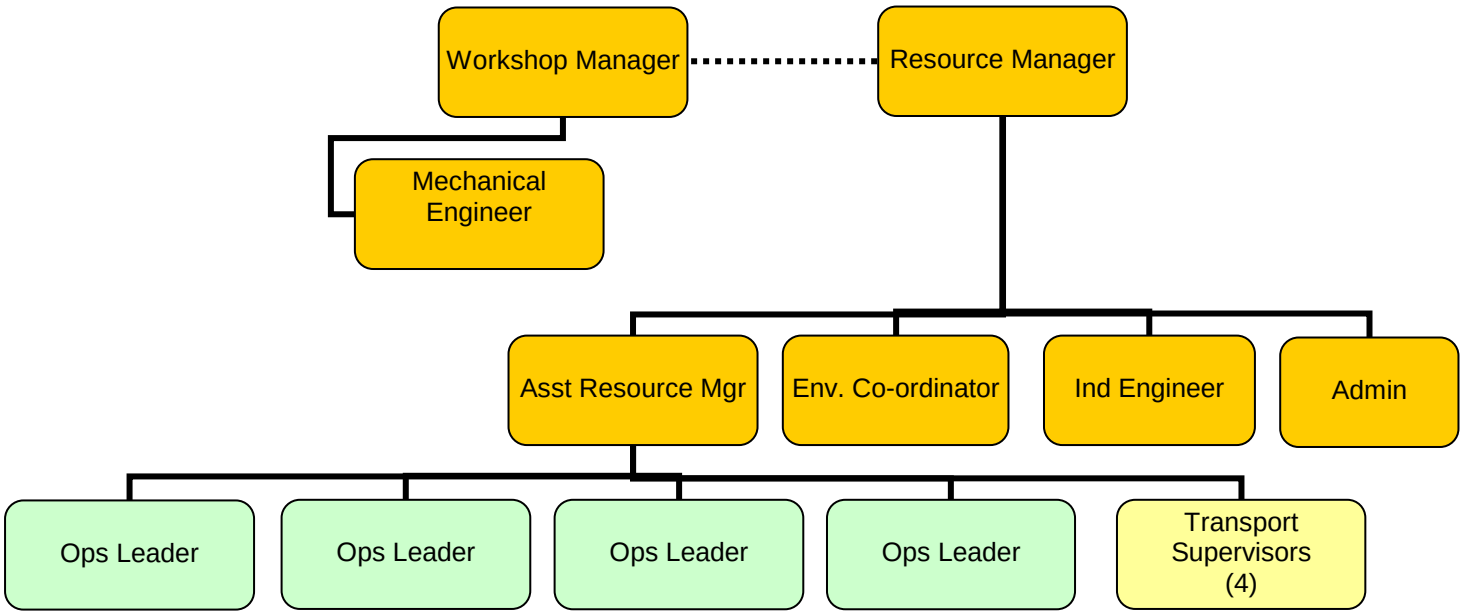
1.4 Environmental Management of the Company

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

Group

Environmental Responsibilities

Mountdillon Organisational Structure.



1.5 Environmental Policy

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

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.

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 (Quarterly Grab)

Comment

Surface water monitoring was carried on a quarterly basis during the reporting period. In total, analysis was carried out at seven different locations. These locations are as follows, Clonshannagh @ SW8, Granaghan @ SW23, Begnagh @ SW55, Cloneeney @ SW61, Derrycolumb @ SW88, Derryshanoge @ SW94 and Loughbannow @ SW95.
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 of 2010 with rainfall of 169.3mm being recorded, while April was the driest with 37.3mm recorded.
The quarterly grab sampling programme proved to be 100% compliant for the year as were the 2006, 2007, 2008 and 2009 regimes. There was however one non-compliance in relation to a sample taken by the Agency, the details of which are outlined in section 2.1.4.
Monitoring will continue at the same locations in 2011.

pH values were between 6.6 and 8 pH units.. The average pH result was 7.61 pH units, with normal emission limit values being of the range 6 and 9.

Suspended solids varied from 5mg/l to 78mg/l, with an average result of 11.25 mg/l and would depend on activities (piping, ditching) etc, in the catchments at the time of sampling. Climatic conditions would also have a bearing on suspended solids results. The 78 mg/l result at Begnagh SW55 and the 48 mg/l result at Cloneeney SW61 although above 35 mg/l did not constitute a non – compliance as they represented 25 % of samples and were both below 105 mg/l in compliance with condition 3.2.1 (ii).

Ammonia levels were constant across all monitoring locations. Analysis results were of the range 0.07 mg/l and 2.51 mg/l. The average ammonia was 0.546 mg/l which is well below I/PV of 4mg/l for A3 waters.

COD readings were consistently below Bord na Mona set trigger levels of 100 mg/l, with the exception of the 4th quarter monitoring at SW23 and SW61. The COD levels on those two occasions being close to trigger levels with results of 100 and 102 mg/l respectively. The first quarter 2011 results will be watched with interest to see if elevated trends continue.

Flow rates were similar to previous years. Climatic conditions having an obvious impact on flow rates. September was the wettest month with 169.3 mm of rainfall recorded and April the driest with 37.3 mm. Due to flood conditions on the day of sampling safe access was not possible to record flow at SW23 in quarter one, SW55 in quarter two and SW61 in quarter three.

Total Phosphorus results were of the range 0.05 mg/l and 0.15 mg/l, the average being 0.058 mg/l, all of which were within quality guidelines.

Surface Water Results are contained in Appendix 1

2.1.2 Yard Discharges (Monthly Grab)

Comment

Yard runoff monitoring took place at six different locations 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 is due to the physical size of the catchments, which makes it difficult to guarantee a sample.
Trigger levels of 100mg/l were not exceeded during the reporting period, with the highest recorded result being 89 mg/l.
Sampling will continue at the same locations during 2011.

Yard Emission Results are contained in Appendix 2

2.1.3 Composite Sampler Report

Comment

The composite sampler was operating at SW96 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).
In general results were satisfactory with only three non – compliances being recorded for the period. September was the wettest month with rainfall of 169.3mm being recorded, while April was the driest with 37.3mm recorded. The extremely cold temperatures experienced during November and December did have an effect on the operation of the sampler as both the sampler and indeed the outfall it is located on became completely frozen solid for prolonged periods. This is reflected in the results tables in the appendix by way of missing data for the period.

Composite Sampler Results are contained in Appendix 3.

2.1.4 Emissions to Water Non-compliance's

Emissions to Water Non-Compliances 2010		
Licence: P0504-01		
Works: Mt Dillon		
Type	**Non-Compliances**	**Location / SW Nr**
Composite	3	SW 96
Quarterly Grab	1	SW 25/26
Totals	**4**	

As mentioned above there were three composite non-compliances and the Agency was informed. The quarterly grab non-compliance related to an Agency sample the results of which were also commented on to the Agency.

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 analysis was used.The monitoring locations were as follows, Edera and Cloonshanagh. All results were within the emission value of 350 mg/m²/day set out in the licence. Four complaints were received in relation to dust even though all results were compliant. Two of the complaints were from Edera and two from Cloonshannagh. In an effort to combat the problem wind socks have been erected at the two dust sensitive locations. The purpose of which is to indicate to production personnel, the wind direction at any given time, as these personnel have been instructed not to operate at the dust sensitive areas when the wind force and direction may create a dust nuisance. Further to this an area in Edera was selected as a pilot location for mini sod production as its dust impact is said to be minimal. 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:P0504-01	
Works: Mt Dillon	
Location / DM Nr	**Non-Compliances**
Edera / DM 01	0
Cloonshannagh / DM 02	0
Total	**0**

The emissions to air during the reporting period were 100% compliant.

2.1 Waste Arisings

2.3.1 Non Hazardous Waste

Non Hazardous Waste Data 2010				
IPPC Licence: IPPC P0504-01				
Works: Mountdillon				
Type	**Tonnes**	**EWC Code**	**Contractor**	**Licence Nr**
Skips	15.08	20 03 01	AES	053/OY/39/02
Polyethlene	300.29	02 01 04	Leinster Environmentals	WP 2008/06
Scrap Steel	63.71	17 04 07	AES	053/OY/39/02
Silt Pond Cleanings	1350.08	01 01 02	Bord na Mona	IPPC P0504-01
Cardboard	11.88	15 01 01	Mulleadys	S/E 152/2002
Peat Screenings	1631.00	01 01 02	Bord na Mona	IPPC P0504-01
Plastic Swamp Shoes	6.50	20 01 39	AES	053/OY/39/02
Totals	**3378.54**			

Note: Polythene, Cardboard and Steel are recycled. Skips are sent to a mixed recycling centre with only the residue going to landfill.

2.3.2 Hazardous Waste

Hazardous Waste Data 2010					
Licence: P0504-01					
Works: Mount Dillon					
Type	**Tonnes**	**EWC Code**	**Contractor**	**Licence Nr**	**Destination**
Waste Oil	20.00	13 02 05	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oil Filters	2.24	16 01 07	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Lead Acid Batt	2.70	16 06 01	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Parts Wash	0.72	11 01 13	Safety Kleen, Tallaght, Dublin	99-1	Dublin
Total	**25.66**				

2.4 Energy and Water Consumption

2.4.1 Energy Consumption

Energy Consumption 2010				
Licence: P0504-01				
Works: Mt Dillon				
Units	**Diesel (Litres)**	**Petrol (Litres)**	**Electricity (Units)**	**Peat Briquettes (Tonnes)**
Totals	1940787	3443	1867814	0
MW Hours	19005.0	31.12457	1867.814	0
Total MW Hours	**20903.9**			

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. This is all in conjunction with the process of implementing the Energy Standard EN 16001 at Bord na Mona Mountdillon in the coming years.

2.5 Environmental Incidents and Complaints

2.5.1 Incidents

Environmental Incidents 2010	
Licence: P0504-01	
Works: Mt Dillon	
Incidents	0
Requiring corrective action	
Category	
Water	
Air	
Procedural	
Miscellaneous	
Total	**0**

There were no major incidents of an environmental nature during the reporting period. There was however four non-compliances in relation to emissions to water, as discussed in that section above.

2.5.2 Complaints

Environmental Complaints 2010	
Licence:P0504-01	
Works: Mt Dillon	
Complaints	**Number**
Requiring corrective action	4
Category	
Water	
Air	4
Procedural	
Miscellaneous	
Total	**4**

There were four complaints during the reporting period. They all related to dust and the Agency was informed.

3.0 Management of the Activity

3.1 Achievement of Objectives & Targets 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. **Status** 25 employees received environmental training during the reporting period. **Hydraulic Harrows.** There is one new Hydraulic Harrows programmed for delivery in 2010. This will be deployed at a Dust Sensitive Location. **Status** The first of the hydraulic harrows due in 2010 did not arrive until post production. It will be deployed at a dust sensitive location during the 2011 season. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations. A new mobile Haku Harvester is programmed for delivery in 2010 which will include dust sensitive headlands in its operations. **Status** In total 3,347 tonnes of headland peat was collected during the production season. This peat was included in general production returns. One new headland harvester was also delivered in 2010.
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. **Status** 25 employees received environmental training during the reporting period.
Project 4: Effective spill leak management of mobile fuelling units.	**Research and Development.** Installation of a new fuel storage tank and associated bunding at Mountdillon Yard. **Status** A new double skinned 45000 litre tank was installed at Mountdillon yard 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** There were 300 tonnes of polyethylene removed 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 Edera bog. Part of this project is to mitigate against dust nuisance as the area is dust sensitive. **Status** Some 8000 tonnes of mini sod were produced at Edera. This in part was to reduce potential dust as the area is deemed dust sensitive.
Project 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 here to fore a high percentage of electricity bills have been estimated by the supplier. **Status** Internal readings have commenced as part of the Energy Management process.

3.2 Environmental Management Programme Proposal for 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. **Hydraulic Harrows.** There is one new Hydraulic Harrows programmed for delivery in 2011. This will be deployed at a Dust Sensitive Location. **Headland Peat Collection.** Continue with the collection of headland peat, particularly at dust sensitive locations.
Project 2: Waste Management	**Waste Streamlining.** It is planned to continue with and where possible improve the current waste management service provided by AES Ltd.
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 capacity will be provided where required. Bund integrity testing will be carried out where required.
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.** Continue with the mini sod production at Edera bog. Part of this project is to mitigate against dust nuisance as the area is dust sensitive.
Project 7: Energy Management	**Energy Management** Continue with the implementation process of the Energy Standard 16001.
Project 8: Septic Tank Upgrade	**Septic Tank Upgrade** It is proposed to upgrade the existing septic tank systems at Mountdillon Workshop and Mountdillon Yard

3.3 Environmental Expenditure

Environmental Expenditure 2010	
Licence: P0504-01	
Works: Mt Dillon	
Description	**Cost €**
Capital Costs,	16,640
Silt Control,(wages + materials)	236,375
Analytical & Consultancy Costs,	16,953
EPA Fees,	9,328.72
Bog Rehabilitation,	0
Waste Management	3800
Total	**€283,096.72**

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

Surface water monitoring went well during the reporting period, with four non-compliances recorded in the reporting period. Three of these pertained to the composite sampler the other as a result of Agency sampling. In each instance the Agency was informed.
Sampling will take place at the same locations in 2011.

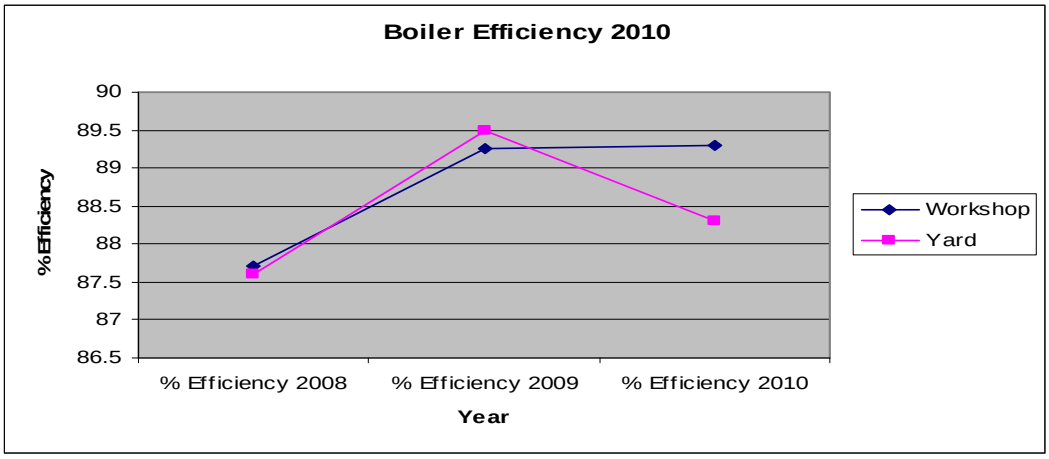
4.2 Bunding Programme

Bund Locations & Numbers Mt Dillon Works					
IPPC Licence: P0504-01					
Location	**Bund Number**	**Last Tested**	**Status Pass/Fail**	**Repair Date**	**Next Test Due**
Mount Dillon Works Bund	504-05-01	Mar-09	Pass	N/A	Mar-11
Mount Dillon Works Waste Oil Bund	504-05-02	Aug-09	Pass	N/A	Aug-11
Mount Dillon Yard Bund	504-05-03	Double Skinned Tank Installed			
Mount Dillon Yard Waste Oil Bund	504-05-04	Aug-09	Pass	N/A	Aug-11
Lough Ree Transport Bund	504-05-05	Sep-09	Pass	N/A	Sep-11
Cuil na Gun Bund	504-05-06	Feb-09	Pass	N/A	Feb-11

No bund testing took place during 2010. Tests are scheduled to take place in 2011 as per the table above.

4.3 Boiler Combustion Efficiency

Boiler Emissions 2010			
Licence: P0504-01			
Works: Mt Dillon			
Boiler Location	**% Efficiency 2008**	**% Efficiency 2009**	**% Efficiency 2010**
Workshop	87.7	89.25	89.3
Yard	87.6	89.5	88.3



4.4 Resource consumption summary

Resource Consumption 2010			
Licence: P0504-01			
Works: Mt Dillon			
Product	**Tonnes Produced**	**Tonnes Sold**	**Customer**
Milled Peat	996,554	472,826	ESB
Mini Sod	8,000	2,000	ESB
Sod Peat	7,000	7,000	Public
Sod Peat	3,000	1,000	BNM
Totals	1,014,554	482,826	

Proposed Production 2011	
Licence: P0504-01	
Works: Mt Dillon	
Product	**Proposed Target**
Milled Peat	667376
Mini Sod	5000
Sod Peat	6000
Totals	678376

4.5 De-Silting Report

The De-silting programme worked well during 2010 with all ponds receiving at least two cleanings. In some instances ponds received three cleanings.

Silt Pond Cleaning Programme attached in Appendix 5.

4.6 Bog Development and Operational Programme

Bog development continued at Whites Bog in the Cuil na Gun group. This involved the conversion of some old sod turf cutaway bog into milled peat production bog by using earth moving machinery to level the terrain. In all, the works extended to approximately 40 hectares. Silt settlement ponds have been specified with one complete and another due for construction in 2011.

4.7 Bog Rehabilitation Report

In relation to decommissioning none took place, however there is an ongoing programme of obsolete machinery scrappage in place.

The rehabilitation programme is outlined below.

2010: Sites surveyed in the Mountdillon Group include Lough Bannow, Derraghan and part of Derryarogue Bog. The Mostrim Group have also been surveyed: Mostrim, Clonwhelan, Coolcraff, Glenlough, Clynan and part of Milkernagh. 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. Consultation with local community groups, NPWS and Longford and Roscommon Heritage Forums is ongoing.

4.8 Archaeological Report

Excavations took place at Clonshannagh Bog in 2010 on a Trackway, Hurdle panel, Platform and Archaeological wood. These excavations were carried out by Archaeological Development Services under the licence and direction of the Heritage Service.

5.0 Summary

With regard to environmental compliance at the Mountdillon Group of Bogs, there was one non compliance in the quarterly grab sampling taken by the EPA. There were no non-compliances in the quarterly grab sampling of the ponds in the Surface Water Discharge Monitoring Location Programme. There were 3 non-compliance's in relation to the Composite Sampler during the period of January to the end of December, all of which were reported to the Agency.
There were no non-compliance's in relation to dust. Mountdillon received 4 complaints in relation to dust in 2010.

In 2010, management replaced our traditional peat harvesting system in the eastern section of Edera Bog ie. milling, harrowing, ridging and harvesting milled peat with a mini sod harvesting operation in an effort to reduce dust generation. This was found to be very successful and will be deployed for the 2011 season. Staff training in Environmental Management took place this year with 25 people trained. This will continue in the coming year, with the current training programme being revised.

We intend to build on the success of 2010 and increase our efforts to minimise the impact of our operations on the environment. This will include the supply of additional plant, equipment and bunding. We have greatly improved our fire prevention and fire fighting capabilities in line with experience gained from the bog fires of June 2006.

Bord na Mona Energy Ltd is 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, and the Inny Catchment Management Plan Project.

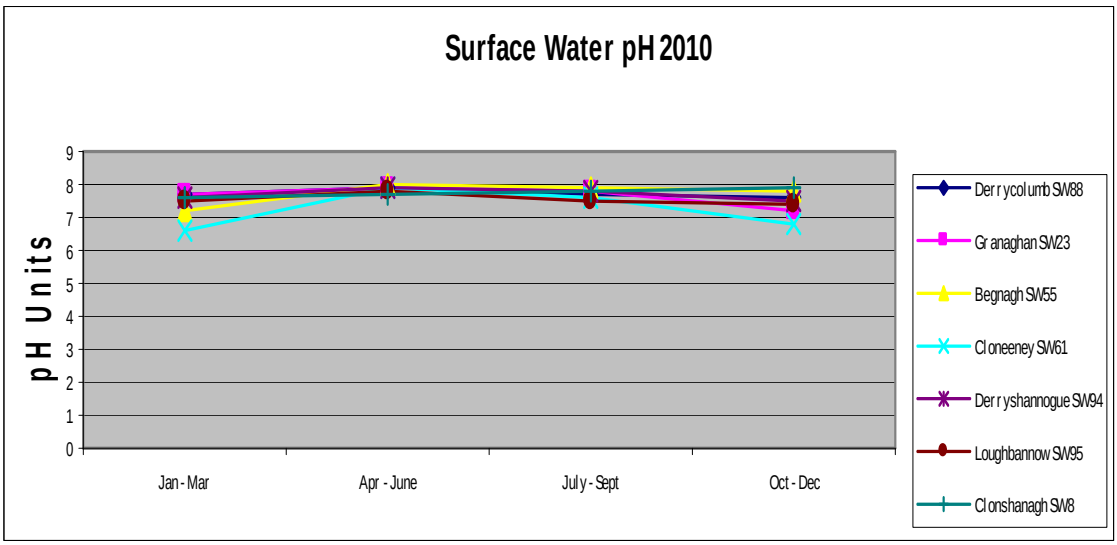
Bord na Mona Energy Ltd would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection measures.

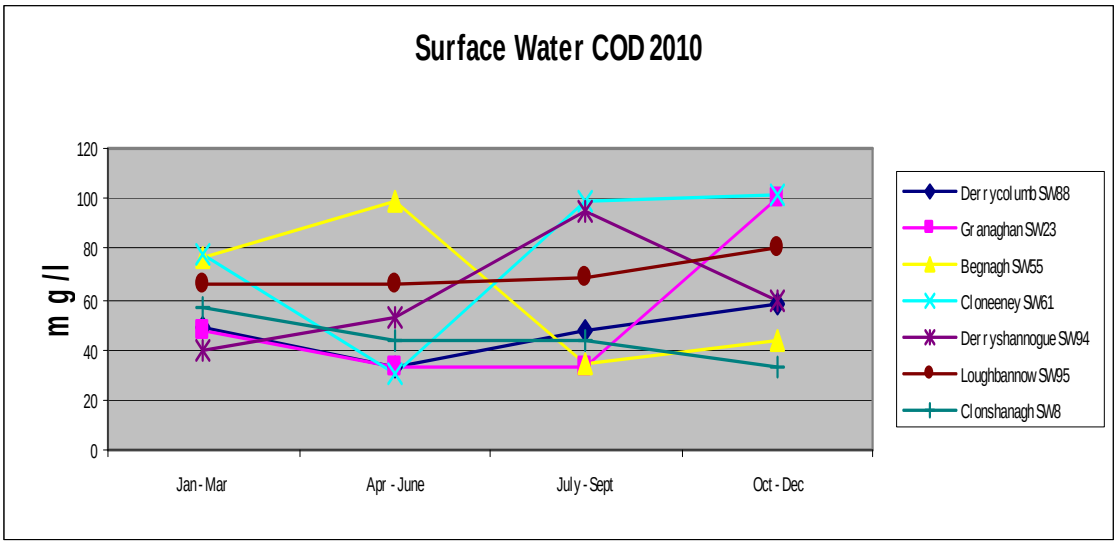
APPENDIX 1

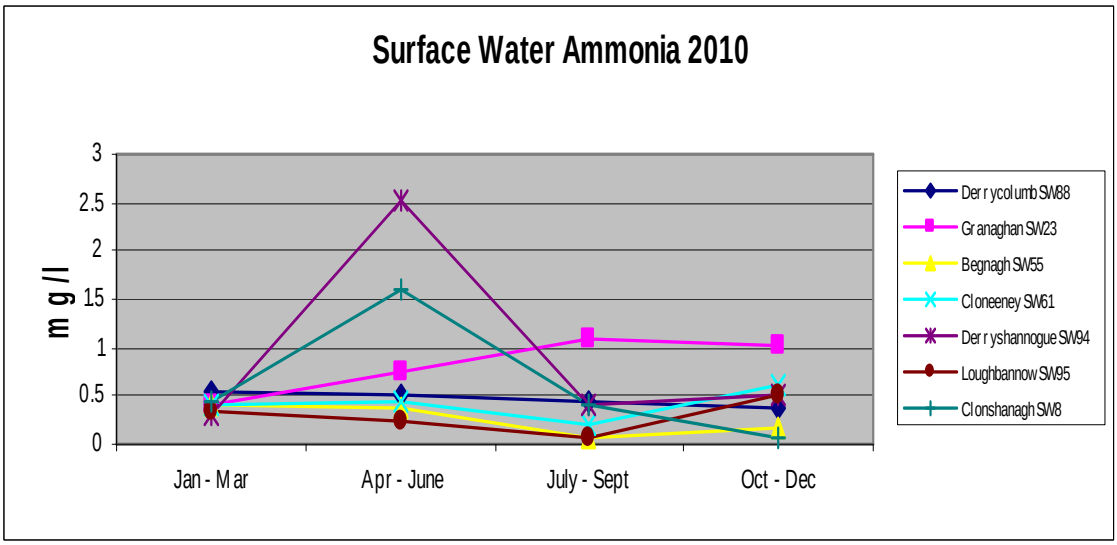
Surface Water Discharge
Monitoring Results
Bogs

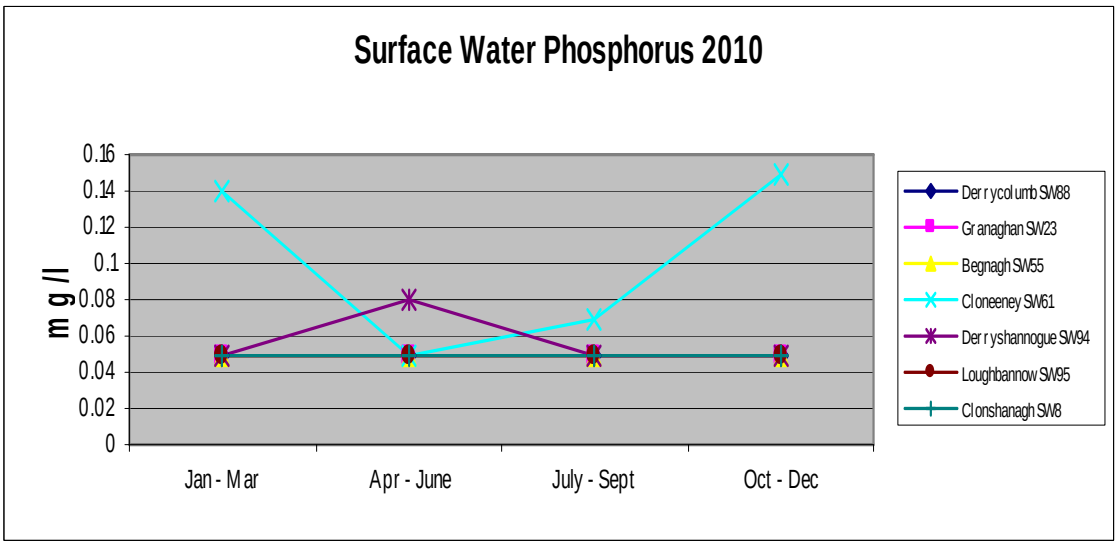
BNM Group:	Mount Dillon			
IPPC Licence No.	504			
pH (units)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
Derrycolumb SW88	7.7	7.9	7.7	7.6
Granaghan SW23	7.7	7.9	7.8	7.2
Begnagh SW55	7.2	8	7.9	7.8
Cloneeney SW61	6.6	7.9	7.6	6.8
Derryshannogue SW94	7.6	7.9	7.8	7.5
Loughbannow SW95	7.5	7.8	7.5	7.4
Clonshanagh SW8	7.6	7.7	7.8	7.9
COD (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
Derrycolumb SW88	49	33	48	58
Granaghan SW23	47	33	33	100
Begnagh SW55	76	99	34	44
Cloneeney SW61	78	30	99	102
Derryshannogue SW94	39	53	95	60
Loughbannow SW95	66	66	68	81
Clonshanagh SW8	57	44	44	33
Ammonia as N (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
Derrycolumb SW88	0.54	0.51	0.45	0.38
Granaghan SW23	0.4	0.76	1.08	1.02
Begnagh SW55	0.42	0.39	0.08	0.17
Cloneeney SW61	0.41	0.44	0.19	0.63
Derryshannogue SW94	0.29	2.51	0.4	0.52
Loughbannow SW95	0.33	0.24	0.08	0.51
Clonshanagh SW8	0.45	1.61	0.42	0.07
Total Phosphorus (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
Derrycolumb SW88	0.05	0.05	0.05	0.05
Granaghan SW23	0.05	0.05	0.05	0.05
Begnagh SW55	0.05	0.05	0.05	0.05
Cloneeney SW61	0.14	0.05	0.07	0.15
Derryshannogue SW94	0.05	0.08	0.05	0.05
Loughbannow SW95	0.05	0.05	0.05	0.05
Clonshanagh SW8	0.05	0.05	0.05	0.05
Suspended Solids (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
Derrycolumb SW88	5	5	5	7
Granaghan SW23	5	8	5	5
Begnagh SW55	5	78	5	5
Cloneeney SW61	5	43	5	5
Derryshannogue SW94	5	22	5	5
Loughbannow SW95	5	9	5	5
Clonshanagh SW8	5	43	5	5

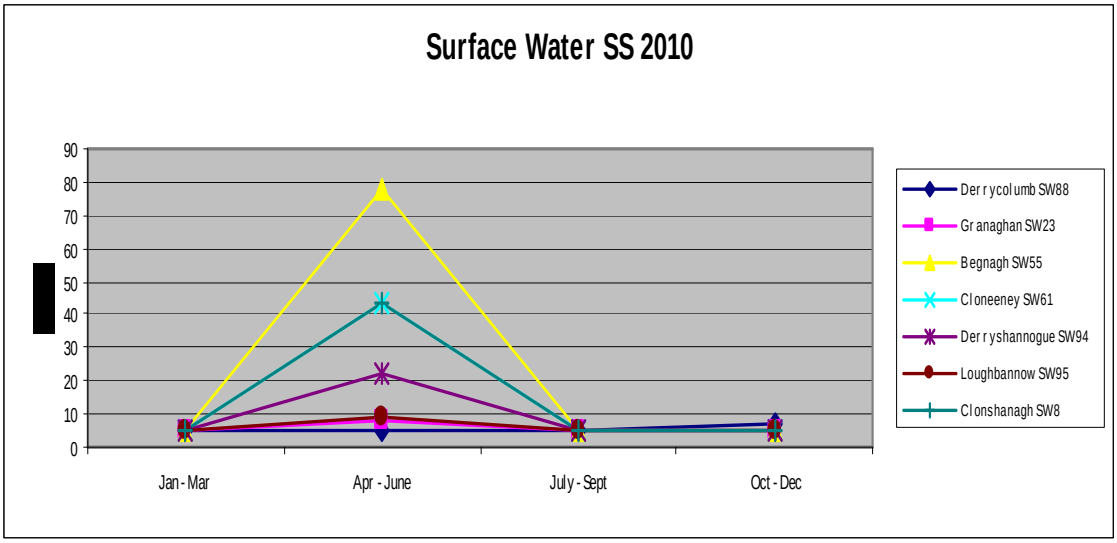
Total Solids (mg/l)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
Derrycolumb SW88	364	342	340	268
Granaghan SW23	312	372	346	184
Begnagh SW55	258	436	236	214
Cloneeney SW61	160	358	340	234
Derryshannogue SW94	240	216	242	270
Loughbannow SW95	193	299	226	212
Clonshanagh SW8	316	396	224	385
Colour (pt Co Units)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
Derrycolumb SW88	164	95	158	147
Granaghan SW23	161	71	63	248
Begnagh SW55	301	63	71	93
Cloneeney SW61	334	77	358	320
Derryshannogue SW94	161	200	153	143
Loughbannow SW95	258	168	191	235
Clonshanagh SW8	201	63	111	69
Flow (l/s)				
	Jan - Mar	Apr - June	July - Sept	Oct - Dec
Derrycolumb SW88	14.1	11.6	6.2	7.8
Granaghan SW23	0	16.4	20.4	36.4
Begnagh SW55	47.1	0	36	42.3
Cloneeney SW61	3.7	4.8	0	7.2
Derryshannogue SW94	12.3	5.6	3.5	21.4
Loughbannow SW95	21.4	9.4	3.1	15.6
Clonshanagh SW8	6.7	10.1	4.2	16.2

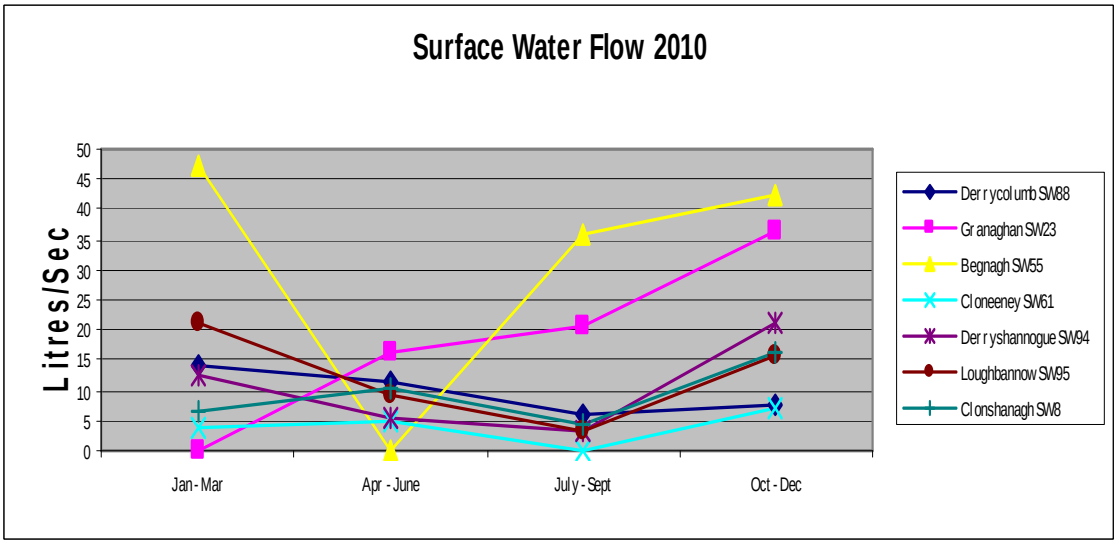



Surface Water COD 2010
120
100
80
60
40
20
0
m g /l
Jan - Mar
Apr - June
July - Sept
Oct - Dec
Derrycolumb SW88
Granaghan SW23
Begnagh SW55
Cloneeney SW61
Derryshannogue SW94
Loughbannow SW95
Clonshanagh SW8


Surface Water Ammonia 2010
3
2.5
2
1.5
1
0.5
0
m g /l
Jan - Mar
Apr - June
July - Sept
Oct - Dec
Derrycolumb SW88
Granaghan SW23
Begnagh SW55
Cloneeney SW61
Derryshannogue SW94
Loughbannow SW95
Clonshanagh SW8


Surface Water Phosphorus 2010
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
m g /l
Jan - Mar
Apr - June
July - Sept
Oct - Dec
Derrycolumb SW88
Granaghan SW23
Begnagh SW55
Cloneeney SW61
Derryshannogue SW94
Loughbannow SW95
Clonshanagh SW8





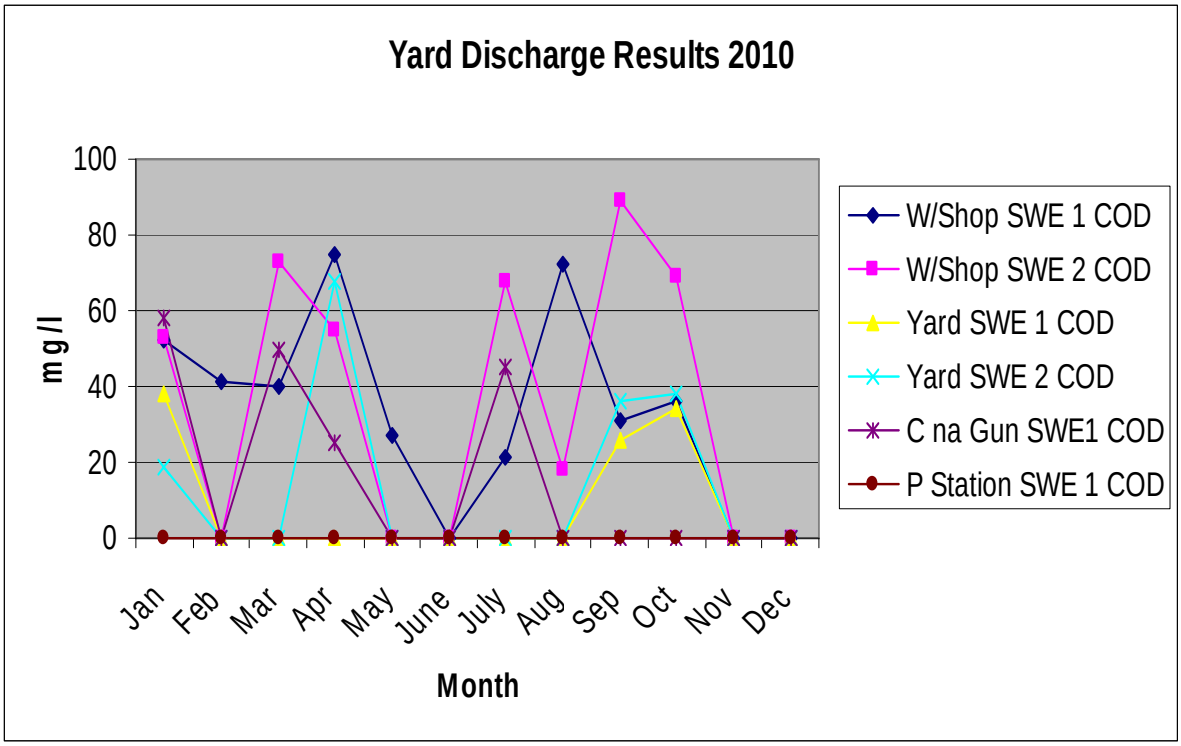
Note: No flow recorded at some locations due to flooding as explained in section 2.1.1

APPENDIX 2

Surface Water Discharge
Monitoring Results
Yards

Yard Discharge Results 2010						
Licence: P0504-01						
Works: Mt Dillon						
Month	**W/Shop SWE 1 COD**	**W/Shop SWE 2 COD**	**Yard SWE 1 COD**	**Yard SWE 2 COD**	**C na Gun SWE1 COD**	**P Station SWE 1 COD**
Jan	52	53	38	19	58	0
Feb	41	0	0	0	0	0
Mar	40	73	0	0	50	0
Apr	75	55	0	68	25	0
May	27	0	0	0	0	0
June	0	0	0	0	0	0
July	21	68	0	0	45	0
Aug	72	18	0	0	0	0
Sep	31	89	26	36	0	0
Oct	36	69	34	38	0	0
Nov	0	0	0	0	0	0
Dec	0	0	0	0	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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		5985360				0.00	0.00
2					0	0		642833				0.00	0.00
3					0	0		198107				0.00	0.00
4					0	0		352071				0.00	0.00
5					0	0		513320				0.00	0.00
6					0	0		578820				0.00	0.00
7					0	0		534617				0.00	0.00
8					0	0		547379				0.00	0.00
9					0	0		4808419				0.00	0.00
10					0	0		2625523				0.00	0.00
11					0	0		1851898				0.00	0.00
12					0	0		2180390				0.00	0.00
13	7.5	71	1.12	0.05	33	130	125	3099946	220.10	3.47	0.15	102.30	402.99
14					6	302		8384515				50.31	2532.12
15					5	326		2806445				14.03	914.90
16					28	258		6035559				169.00	1557.17
17					20	366		5091638				101.83	1863.54
18					5	362		1803514				9.02	652.87
19					32	204		2195683				70.26	447.92
20	7.5	97	0.62	0.05	5	224	172	1890259	183.36	1.17	0.09	9.45	423.42
21					15	373		2705271				40.58	1009.07
22					7	304		2419114				16.93	735.41
23					9	406		2194560				19.75	890.99
24					13	520		1628986				21.18	847.07
25					23	596		1810512				41.64	1079.07
26					23	516		1928362				44.35	995.03
27	7.9	62	1.26	0.05	5	520	124	1496707	92.80	1.89	0.07	7.48	778.29
28					5	539		1732234				8.66	933.67
29					5	412		1544918				7.72	636.51
30					5	604		2002493				10.01	1209.51
31					5	634		1525392				7.63	967.10

0: Insufficient amount of sample due to low flow or technical fault.

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					6	494		1538006				9.23	759.77
2					7	470		1705622				11.94	801.64
3					0	0		2055715				0.00	0.00
4					26	556		2999376				77.98	1667.65
5					26	532		2503354				65.09	1331.78
6					28	552		4744915				132.86	2619.19
7					25	506		1529712				38.24	774.03
8					26	550		1614470				41.98	887.96
9					0	0		1532822				0.00	0.00
10	7.6	73	1.21	0.05	33	600	107	1485648	108.45	1.80	0.07	49.03	891.39
11					0	0		1522022				0.00	0.00
12					0	0		1431907				0.00	0.00
13					0	0		1568333				0.00	0.00
14					0	0		1378512				0.00	0.00
15					0	0		1531613				0.00	0.00
16					0	0		1327536				0.00	0.00
17	7.5	45	2.11	0.05	6	436	117	1480723	66.63	3.12	0.07	8.88	645.60
18					5	264		1509667				7.55	398.55
19					5	338		1599091				8.00	540.49
20					5	726		1100304				5.50	798.82
21					7	666		1540166				10.78	1025.75
22					5	710		1571357				7.86	1115.66
23					5	744		1127693				5.64	839.00
24	7.9	35	1.55	0.05	5	768	92	1320538	46.22	2.05	0.07	6.60	1014.17
25					27	778		1396483				37.71	1086.46
26					17	768		1181174				20.08	907.14
27					30	516		1559002				46.77	804.45
28					45	646		1488326				66.97	961.46

0: Insufficient amount of sample due to low flow or technical fault.

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					73	678		1082074				78.99	733.65
2					0	0		446852				0.00	0.00
3	7.9	53	1.67	0.05	20	722	100	766143	40.61	1.28	0.04	15.32	553.16
4					0	0		887155				0.00	0.00
5					0	0		548096				0.00	0.00
6					0	0		961718				0.00	0.00
7					0	0		544838				0.00	0.00
8					0	0		-144279				0.00	0.00
9					0	0		-149412				0.00	0.00
10	7.7	58	2.14	0.07	52	952	65	-139363	-8.08	-0.30	-0.01	-7.25	-132.67
11					12	912		-49067				-0.59	-44.75
12					21	984		397129				8.34	390.77
13					15	946		640380				9.61	605.80
14					19	954		621112				11.80	592.54
15					0	0		392040				0.00	0.00
16					26	980		484255				12.59	474.57
17	7.8	54	1.97	0.05	23	936	69	730244	39.43	1.44	0.04	16.80	683.51
18					9	984		480444				4.32	472.76
19					8	962		444122				3.55	427.25
20					9	960		409899				3.69	393.50
21					9	994		950400				8.55	944.70
22					17	978		744682				12.66	728.30
23					19	890		891216				16.93	793.18
24	8.2	55	0.54	0.05	19	896	63	1197763	65.88	0.65	0.06	22.76	1073.20
25					15	532		1092960				16.39	581.45
26					8	464		847757				6.78	393.36
27					13	298		1752365				22.78	522.20
28					8	418		980554				7.84	409.87
29					9	286		929405				8.36	265.81
30					13	296		1795997				23.35	531.62
31					27	216		7407713				200.01	1600.07

0: Insufficient amount of sample due to low flow or technical fault.

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	7.4	81	0.84	0.05	25	166	162	6361632	515.29	5.34	0.32	159.04	1056.03
2					11	444		3022359				33.25	1341.93
3					6	252		2242080				13.45	565.00
4					16	190		2150237				34.40	408.55
5					36	237		2230502				80.30	528.63
6					14	264		4375987				61.26	1155.26
7	7.7	80	0.57	0.05	10	264	162	7973683	637.89	4.54	0.40	79.74	2105.05
8					14	518		5609434				78.53	2905.69
9					29	573		4443293				128.86	2546.01
10					30	540		1611014				48.33	869.95
11					10	558		2145917				21.46	1197.42
12					16	404		1655165				26.48	668.69
13					16	446		1494029				23.90	666.34
14	7.6	81	1.27	0.05	20	424	128	1363219	110.42	1.73	0.07	27.26	578.00
15					13	798		1237075				16.08	987.19
16					6	670		1300666				7.80	871.45
17					8	732		1284422				10.28	940.20
18					11	842		1186877				13.06	999.35
19					6	708		1326758				7.96	939.34
20					8	618		1193530				9.55	737.60
21	8	59	0.65	0.05	9	626	112	1255392	74.07	0.82	0.06	11.30	785.88
22					5	934		1185235				5.93	1107.01
23					8	920		889402				7.12	818.25
24					8	958		771016				6.17	738.63
25					7	978		1103501				7.72	1079.22
26					9	966		915494				8.24	884.37
27					10	1070		698691				6.99	747.60
28	8.1	78	0.99	0.05	17	974	101	1060474	82.72	1.05	0.05	18.03	1032.90
29					9	962		1023149				9.21	984.27
30					9	900		744846				6.70	670.36

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					14	978		754678				10.57	738.08
2					8	922		1669507				13.36	1539.29
3					11	990		1287533				14.16	1274.66
4					14	834		1214006				17.00	1012.48
5	7.9	57	0.4	0.05	11	918	119	1232669	70.26	0.49	0.06	13.56	1131.59
6					5	838		1137197				5.69	952.97
7					6	948		872208				5.23	826.85
8					5	856		875578				4.38	749.49
9					6	1076		728931				4.37	784.33
10					7	1148		821880				5.75	943.52
11					6	1170		672909				4.04	787.30
12	8	42	1.28	0.05	6	1068	81	787424	33.07	1.01	0.04	4.72	840.97
13					5	1272		735826				3.68	935.97
14					9	1216		708869				6.38	861.98
15					5	1238		575424				2.88	712.37
16					8	1274		531308				4.25	676.89
17					8	1316		591961				4.74	779.02
18					8	1256		711547				5.69	893.70
19	8.1	47	0.55	0.05	5	1254	90	707996	33.28	0.39	0.04	3.54	887.83
20					0	0		616084				0.00	0.00
21					0	0		449643				0.00	0.00
22					0	0		361644				0.00	0.00
23					0	0		370302				0.00	0.00
24					0	0		383737				0.00	0.00
25					0	0		297924				0.00	0.00
26					0	0		280886				0.00	0.00
27					8	1572		393898				3.15	619.21
28					10	1110		537477				5.37	596.60
29					13	1094		526599				6.85	576.10
30					11	1272		501604				5.52	638.04
31					20	1533		638470				12.77	978.77

0: Insufficient amount of sample due to low flow or technical fault.

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					11	1449		641321				7.05	929.27
2	8.1	50	0.33	0.05	13	1178	79	727151	36.36	0.24	0.04	9.45	856.58
3					8	1270		508179				4.07	645.39
4					7	1444		495590				3.47	715.63
5					6	1438		389733				2.34	560.44
6					8	730		232260				1.86	169.55
7					7	812		715703				5.01	581.15
8					9	1330		758912				6.83	1009.35
9	8	66	0.27	0.05	6	1196	106	722563	47.69	0.20	0.04	4.34	864.19
10					25	970		1015114				25.38	984.66
11					9	630		733709				6.60	462.24
12					7	982		700929				4.91	688.31
13					5	584		702199				3.51	410.08
14					13	1089		721915				9.38	786.17
15					17	1090		592764				10.08	646.11
16	8	66	0.02	0.05	7	1084	148	454533	30.00	0.01	0.02	3.18	492.71
17					9	1298		338904				3.05	439.90
18					12	1206		578828				6.95	698.07
19					14	1188		512603				7.18	608.97
20					20	1334		229461				4.59	306.10
21					23	1352		300542				6.91	406.33
22					11	1148		334454				3.68	383.95
23	8.1	50	0.52	0.05	13	1142	70	310850	15.54	0.16	0.02	4.04	354.99
24					28	1496		316328				8.86	473.23
25					24	1508		399470				9.59	602.40
26					14	1674		370414				5.19	620.07
27					13	1500		279806				3.64	419.71
28					10	915		207204				2.07	189.59
29	7.9	79	0.8	0.05	12	936	174	407989	32.23	0.33	0.02	4.90	381.88
30					0	0		580041				0.00	0.00

0: Insufficient amount of sample due to low flow or technical fault.

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	912		369593				1.85	337.07
2					10	1016		713405				7.13	724.82
3					7	932		367753				2.57	342.75
4					18	1081		691736				12.45	747.77
5					0	0		328588				0.00	0.00
6					16	724		328994				5.26	238.19
7	7.8	67	0.04	0.05	15	660	172	604610	40.51	0.02	0.03	9.07	399.04
8					9	930		276160				2.49	256.83
9					14	1158		525295				7.35	608.29
10					8	446		371529				2.97	165.70
11					58	352		1813104				105.16	638.21
12					25	472		1402272				35.06	661.87
13					0	0		1000512				0.00	0.00
14	7.8	45	0.1	0.05	5	1058	92	1039910	46.80	0.10	0.05	5.20	1100.22
15					0	0		1074298				0.00	0.00
16					0	0		837838				0.00	0.00
17					0	0		-2637792				0.00	0.00
18					0	0		-1960934				0.00	0.00
19					0	0		-2013811				0.00	0.00
20					0	0		-1800058				0.00	0.00
21					0	0		-1425946				0.00	0.00
22					13	394		-4652122				-60.48	-1832.9
23					13	386		-4497120				-58.46	-1735.9
24					14	382		-4188499				-58.64	-1600.0
25					14	392		-3914093				-54.80	-1534.3
26					14	389		-2877379				-40.28	-1119.3
27					14	396		-1945642				-27.24	-770.47
28	7.9	60	0.18	0.06	15	389	132	-1740874	-104.45	-0.31	-0.10	-26.11	-677.20
29					0	0		-1370822				0.00	0.00
30					0	0		-1259971				0.00	0.00
31					0	0		-1334966				0.00	0.00

0: Insufficient amount of sample due to low flow or technical fault.

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		-1408061				0.00	0.00
2					0	0		-1660435				0.00	0.00
3					0	0		-1815782				0.00	0.00
4					0	0		-1722643				0.00	0.00
5	7.6	79	0.97	0.05	22	756	155	-1958688	-154.74	-1.90	-0.10	-43.09	-1480.8
6					5	860		-346110				-1.73	-297.65
7					5	886		805058				4.03	713.28
8					6	928		849139				5.09	788.00
9					6	640		625596				3.75	400.38
10					5	836		663647				3.32	554.81
11	8.4	52	0.74	0.05	5	704	130	599046	31.15	0.44	0.03	3.00	421.73
12					9	972		616715				5.55	599.45
13					10	1049		999475				9.99	1048.45
14					17	972		291315				4.95	283.16
15					8	1064		43692				0.35	46.49
16					8	1072		168152				1.35	180.26
17					8	1080		87653				0.70	94.67
18	8.1	87	0.96	0.05	15	1204	97	528777	46.00	0.51	0.03	7.93	636.65
19					5	1328		594086				2.97	788.95
20					5	1060		448226				2.24	475.12
21					5	1054		493733				2.47	520.39
22					5	970		426652				2.13	413.85
23					5	856		358966				1.79	307.27
24					5	1076		663716				3.32	714.16
25	8.5	51	0.75	0.05	5	1047	174	661124	33.72	0.50	0.03	3.31	692.20
26					5	1086		485456				2.43	527.21
27					10	1194		514279				5.14	614.05
28					6	1286		409251				2.46	526.30
29					10	1208		643473				6.43	777.32
30					0	0		347648				0.00	0.00
31					27	1108		243363				6.57	269.65

0: Insufficient amount of sample due to low flow or technical fault.

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	7.7	36	0.05	0.05	5	342	128	333253	12.00	0.02	0.02	1.67	113.97
2					15	1478		222558				3.34	328.94
3					11	1110		484531				5.33	537.83
4					19	806		472660				8.98	380.96
5					27	282		290840				7.85	82.02
6					26	246		391841				10.19	96.39
7					15	290		2750198				41.25	797.56
8	7.6	76	0.66	0.05	17	376	189	3922905	298.14	2.59	0.20	66.69	1475.01
9					7	316		2517350				17.62	795.48
10					13	278		1822176				23.69	506.56
11					5	424		3159562				15.80	1339.65
12					11	434		2759616				30.36	1197.67
13					11	338		2266618				24.93	766.12
14					11	274		1477267				16.25	404.77
15	7.9	70	0.57	0.05	5	406	200	2656886	185.98	1.51	0.13	13.28	1078.70
16					12	412		1573171				18.88	648.15
17					8	474		925171				7.40	438.53
18					5	548		282908				1.41	155.03
19					61	288		320432				19.55	92.28
20					5	454		880416				4.40	399.71
21					5	522		790137				3.95	412.45
22	7.2	128	0.49	0.05	74	268	191	587658	75.22	0.29	0.03	43.49	157.49
23					22	210		3906317				85.94	820.33
24					10	608		4402426				44.02	2676.68
25					13	542		3616963				47.02	1960.39
26					10	566		2048717				20.49	1159.57
27					25	542		1893715				47.34	1026.39
28					26	550		1621123				42.15	891.62
29	7.7	87	0.37	0.05	17	504	215	2018736	175.63	0.75	0.10	34.32	1017.44
30					5	382		1926332				9.63	735.86

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	406		1622246				8.11	658.63
2					5	478		1815696				9.08	867.90
3					5	438		1581984				7.91	692.91
4					9	346		1385856				12.47	479.51
5					5	360		1414800				7.07	509.33
6	8.2	71	0.55	0.05	5	402	141	1751846	124.38	0.96	0.09	8.76	704.24
7					5	405		1323475				6.62	536.01
8					9	484		1060906				9.55	513.48
9					5	356		904176				4.52	321.89
10					5	444		941846				4.71	418.18
11					5	522		1235779				6.18	645.08
12					10	296		1044576				10.45	309.19
13	8.1	66	0.72	0.05	5	410	107	1265069	83.49	0.91	0.06	6.33	518.68
14					5	332		1337990				6.69	444.21
15					5	334		1071878				5.36	358.01
16					5	330		1048291				5.24	345.94
17					5	342		1030579				5.15	352.46
18					5	342		1044749				5.22	357.30
19					7	330		941674				6.59	310.75
20	7.9	51	0.98	0.05	5	334	83	1060992	54.11	1.04	0.05	5.30	354.37
21					42	924		1776989				74.63	1641.94
22					33	376		1071014				35.34	402.70
23					34	396		824265				28.03	326.41
24					66	284		1331510				87.88	378.15
25					28	282		923702				25.86	260.48
26					28	476		1095725				30.68	521.57
27	8	49	0.81	0.05	49	330	207	1901750	93.19	1.54	0.10	93.19	627.58
28					25	270		1856131				46.40	501.16
29					28	288		1900282				53.21	547.28
30					16	470		2965939				47.46	1393.99
31					11	380		3208118				35.29	1219.08

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
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					18	476		1927152				34.69	917.32
2					21	464		2370298				49.78	1099.82
3	7.9	60	0.61	0.05	20	318	146	3557606	213.46	2.17	0.18	71.15	1131.32
4					0	0		2030400				0.00	0.00
5					0	0		4420570				0.00	0.00
6					0	0		4454525				0.00	0.00
7					0	0		3344630				0.00	0.00
8					0	0		3250195				0.00	0.00
9					0	0		5163955				0.00	0.00
10					0	0		4285267				0.00	0.00
11					12	268		2625696				31.51	703.69
12					7	448		3315514				23.21	1485.35
13					10	366		2740349				27.40	1002.97
14					9	392		2584397				23.26	1013.08
15					9	392		3013373				27.12	1181.24
16					12	418		2286317				27.44	955.68
17	7.8	65	0.6	0.05	7	440	156	3336509	216.87	2.00	0.17	23.36	1468.06
18					11	304		7033997				77.37	2138.34
19					5	394		8198323				40.99	3230.14
20					5	434		6644247				33.22	2883.60
21					5	511		4393267				21.97	2244.96
22					5	450		4009047				20.05	1804.07
23					5	456		3732739				18.66	1702.13
24	77.9	59	1.02	0.05	7	500	126	3644611	215.03	3.72	0.18	25.51	1822.31
25					0	0		3435350				0.00	0.00
26					0	0		3442176				0.00	0.00
27					0	0		3126989				0.00	0.00
28					0	0		3053462				0.00	0.00
29					0	0		2833401				0.00	0.00
30					0	0		2294525				0.00	0.00

0: Insufficient amount of sample due to low flow or technical fault.

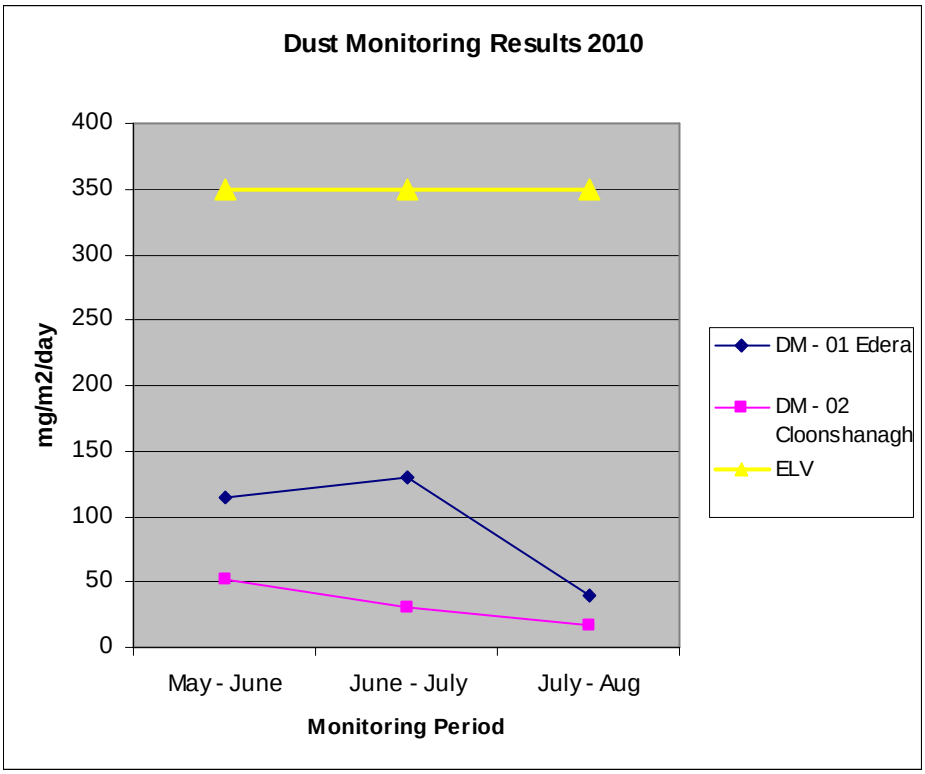
Month				Parameters							Daily Totals		
Dec	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2010		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW92				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		2314310				0.00	0.00
2					0	0		3346013				0.00	0.00
3					0	0		3470515				0.00	0.00
4					0	0		3046637				0.00	0.00
5					0	0		2498429				0.00	0.00
6					0	0		2843424				0.00	0.00
7					0	0		2271888				0.00	0.00
8					0	0		2922221				0.00	0.00
9					11	200		3133728				34.47	626.75
10					10	302		2989094				29.89	902.71
11					16	330		4396810				70.35	1450.95
12					9	308		5719853				51.48	1761.71
13					11	412		3589315				39.48	1478.80
14					6	416		2799965				16.80	1164.79
15	7.8	56	1.74	0.05	8	418	95	2715379	152.06	4.72	0.14	21.72	1135.03
16					0	0		2971469				0.00	0.00
17					0	0		1534643				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					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					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

0: Insufficient amount of sample due to low flow or technical fault.

APPENDIX 4

Dust Monitoring Results.

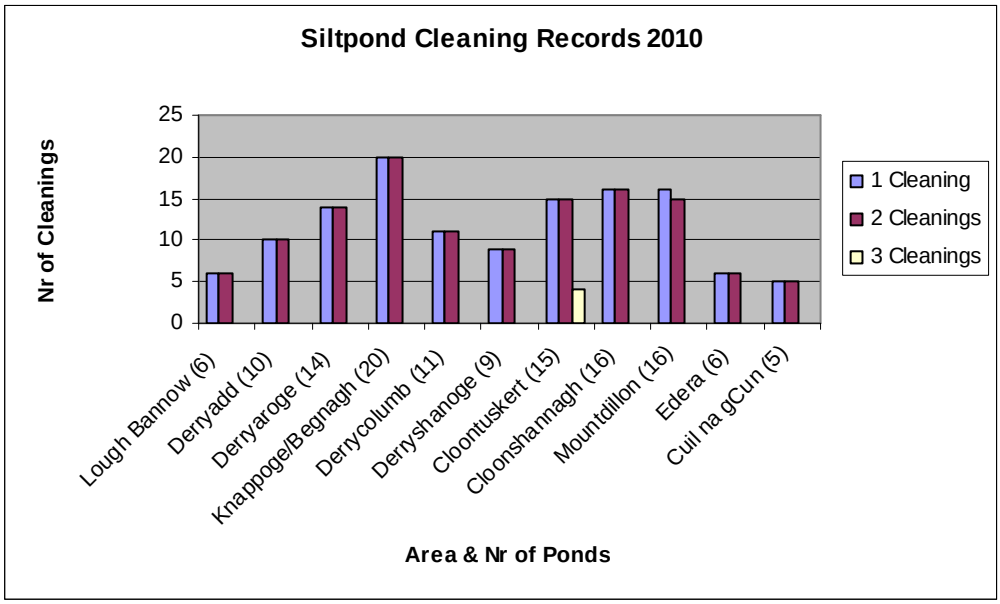
Dust Monitoring Results 2010		
Licence:P0504-01		
Works:Mt Dillon		
Sample Period	**DM - 01 Edera**	**DM - 02 Cloonshanagh**
May - June	115	52
June - July	130	31
July - Aug	39	17



APPENDIX 5

De-silting Programme Review.

Siltpond Cleaning Programme 2010				
IPPC Licence: P0504-01				
Works: Mt Dillon				
Bog Area & Nr Ponds	**1 Cleaning**	**2 Cleanings**	**3 Cleanings**	**4 Cleanings**
Lough Bannow (6)	6	6		
Derryadd (10)	10	10		
Derryaroge (14)	14	14		
Knappoge/Begnagh (20)	20	20		
Derrycolumb (11)	11	11		
Derryshanoge (9)	9	9		
Cloontuskert (15)	15	15	4	
Cloonshannagh (16)	16	16		
Mountdillon (16)	16	15		
Edera (6)	6	6		
Cuil na gCun (5)	5	5		



Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.11

REFERENCE YEAR	2010

1. FACILITY IDENTIFICATION

Parent Company Name	Bord Na Mona Energy Limited
Facility Name	Bord Na Mona Energy Limited
PRTR Identification Number	P0504
Licence Number	P0504-01

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	Mountdillon
Address 2	Lanesboro
Address 3	Co Longford
Address 4	
Country	Ireland
Coordinates of Location	-7.92944 53.6699
River Basin District	IEGBNISH
NACE Code	0892
Main Economic Activity	Extraction of peat
AER Returns Contact Name	Enda McDonagh
AER Returns Contact Email Address	enda.mcdonagh@bnm.ie
AER Returns Contact Position	Head of Environment Management
AER Returns Contact Telephone Number	0579345911
AER Returns Contact Mobile Phone Number	0862370816
AER Returns Contact Fax Number	0579345160
Production Volume	1014554.0
Production Volume Units	Tonnes
Number of Installations	19
Number of Operating Hours in Year	2232
Number of Employees	142
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 ?	

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			
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
210	Dust	C	OTH	VDI 2119 Blatt 2/Part 2	0.0	0.0	0.03456	0.0	0.03456

* 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	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of 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		SW8	SW23	SW55	SW61	SW88	SW94	SW95	SW96			
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	Emission Point 8	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	4252.63	3318.376	22986.0	2393.057	1721.471	3121.276	2341.548	5402.94	########	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	**20 03 01**	**No**	15.08	mixed municipal waste	D1	M	Weighed	Offsite in Ireland	AES Ltd,053/OY/39/02	Cappincur,Tullamore,Co Offaly,,Ireland		
Within the Country	02 01 04	No	300.29	waste plastics (except packaging)	R3	M	Weighed	Offsite in Ireland	Leinster Environmentals,WP 2008/06	Haggardstown,Dundalk,Co Louth,,Ireland		
Within the Country	17 04 07	No	63.71	mixed metals	R4	M	Weighed	Offsite in Ireland	AES Ltd,053/OY/39/02	Cappincur,Tullamore,Co Offaly,,Ireland		
Within the Country	01 01 02	No	1350.08	wastes from mineral non-metalliferous excavation	D1	E	Volume Calculation	Onsite in Ireland	Bord na Mona Energy Ltd,P0504-01	Mountdillon,Lanesboro,Co Longford,,Ireland		
Within the Country	15 01 01	No	11.88	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	Mulleadys Ltd,S/E 152/2002	Drumlish,Longford,,,,Ireland		
Within the Country	01 01 02	No	1631.0	wastes from mineral non-metalliferous excavation	D1	M	Weighed	Onsite in Ireland	Bord na Mona Energy Ltd,P0504-01	Mountdillon,Lanesboro,Co Longford,,Ireland		
Within the Country	20 01 39	No	6.3	plastics	D1	M	Weighed	Offsite in Ireland	AES Ltd,053/OY/39/02	Cappincur,Tullamore,Co Offaly,,Ireland		
To Other Countries	13 02 05	Yes	20.0	mineral-based non-chlorinated engine, gear and lubricating oils	R1	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Enva Ireland Ltd,184-1,Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland
To Other Countries	16 01 07	Yes	2.24	oil filters	R4	C	Volume Calculation	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	R.D. Recycling,51727/1/KD,Houthalen,Belgium,,,,Belgium CAMPINE	Houthalen,Belgium,,,,Belgium
To Other Countries	16 06 01	Yes	2.7	lead batteries	R6	M	Weighed	Abroad	Enva Ireland Ltd,184-1	Clonminam Ind Estate,Portlaoise,Co Laois,,Ireland	Recycling,MLAV/05-173/GVDA,Beerse,,,,,,Belgium	Beerse,,,,,,Belgium
To Other Countries	11 01 13	Yes	0.72	degreasing wastes containing dangerous substances	R2	C	Volume Calculation	Abroad	Safetykleen Ltd,99-1	Tallaght,Dublin,,,,Ireland	Solven Recovery Management,PP33345F,Weeland Rd,Knottingly,West Yorks,WF118DZ,United Kingdom	Weeland Rd,Knottingly,West Yorks,WF118DZ,United Kingdom

* 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