



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.

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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.

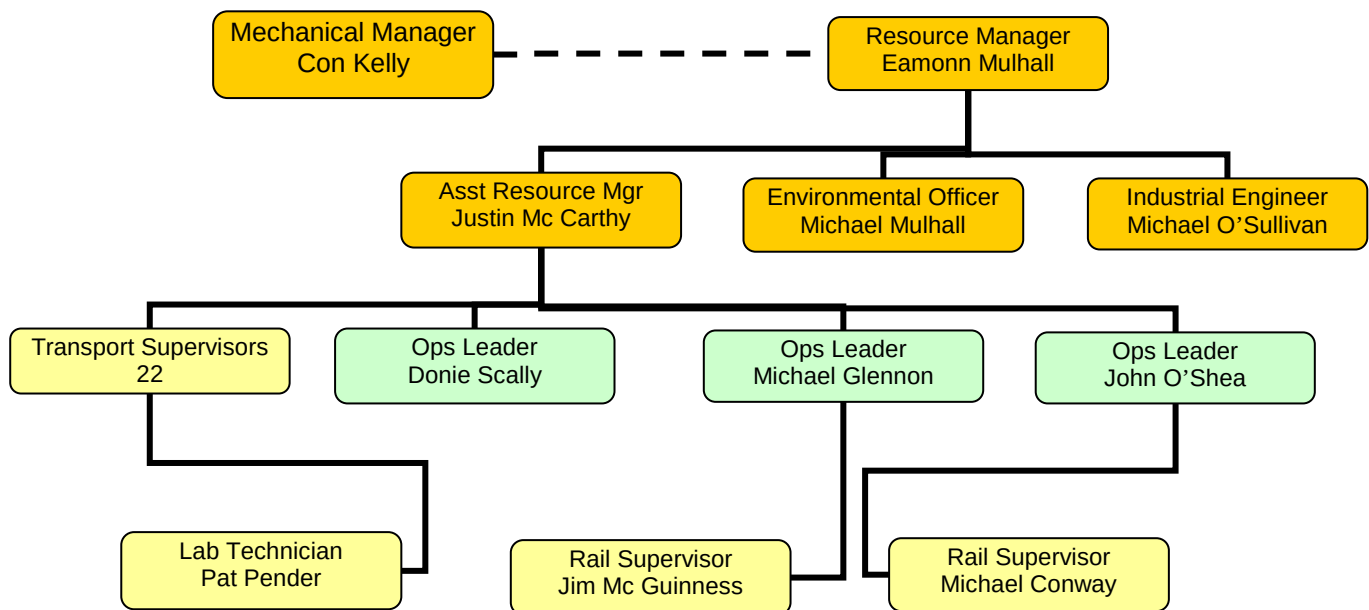
Briquette Factory.

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 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/m²/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
Polyethylene	32.06	02 01 04	Eco Plastics	WFP-CE-08-0005-01
Polyethylene	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.
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 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

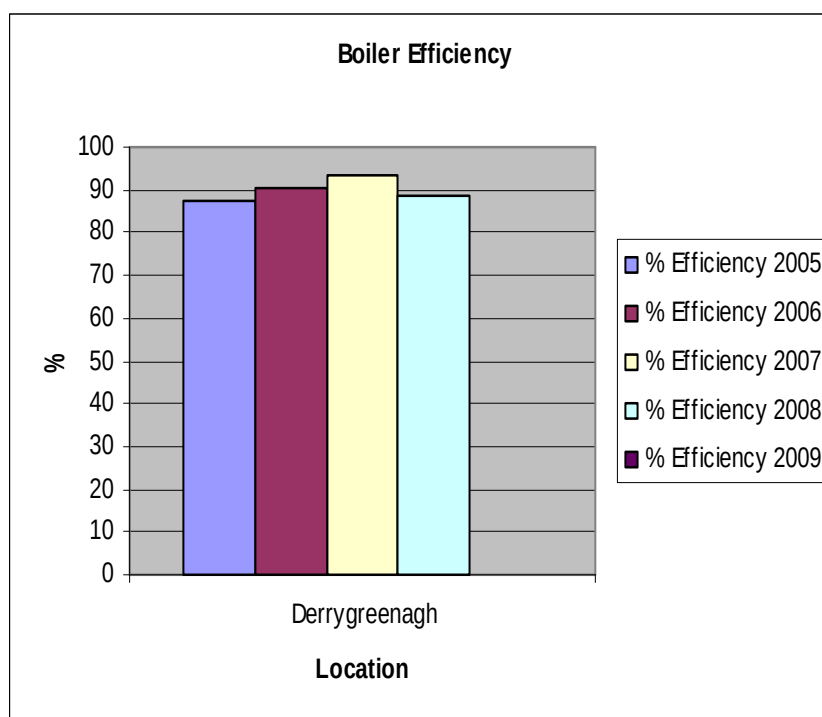
Bund Locations & Numbers Derrygreenagh Works						
IPPC Licence: P0501-01						
Location	Bund Number	Last Tested	Status Pass/Fail	Next Test Due	Last Tested	Status Pass/Fail
Derrygreenagh Main Bund	501-37-01	Dec-06	Pass	Dec-08	Jan-09	Pass
Derrygreenagh Waste Oil Bund	501-37-02	Sep-09	Pass	Sep-11		
Ballivor 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.

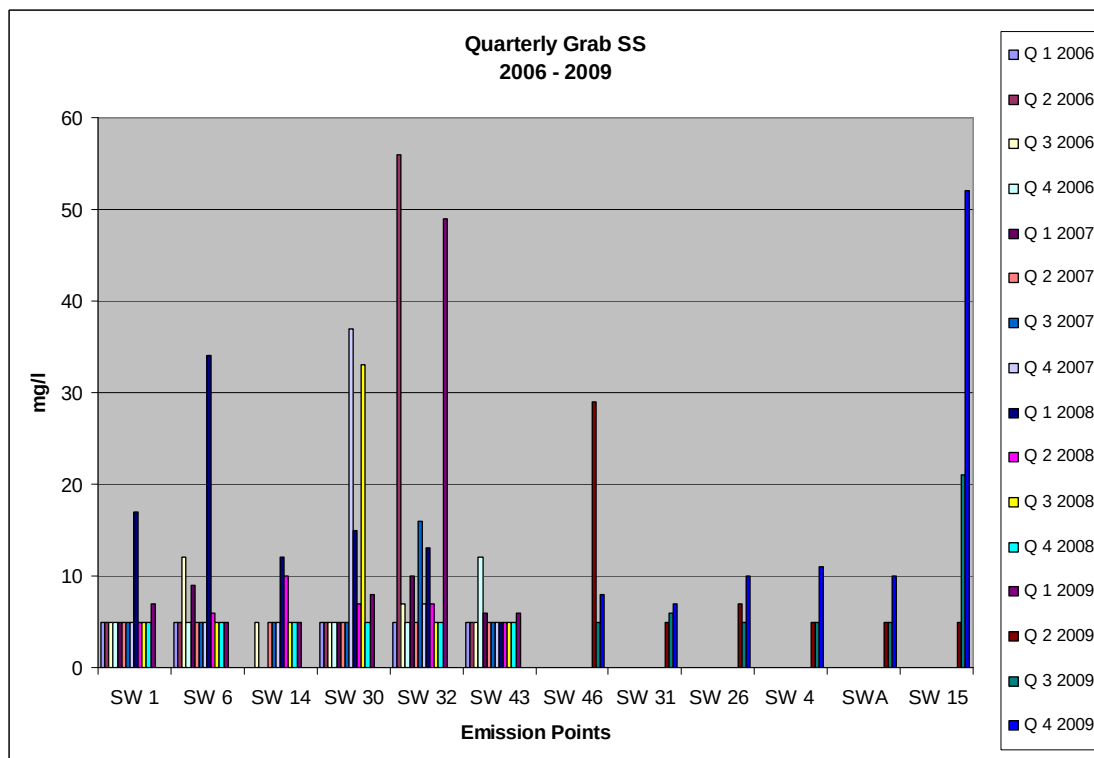
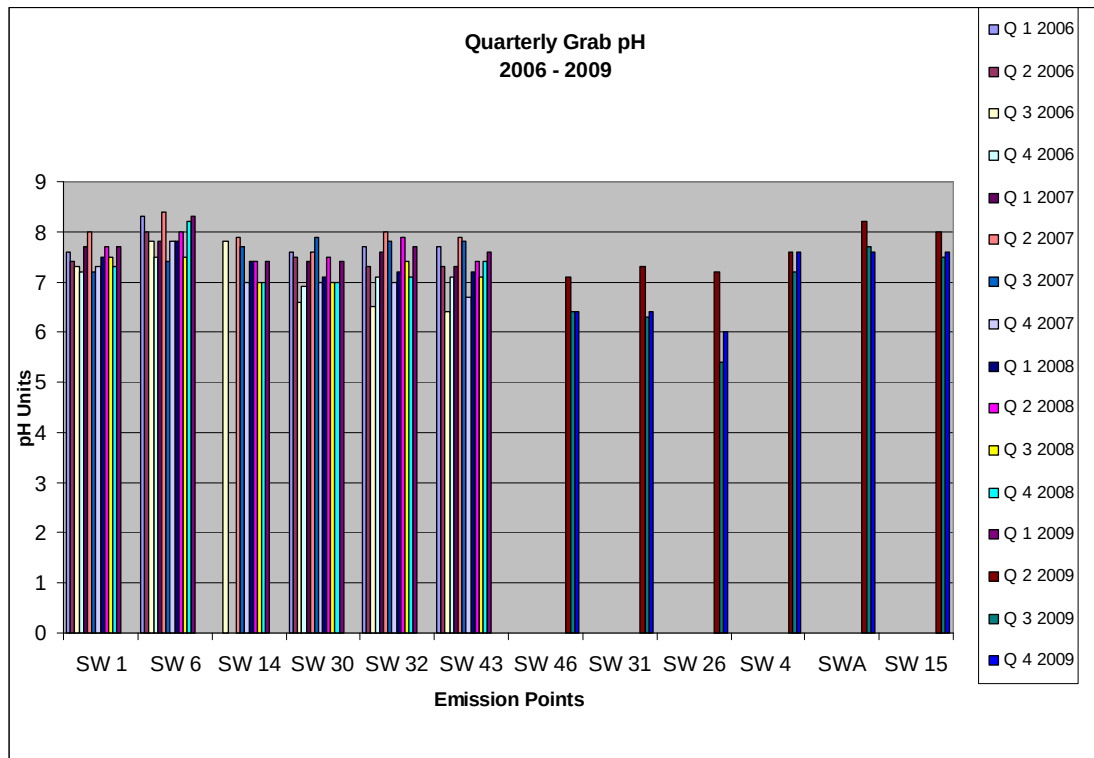
All new seasonal staff were trained in 2009, and this will be repeated in 2010 in relation to any new staff joining the company.

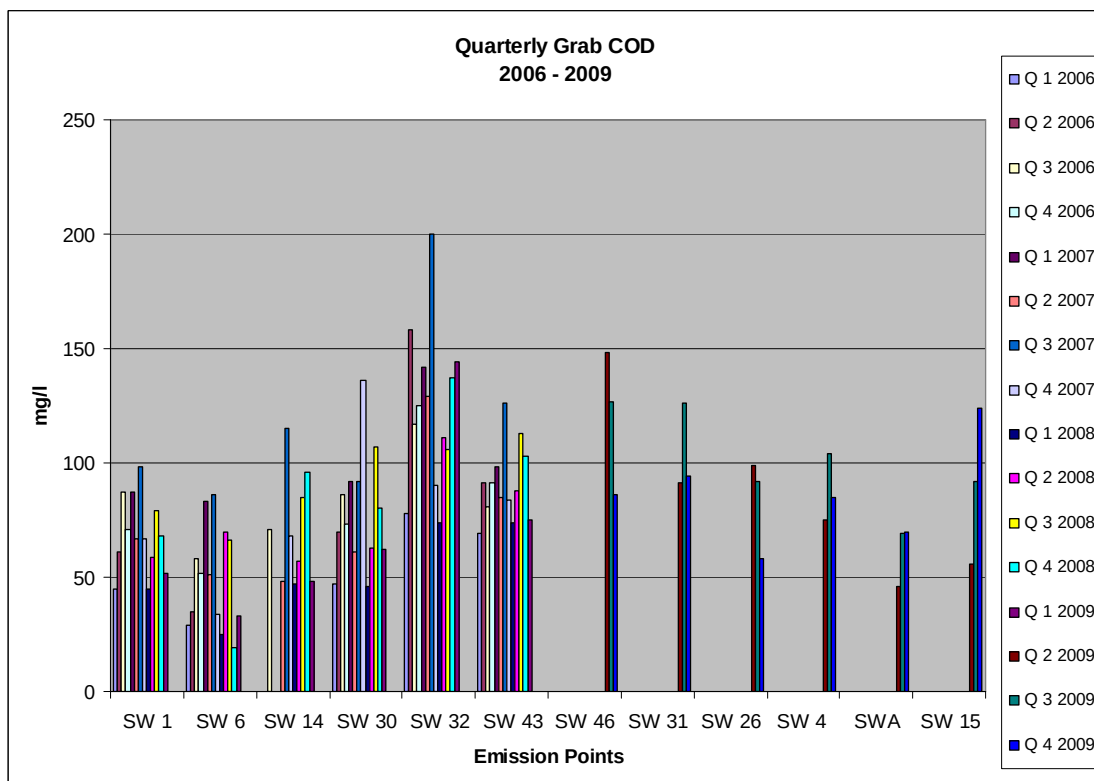
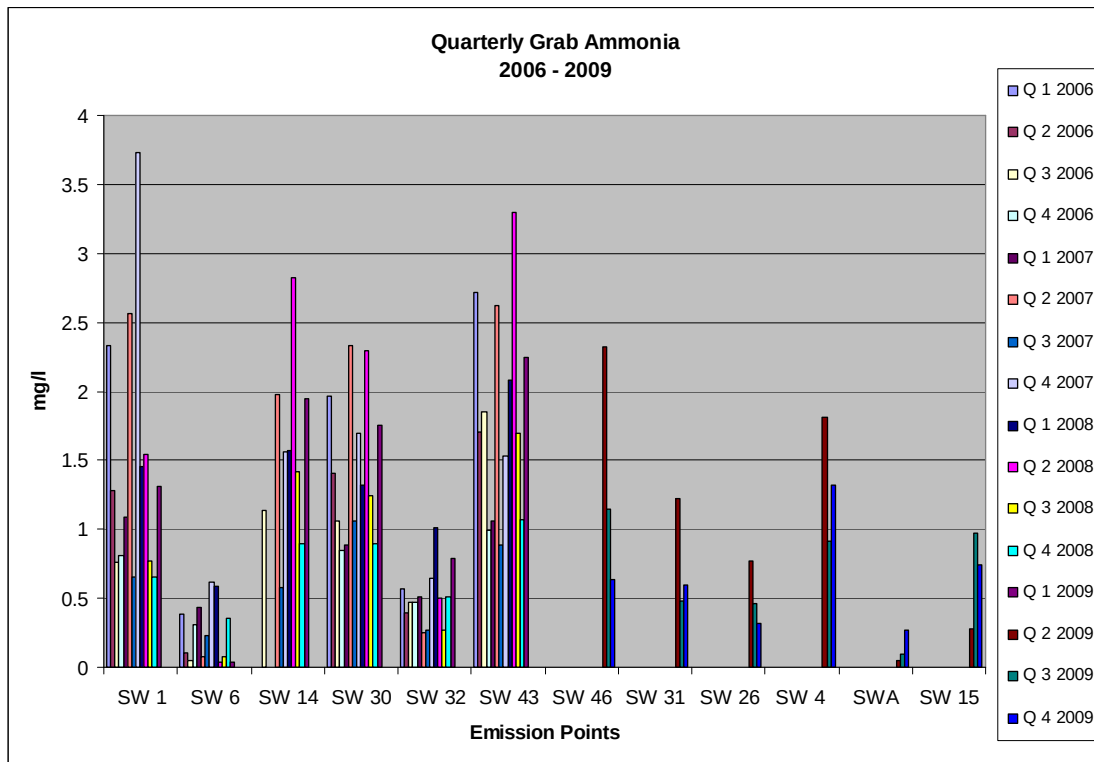
Bord na Mona Energy Ltd are represented on the Management Group of both the Shannon River and Eastern River Basin District Management Systems, set up under the Water Framework Directive, and on the Steering Group of the Catchment Management of the River Barrow.

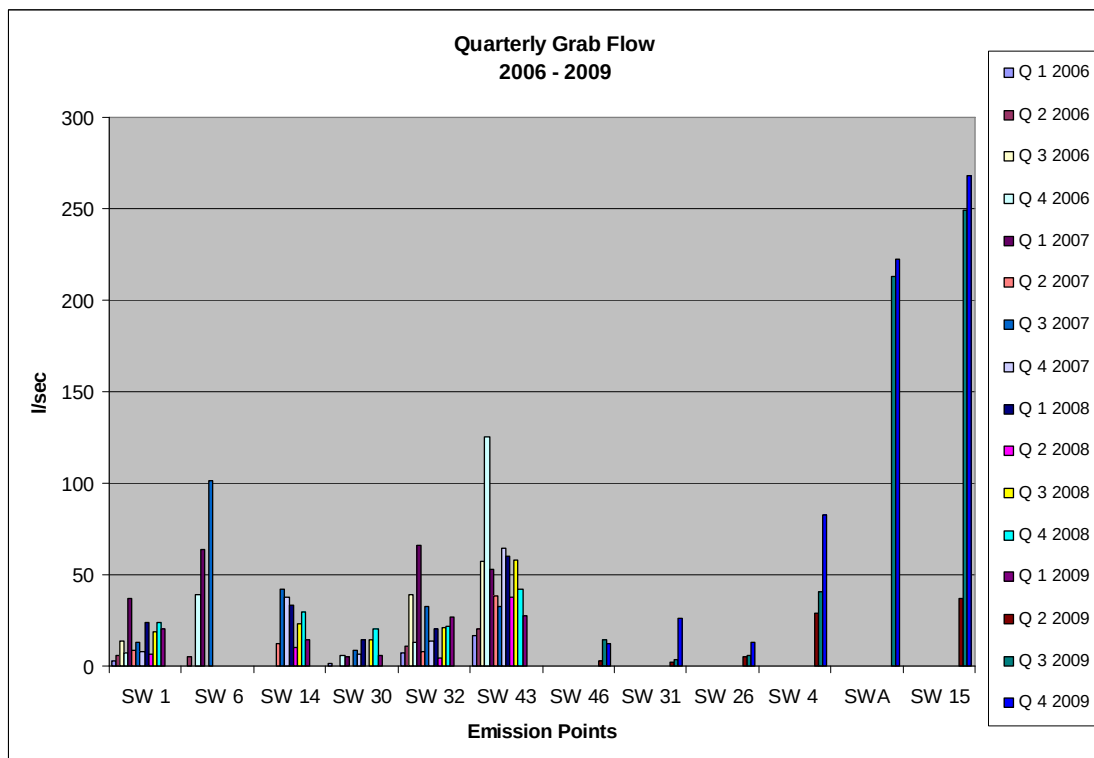
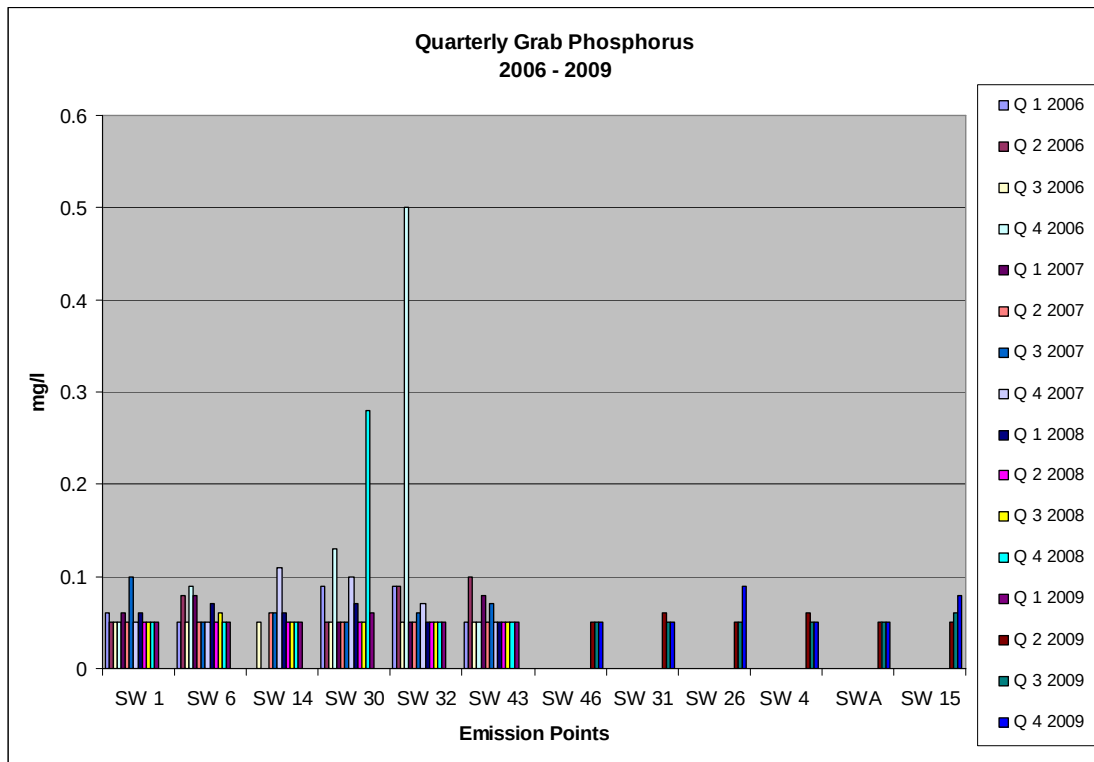
Bord na Mona would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection methods.

APPENDIX 1

Surface Water Discharge Monitoring Results Bogs



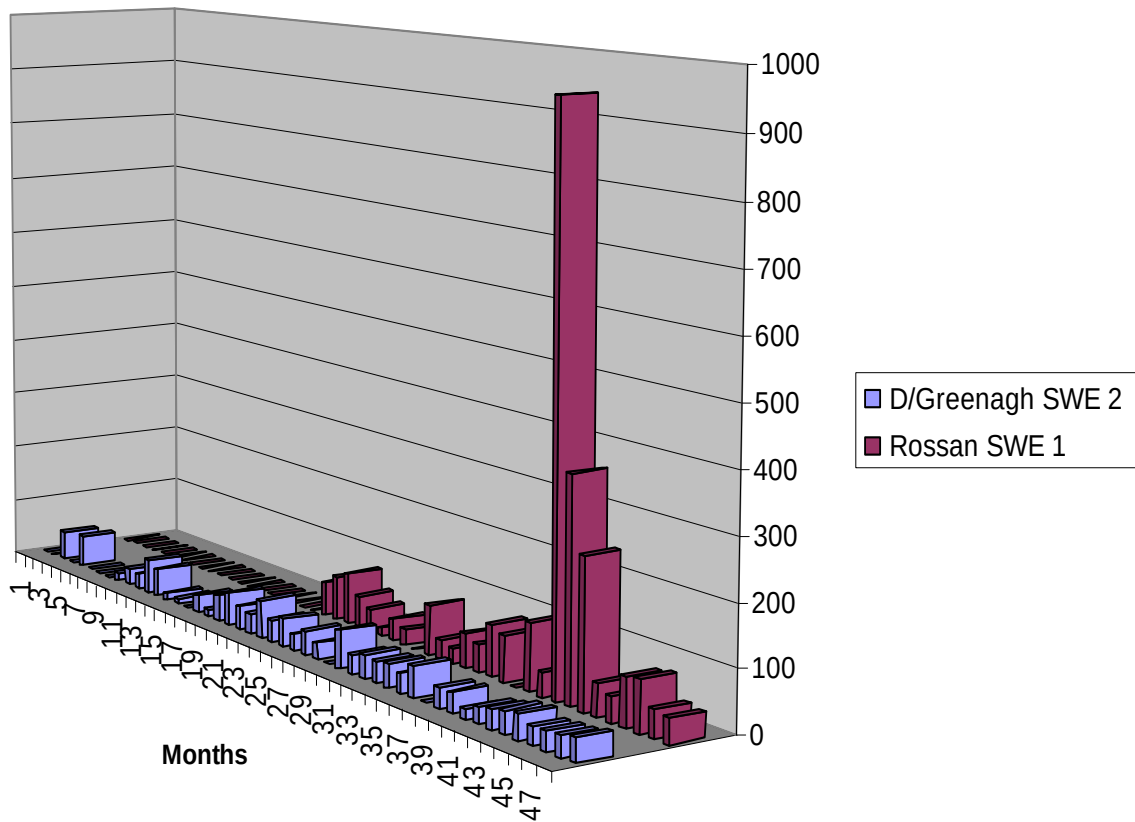




APPENDIX 2

Surface Water Discharge Monitoring Results Yards

Monthly Yard Sampling (mg/l) COD 2006 - 2009



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

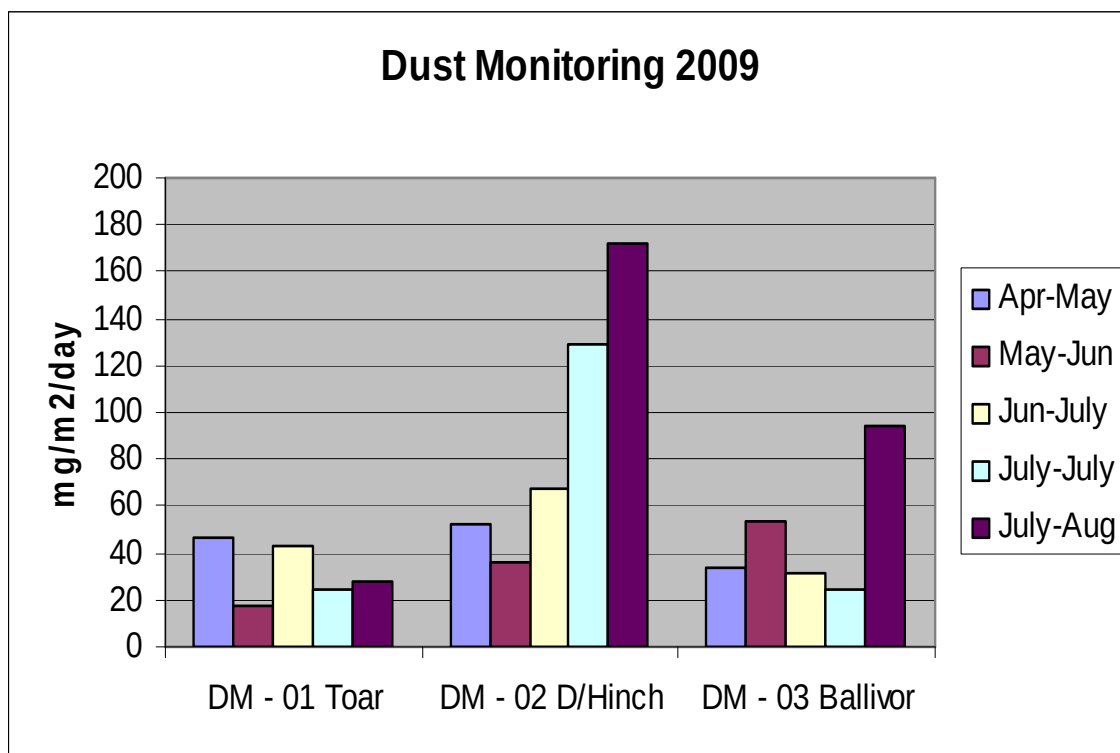
Dust Monitoring Results.

Dust Monitoring Results 2009

Licence: P0501-01

Works: Derrygreenagh

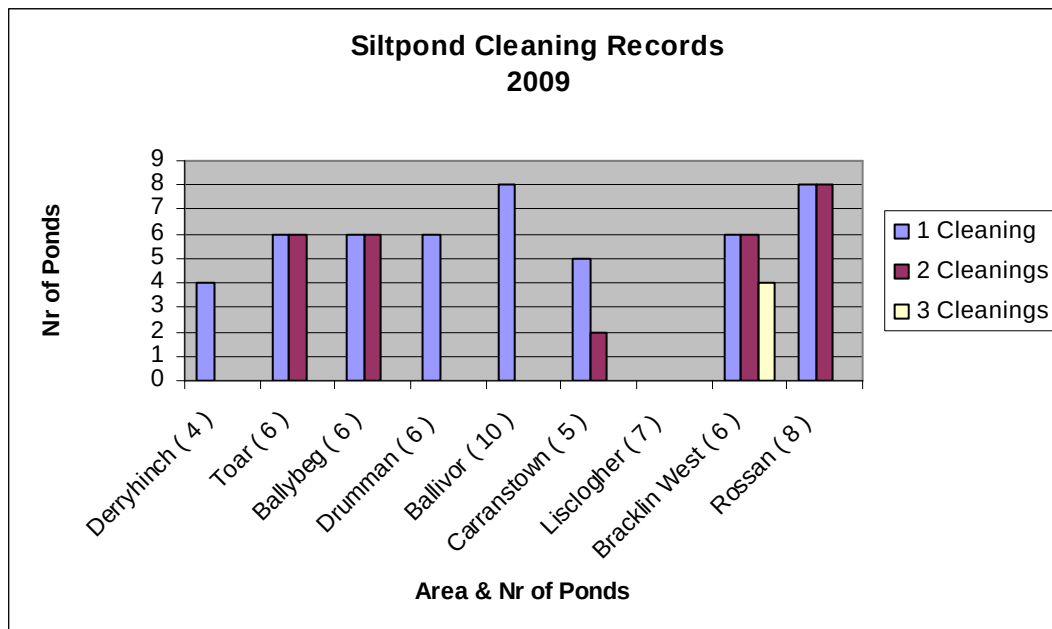
Sample Period	DM - 01 Toar	DM - 02 D/Hinch	DM - 03 Ballivor
Apr-May	46	52	34
May-Jun	18	36	53
Jun-July	43	68	31
July-July	25	129	25
July-Aug	28	172	94



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