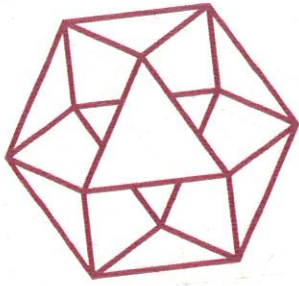


Appendix 7. NSAI. Certificate of Registration (ISO9001 & ISO50001).



NSAI

Certificate of Registration of Quality Management System to I.S. EN ISO 9001:2015

Bord na Mona Peat Division

Leabeg
Tullamore
Co. Offaly

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-

The supply of milled peat for fuel and horticultural purposes.

Approved by:
Fergal O'Byrne
Head – Business Excellence, NSAI



Registration Number: 19.5545/05
Original Registration: 07 December 2014
Last amended on: 10 December 2017
Valid from: 10 December 2017
Remains valid to: 06 December 2020

This certificate remains valid on condition that the Approved Quality Management System is maintained in an adequate and efficacious manner. NSAI is a partner of IQNet – the international certification network (www.iqnet-certification.com) This certificate is issued as part of multi-site certificate No. 19.5545HQ



All valid certifications are listed on NSAI's website – www.n sai.ie. The continued validity of this certificate may be verified under "Certified Company Search"



NSAI (National Standards Authority of Ireland), 1 Swift Square, Northwood, Santry, Dublin 9, Ireland T +353 1 807 3800 E: info@nsai.ie www.n sai.ie



CERTIFICATION EUROPE™



This is to certify that the
Energy Management System

Of

Bord na Móna

At

Boora, Leabeg, Tullamore, Co. Offaly

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

ISO 50001:2011

This certificate is valid for the activities specified below:

All activities associated with the production and delivery of milled peat to customers (or agreed point of release) at all locations with the exception of the fuel bogs associated with Littleton

Certification of Registration remains the property of Certification Europe Ltd.
The validity of this Certificate is maintained on the condition that the Management System is assessed through an on-going surveillance programme and continues to adequately meet the requirements of the standard.
To verify this certificate validity please contact us at info@certificationeurope.com

Date of Initial Certification: 6th December 2017

This Certificate is valid until: 21st August 2021

Chief Executive: Michael Brophy

Chairman: Padraic A. White

Signature:

Signature:

Client Registration No.: 2012/1613
Certificate Reference No.: D/2

Date of certificate issue: 13th February 2019



Appendix 8. Bord na Mona Surface Water Monitoring Plan 2013.

Response to RFI (RI000285)
In Relation to
Surface Water Discharge Monitoring Programme

- **Bog names to assist in identifying the monitoring point locations**

The bog name and easting and northing co-ordinates have now been included on the amended monitoring schedule.

- **Surface water discharge monitoring programme.**

Regarding the requirement to the requirements of 6.2:

6.2 The licensee shall, by the 1st February 2013, submit for agreement by the Agency a revised proposal for a surface water discharge monitoring programme. This programme shall have regard to the following:

The current status of each bogland (virgin, under development, operational or worked out);

The sensitivity of the receiving water;

The relevant River Basin Management Plan;

The nature, magnitude and variability of the discharges;

The reliability of the silt ponds control measures; and,

The status of the silt pond upgrade programme.

The revised surface water discharge monitoring location programme shall ensure that a representative selection of all surface water emission points from boglands within the licensed area is monitored annually and that all emission points are monitored at least once every five years. Surface water emission points shall be monitored as set out in Schedule 1(ii) Monitoring of Emissions to Water of this licence.

We will be prioritising these as follows:

1. Active bogs.
2. Sensitivity of receiving water (we will be prioritising any river we discharge to that are from moderate down to poor as per the EPA River Quality data). This will include any rivers prioritised in the Shannon River Basin Plan and the Water Management Units Plans)
3. The status of the silt pond upgrade programme.
4. Pumped versus gravity drainage.

1. The current status of each bogland (virgin, under development, operational or worked out.

All active bogs will be prioritised ahead of bogs worked out or cutaway bogs

2. The sensitivity of the receiving water:

We will be prioritising any rivers classified as bad, with poor, pass, and moderate being prioritised next, ahead of good or high status rivers. Within each of these classifications emissions from ponds requiring upgrade will be further prioritized. Depending on the amount of discharge points to any particular water course classification, it may take more than one quarter to complete all the discharges to that classification. All the ponds will however be sampled within 4.5 years which is within the five year window prescribed by condition 6.2 of the licence amendment. In addition any rivers prioritised in the RBMP's will be included in this prioritisation.

3. The reliability of the silt ponds control measures; and, The status of the silt pond upgrade programme.

Silt ponds that have been identified as requiring up grade as part of the silt pond upgrade programme will be prioritised within their respective river classification category.

4. Nature and Magnitude and Variability of discharges.

Discharges from Bord na Mona peatlands can be classified into two distinct categories, pumped or gravity. The majority of peatlands in the vicinity of the rivers Shannon and Suck are traditionally pumped but not exclusively so. Other licence areas such as Allen would have a higher percentage of gravity drainage with pumping traditionally taking place in the bogs in production the longest. The magnitude and variability is totally rainfall dependent. Sites that are pumped generally travel via gravity for considerable distances prior to final discharge with few if any sites being pumped directly to a receiving water course. The monitoring schedule includes whether a site is pumped or gravity drained.

- **Under licence condition 6.5, submit the trigger levels for Ammonia and the appropriate corrective action procedures.**

6.14 The licensee shall, by 1st February 2013, establish a suitable trigger level for total ammonia in surface water discharges. The licensee shall have in place a response programme to address the attainment or exceedence of the trigger level value. This response programme shall include the necessary actions to ensure there will be no emissions to surface water of environmental significance.

In establishing trigger levels for ammonia (NH₄-N) the results of quarterly grab samples from 10 sites were scrutinized from 2004 – 2012 for the 90 percentile value, ie the ammonia level that 90% of the results were below. Apart from some anomalies the max value recorded was 5.34 mg/l with a mean of 1.09 mg/l with 90% of results being less than 3.09 mg/l. Similarly Composite Sampler ammonia results from 2 sites

were scrutinized from 2004 – 2012, using the same methodology with results showing a max of 3.46 mg/l and a mean 0.64 mg/l with 90% being less than 1.26 mg/l.

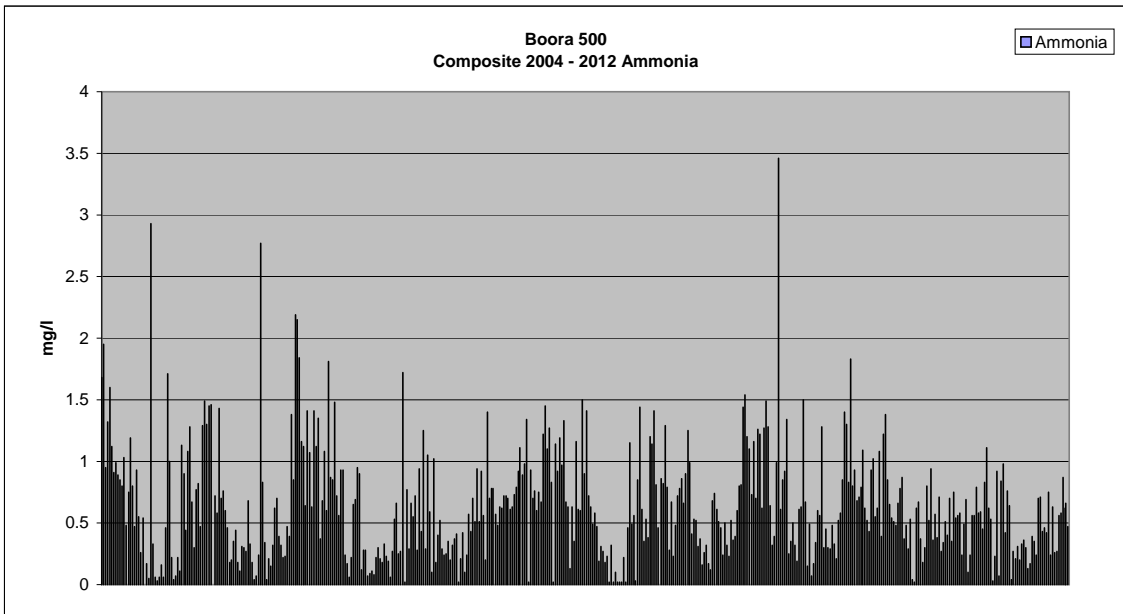
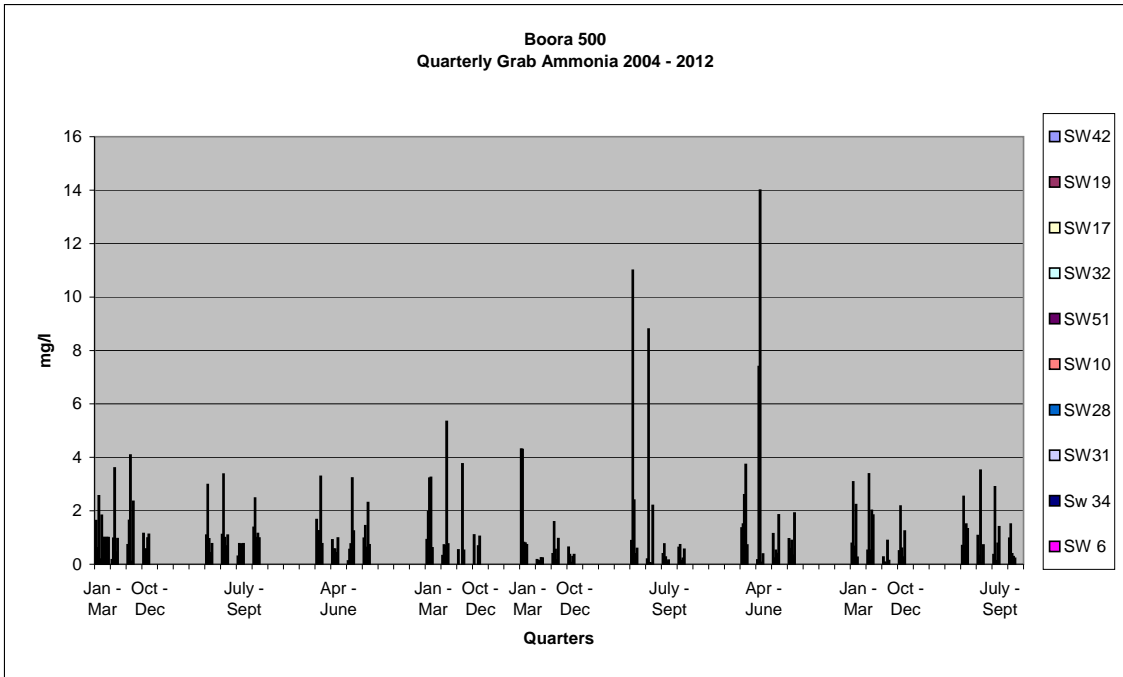
In selecting an ammonia trigger level it was decided to pick the quarterly grab figure of 3.09 mg/l as this is more representative of licence emission points which are required to be sampled at least once every 5 years under condition 6.2. The basis for the above findings is attached in graph format. Therefore the proposed ammonia trigger level for Boora IPPC Licence 500 is 3.09mg/l plus a freeboard of 20% giving a final trigger level of 3.70 mg/l.

Bord na Mona Boora			Siltpond Monitoring Frequency							
IPPC Licence P0500-01										
X	Y	Bog	SW	Monitoring	Status	Drainage	Upgrade Status	RBD	Receiving Water Quality	Sampled
217008.23	222986.75	Turraun	SW-15	Q2 13	Cutaway	Gravity	Complete	SRBD	Poor	
236128.81	221965.17	Derryclure	SW-28	Q2 13	Operational	Gravity	Complete	SRBD	Poor	
236939.60	220629.01	Derryclure	SW-27	Q2 13	Operational	Gravity	Ongoing	SRBD	Poor	
219056.10	234057.41	Bellaire North	SW-37	Q2 13	Operational	Gravity	Complete	SRBD	Poor	
204681.49	214416.93	Clongawney	SW-1	Q3 13	Operational	Gravity	Complete	SRBD	Moderate	
205641.50	213067.71	Clongawney	SW-3	Q3 13	Operational	Gravity	Complete	SRBD	Moderate	
206319.95	215656.92	Clongawney	SW-4	Q3 13	Operational	Gravity	Complete	SRBD	Moderate	
207679.57	215615.99	Clongawney	SW-5	Q3 13	Operational	Gravity	Ongoing	SRBD	Moderate	
208818.04	215648.99	Drinagh	SW-7	Q4 13	Operational	Gravity	Ongoing	SRBD	Moderate	
212017.45	214103.39	Drinagh	SW-8	Q4 13	Operational	Gravity	Complete	SRBD	Moderate	
212352.39	217427.89	Drinagh	SW-9	Q4 13	Cutaway	Gravity	Complete	SRBD	Moderate	
212948.34	217756.09	Derrybrat	SW-9A	Q4 13	Operational	Gravity	Complete	SRBD	Moderate	
213631.82	220692.54	Noggusboy	SW-10	Q1 14	Operational	Gravity	Complete	SRBD	Moderate	
214515.48	219480.49	West Boora	SW-11	Q1 14	Cutaway	Gravity	Complete	SRBD	Moderate	
215354.86	221941.82	Derries	SW-14	Q1 14	Cutaway	Gravity	Complete	SRBD	Moderate	
214889.87	221778.27	Derries	SW-14A	Q1 14	Cutaway	Gravity	Complete	SRBD	Moderate	
219378.47	224050.10	Turraun	SW-16	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
219721.73	224554.04	Pollagh	SW-17	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
221729.61	226112.15	Pollagh	SW-17A	Q2 14	Operational	Pumped	Ongoing	SRBD	Moderate	
220331.44	222549.88	Oughter	SW-18	Q2 14	Cutaway	Gravity	Complete	SRBD	Moderate	
217216.92	227527.32	Lemonaghan	SW-19	Q3 14	Operational	Gravity	Ongoing	SRBD	Moderate	
214970.51	226491.33	Lemonaghan	SW-19B	Q3 14	Operational	Gravity	Complete	SRBD	Moderate	
218645.63	229597.18	Lemonaghan	SW-22	Q3 14	Operational	Gravity	Ongoing	SRBD	Moderate	
216900.19	229545.11	Lemonaghan	SW-22A	Q3 14	Operational	Gravity	Ongoing	SRBD	Moderate	
216151.75	230069.09	Lemonaghan	SW-22B	Q4 14	Operational	Gravity	Ongoing	SRBD	Moderate	
215947.19	230315.10	Lemonaghan	SW-22C	Q4 14	Operational	Gravity	Ongoing	SRBD	Moderate	
215079.20	231196.83	Lemonaghan	SW-22D	Q4 14	Operational	Gravity	Ongoing	SRBD	Moderate	
218809.08	227041.46	Lemonaghan	SW-23	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
224321.91	224780.07	Kilaranny	SW-24	Q1 15	Operational	Gravity	Complete	SRBD	Moderate	
224248.46	223524.04	Kilaranny	SW-24A	Q1 15	Operational	Gravity	Complete	SRBD	Moderate	
234556.96	216406.12	Monettia	SW-25	Q1 15	Operational	Gravity	Complete	SRBD	Moderate	
208557.05	205482.23	Killaun	SW-29	Q1 15	Operational	Gravity	Ongoing	SRBD	Moderate	
208726.96	206088.96	Killaun	SW-29A	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
209922.39	207800.47	Killaun	SW-30	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
208127.88	210599.82	Galros	SW-32	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
215361.95	232964.99	Bellaire South	SW-33	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
214495.84	232937.68	Bellaire South	SW-34	Q3 15	Operational	Gravity	Complete	SRBD	Moderate	
214987.18	232598.43	Bellaire South	SW-34A	Q3 15	Operational	Gravity	Ongoing	SRBD	Moderate	
213906.46	231884.67	Bellaire South	SW-35	Q3 15	Operational	Gravity	Complete	SRBD	Moderate	
216202.99	234373.11	Bellaire North	SW-37A	Q3 15	Operational	Gravity	Ongoing	SRBD	Moderate	
215477.01	233062.25	Bellaire North	SW-37B	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
217481.75	227345.36	Lemonaghan	SW-19A	Q4 15	Operational	Gravity	Complete	SRBD	Not Monitored	
216627.57	234827.38	Bellaire North	SW-36	Q4 15	Operational	Gravity	Complete	SRBD	Not Monitored	
237185.96	215178.41	Monettia	SW-26	Q4 15	Operational	Gravity	Complete	SRBD	Good	
237043.63	216670.04	Monettia	SW-26A	Q1 16	Operational	Gravity	Complete	SRBD	Good	
220650.17	210315.60	Derrinboy	SW-38	Q1 16	Operational	Gravity	Complete	SRBD	Good	
220483.33	210276.48	Derrinboy	SW-39	Q1 16	Operational	Gravity	Complete	SRBD	Good	
219663.49	210038.82	Derrinboy	SW-40	Q1 16	Operational	Gravity	Complete	SRBD	Good	

Licence	SW's	Proposed Quarterly Sampled	Proposed Yearly Sampled	Minimum Required/Quarter	Actually Sampled/Quarter	Actually Sampled/5 Years	Comment
500	48	4	16	2.4	4	80	Move Quarterly

Source Data

Q1 13	Virgin	Gravity	Ongoing	SRBD	High	Yes
Q2 13	Development	Pumped	Complete	ERBD	Good	No
Q3 13	Operational			SERBD	Moderate	
Q4 13	Cutaway				Pass	
Q1 14					Poor	
Q2 14					Bad	
Q3 14					Not Monitored	
Q4 14						
Q1 15						
Q2 15						
Q3 15						
Q4 15						
Q1 16						
Q2 16						
Q3 16						
Q4 16						
Q1 17						
Q2 17						
Q3 17						
Q4 17						



Response to RFI (RI000280)
In Relation to
Surface Water Discharge Monitoring Programme

- **Bog names to assist in identifying the monitoring point locations**

The bog name and easting and northing co-ordinates have now been included on the amended monitoring schedule.

- **Surface water discharge monitoring programme.**

Regarding the requirement to the requirements of 6.2:

6.2 The licensee shall, by the 1st February 2013, submit for agreement by the Agency a revised proposal for a surface water discharge monitoring programme. This programme shall have regard to the following:

The current status of each bogland (virgin, under development, operational or worked out);

The sensitivity of the receiving water;

The relevant River Basin Management Plan;

The nature, magnitude and variability of the discharges;

The reliability of the silt ponds control measures; and,

The status of the silt pond upgrade programme.

The revised surface water discharge monitoring location programme shall ensure that a representative selection of all surface water emission points from boglands within the licensed area is monitored annually and that all emission points are monitored at least once every five years. Surface water emission points shall be monitored as set out in Schedule 1(ii) Monitoring of Emissions to Water of this licence.

We will be prioritising these as follows:

1. Active bogs.
2. Sensitivity of receiving water (we will be prioritising any river we discharge to that are from moderate down to poor as per the EPA River Quality data). This will include any rivers prioritised in the South Eastern River Basin Plan and the Water Management Units Plans)
3. The status of the silt pond upgrade programme.
4. Pumped versus gravity drainage.

1. The current status of each bogland (virgin, under development, operational or worked out.

All active bogs will be prioritised ahead of bogs worked out or cutaway bogs

2. The sensitivity of the receiving water:

We will be prioritising any rivers classified as bad, with poor, pass, and moderate being prioritised next, ahead of good or high status rivers. Within each of these classifications emissions from ponds requiring upgrade will be further prioritized. Depending on the amount of discharge points to any particular water course classification, it may take more than one quarter to complete all the discharges to that classification. All the ponds will however be sampled within three years which is well within the five year window prescribed by condition 6.2 of the licence amendment. In addition any rivers prioritised in the RBMP's will be included in this prioritisation.

3. The reliability of the silt ponds control measures; and, The status of the silt pond upgrade programme.

Silt ponds that have been identified as requiring up grade as part of the silt pond upgrade programme will be prioritised within their respective river classification category.

4. Nature and Magnitude and Variability of discharges.

Discharges from Bord na Mona peatlands can be classified into two distinct categories, pumped or gravity. The majority of peatlands in the vicinity of the rivers Shannon and Suck are traditionally pumped but not exclusively so. Other licence areas such as Allen would have a higher percentage of gravity drainage with pumping traditionally taking place in the bogs in production the longest. The magnitude and variability is totally rainfall dependent. Sites that are pumped generally travel via gravity for considerable distances prior to final discharge with few if any sites being pumped directly to a receiving water course. The monitoring schedule includes whether a site is pumped or gravity drained.

- **Under licence condition 6.5, submit the trigger levels for Ammonia and the appropriate corrective action procedures.**

6.14 The licensee shall, by 1st February 2013, establish a suitable trigger level for total ammonia in surface water discharges. The licensee shall have in place a response programme to address the attainment or exceedence of the trigger level value. This response programme shall include the necessary actions to ensure there will be no emissions to surface water of environmental significance.

In establishing trigger levels for ammonia (NH₄-N) the results of quarterly grab samples from 13 sites were scrutinized from 2004 – 2012 for the 90 percentile value, ie the ammonia level that 90% of the results were below. The max value recorded being 4.16 mg/l with a mean of 1.16 mg/l with 90% of results being less than 2.32 mg/l. Similarly Composite Sampler ammonia results from 4 sites were scrutinized

from 2004 – 2012, using the same methodology results show a max of 3.68 mg/l and a mean 0.97 mg/l with 90% being less than 2.16 mg/l.

In selecting an ammonia trigger level it was decided to pick the quarterly grab figure of 2.32 mg/l as this is more representative of licence emission points which are required to be sampled at least once every 5 years under condition 6.2. The basis for the above findings is attached in graph format. Therefore the proposed ammonia trigger level for Derrygreenagh IPPC Licence 501 is 2.32 mg/l plus a freeboard of 20% giving a final trigger level of 2.78 mg/l.

Bord na Mona Derrygreenagh	Siltpond Monitoring Frequency
IPPC Licence P0501-01	

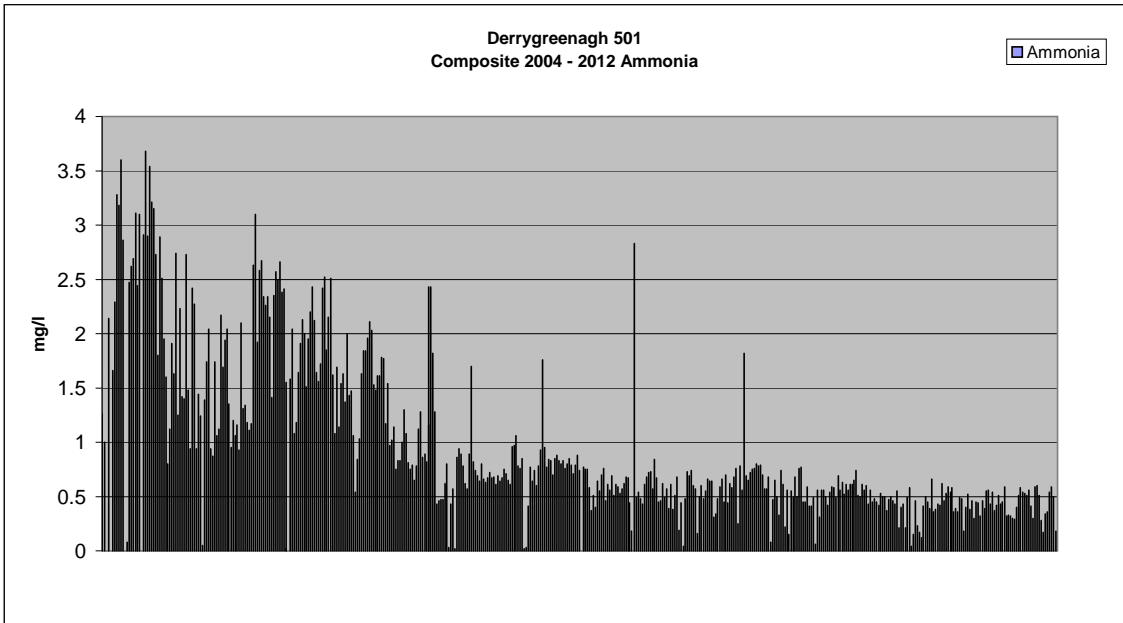
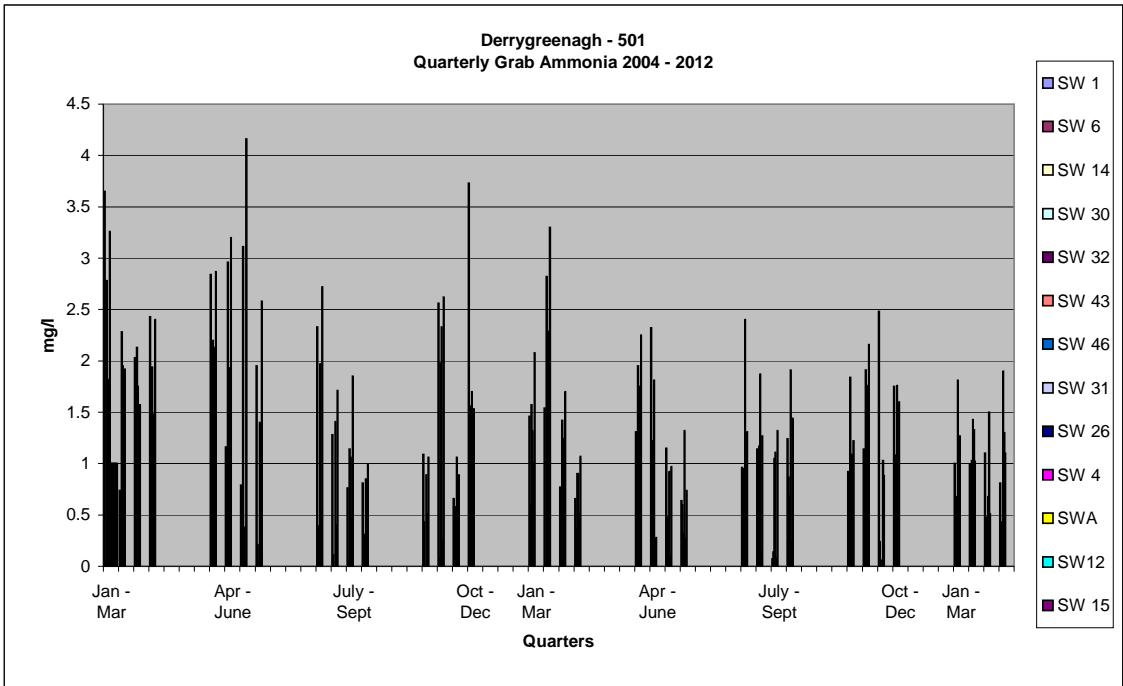
X	Y	Bog	SW	Monitoring	Status	Drainage	Upgrade Status	RBD	Receiving Water Quality	Sampled
254528.83	242354.28	Derryhinch	SW-2	Q2 13	Operational	Gravity	Ongoing	ERBD	Poor	
253369.19	242417.94	Derryhinch	SW-3	Q2 13	Operational	Gravity	Complete	ERBD	Poor	
252468.68	240919.32	Carrick	SW-5	Q2 13	Operational	Gravity	Complete	ERBD	Poor	
252409.71	241163.33	Carrick	SW-6	Q2 13	Operational	Gravity	Complete	ERBD	Poor	
252473.21	241162.01	Carrick	SW-7	Q2 13	Operational	Gravity	Complete	ERBD	Poor	
252275.61	239871.62	Drumman	SW-8	Q3 13	Operational	Gravity	Ongoing	ERBD	Poor	
252602.78	242540.17	Derryhinch	SW-4	Q3 13	Operational	Gravity	Complete	ERBD	Pass	
255381.16	243606.05	Derryhinch	SW-1	Q3 13	Operational	Gravity	Complete	ERBD	Moderate	
252623.61	241470.16	Carrick	SW-4A	Q3 13	Operational	Gravity	Complete	ERBD	Moderate	
252950.37	238421.69	Drumman	SW-9	Q3 13	Operational	Gravity	Complete	ERBD	Moderate	
252206.09	235207.02	Ballybeg	SW-12	Q4 13	Cutaway	Gravity	Complete	ERBD	Moderate	
251880.60	234593.13	Ballybeg	SW-13	Q4 13	Operational	Pumped	Complete	ERBD	Moderate	
252250.49	235061.45	Ballybeg	SW-13A	Q4 13	Operational	Pumped	Complete	ERBD	Moderate	
260583.98	256514.28	Bracklin	SW-26	Q4 13	Operational	Gravity	Complete	ERBD	Moderate	
260609.41	256526.33	Bracklin	SW-27	Q4 13	Operational	Gravity	Complete	ERBD	Moderate	
259415.30	256855.75	Bracklin	SW-29	Q1 14	Operational	Gravity	Ongoing	ERBD	Moderate	
259519.45	257618.44	Bracklin	SW-30	Q1 14	Operational	Gravity	Complete	ERBD	Moderate	
265632.83	254865.04	Carranstown	SW-33	Q1 14	Operational	Gravity	Ongoing	ERBD	Moderate	
265886.95	254984.18	Carranstown	SW-34	Q1 14	Operational	Gravity	Complete	ERBD	Moderate	
265140.06	254114.54	Ballivor	SW-35	Q1 14	Operational	Gravity	Complete	ERBD	Moderate	
To Be Confirmed	To Be Confirmed	Ballivor	SW-36	Q2 14	Operational	Gravity	Complete	ERBD	Moderate	
266022.62	259613.57	Lisclogher	SW-25	Q2 14	Development	Gravity	Complete	ERBD	Moderate	
To Be Confirmed	To Be Confirmed	Lisclogher	SW-28	Q2 14	Operational	Gravity	Ongoing	ERBD	Moderate	
To Be Confirmed	To Be Confirmed	Ballivor	SW-37	Q2 14	Operational	Gravity	Complete	ERBD	Moderate	
265878.97	253506.58	Ballivor	SW-38	Q2 14	Operational	Gravity	Ongoing	ERBD	Moderate	
265888.99	253456.63	Ballivor	SW-39	Q3 14	Operational	Gravity	Ongoing	ERBD	Moderate	
266366.86	251598.58	Ballivor	SW-40	Q3 14	Operational	Gravity	Complete	ERBD	Moderate	
266386.45	251579.18	Ballivor	SW-41	Q3 14	Operational	Gravity	Complete	ERBD	Moderate	
To Be Confirmed	To Be Confirmed	Rossan	SW-42	Q3 14	Operational	Gravity	Ongoing	ERBD	Moderate	
259965.18	243847.63	Rossan	SW-43	Q3 14	Operational	Gravity	Ongoing	ERBD	Moderate	
To Be Confirmed	To Be Confirmed	Rossan	SW-44	Q4 14	Operational	Gravity	Complete	ERBD	Moderate	
258846.25	243853.76	Rossan	SW-45	Q4 14	Operational	Gravity	Ongoing	ERBD	Moderate	

260629.22	242141.39	Rossan	SW-46	Q4 14	Operational	Gravity	Ongoing	ERBD	Moderate	
260145.55	242266.71	Rossan	SW-47	Q4 14	Operational	Gravity	Ongoing	ERBD	Moderate	
To Be Confirmed	To Be Confirmed	Rossan	SW-48	Q4 14	Operational	Gravity	Complete	ERBD	Moderate	
To Be Confirmed	To Be Confirmed	Rossan	SW-49	Q1 15	Operational	Gravity	Complete	ERBD	Moderate	
To Be Confirmed	To Be Confirmed	Derryarkin	SW-10	Q1 15	Cutaway	Gravity	Complete	ERBD	Good	
251559.92	235341.71	Ballybeg	SW-11	Q1 15	Cutaway	Gravity	Complete	ERBD	Good	
240485.16	235706.33	Torr	SW-14	Q1 15	Operational	Gravity	Complete	ERBD	Good	
244391.76	235128.93	Torr	SW-15	Q1 15	Operational	Gravity	Complete	ERBD	Good	
244435.64	235093.42	Torr	SW-16	Q1 15	Operational	Gravity	Complete	ERBD	Good	
240425.65	234997.32	Torr	SW-17	Q2 15	Operational	Gravity	Complete	ERBD	Good	
262436.96	258824.82	Lisclogher	SW-19	Q2 15	Development	Gravity	Complete	ERBD	Not Monitored	
262935.72	258722.50	Lisclogher	SW-20	Q2 15	Development	Gravity	Complete	ERBD	Not Monitored	
262969.12	258691.34	Lisclogher	SW-21	Q2 15	Development	Gravity	Complete	ERBD	Not Monitored	
263432.94	258465.16	Lisclogher	SW-22	Q2 15	Development	Gravity	Complete	ERBD	Not Monitored	
263467.21	258446.56	Lisclogher	SW-23	Q3 15	Development	Gravity	Complete	ERBD	Not Monitored	
263740.80	258367.96	Lisclogher	SW-24	Q3 15	Development	Gravity	Complete	ERBD	Not Monitored	
263649.63	255035.41	Carranstown	SW-31	Q3 15	Operational	Gravity	Complete	ERBD	Not Monitored	
265553.99	255989.11	Carranstown	SW-32	Q3 15	Operational	Gravity	Ongoing	ERBD	Not Monitored	

Licence	SW's	Proposed Quarterly Sampled	Proposed Yearly Sampled	Minimum Required/Quarter	Actually Sampled/Quarter	Actually Sampled/5 Years	Comment
501	50	5	20	2.5	5	100	Move Quarterly

Source Data

Q1 13	Virgin	Gravity	Ongoing	SRBD	High	Yes
Q2 13	Development	Pumped	Complete	ERBD	Good	No
Q3 13	Operational			SERBD	Moderate	
Q4 13	Cutaway				Pass	
Q1 14					Poor	
Q2 14					Bad	
Q3 14					Not Monitored	
Q4 14						
Q1 15						
Q2 15						
Q3 15						
Q4 15						
Q1 16						
Q2 16						
Q3 16						
Q4 16						
Q1 17						
Q2 17						
Q3 17						
Q4 17						



Response to RFI (RI000281)
In Relation to
Surface Water Discharge Monitoring Programme

- **Bog names to assist in identifying the monitoring point locations**

The bog name and easting and northing co-ordinates have now been included on the amended monitoring schedule.

- **Surface water discharge monitoring programme.**

Regarding the requirement to the requirements of 6.2:

6.2 The licensee shall, by the 1st February 2013, submit for agreement by the Agency a revised proposal for a surface water discharge monitoring programme. This programme shall have regard to the following:

The current status of each bogland (virgin, under development, operational or worked out);

The sensitivity of the receiving water;

The relevant River Basin Management Plan;

The nature, magnitude and variability of the discharges;

The reliability of the silt ponds control measures; and,

The status of the silt pond upgrade programme.

The revised surface water discharge monitoring location programme shall ensure that a representative selection of all surface water emission points from boglands within the licensed area is monitored annually and that all emission points are monitored at least once every five years. Surface water emission points shall be monitored as set out in Schedule 1(ii) Monitoring of Emissions to Water of this licence.

We will be prioritising these as follows:

1. Active bogs.
2. Sensitivity of receiving water (we will be prioritising any river we discharge to that are from moderate down to poor as per the EPA River Quality data). This will include any rivers prioritised in the Shannon River Basin Plan and the Water Management Units Plans)
3. The status of the silt pond upgrade programme.
4. Pumped versus gravity drainage.

1. The current status of each bogland (virgin, under development, operational or worked out.

All active bogs will be prioritised ahead of bogs worked out or cutaway bogs

2. The sensitivity of the receiving water:

We will be prioritising any rivers classified as bad, with poor, pass, and moderate being prioritised next, ahead of good or high status rivers. Within each of these classifications emissions from ponds requiring upgrade will be further prioritized. Depending on the amount of discharge points to any particular water course classification, it may take more than one quarter to complete all the discharges to that classification. All the ponds will however be sampled within 4.5 years which is within the five year window prescribed by condition 6.2 of the licence amendment. In addition any rivers prioritised in the RBMP's will be included in this prioritisation.

3. The reliability of the silt ponds control measures; and, The status of the silt pond upgrade programme.

Silt ponds that have been identified as requiring up grade as part of the silt pond upgrade programme will be prioritised within their respective river classification category.

4. Nature and Magnitude and Variability of discharges.

Discharges from Bord na Mona peatlands can be classified into two distinct categories, pumped or gravity. The majority of peatlands in the vicinity of the rivers Shannon and Suck are traditionally pumped but not exclusively so. Other licence areas such as Allen would have a higher percentage of gravity drainage with pumping traditionally taking place in the bogs in production the longest. The magnitude and variability is totally rainfall dependent. Sites that are pumped generally travel via gravity for considerable distances prior to final discharge with few if any sites being pumped directly to a receiving water course. The monitoring schedule includes whether a site is pumped or gravity drained.

- **Under licence condition 6.5, submit the trigger levels for Ammonia and the appropriate corrective action procedures.**

6.14 The licensee shall, by 1st February 2013, establish a suitable trigger level for total ammonia in surface water discharges. The licensee shall have in place a response programme to address the attainment or exceedence of the trigger level value. This response programme shall include the necessary actions to ensure there will be no emissions to surface water of environmental significance.

In establishing trigger levels for ammonia (NH₄-N) the results of quarterly grab samples from 16 sites were scrutinized from 2004 – 2012 for the 90 percentile value, ie the ammonia level that 90% of the results were below. Apart from some anomalies the max value recorded was 5.8 mg/l with a mean of 1.67 mg/l with 90% of results being less than 3.55 mg/l. Similarly Composite Sampler ammonia results from 3 sites

were scrutinized from 2004 – 2012, using the same methodology with results showing a max of 5.9 mg/l and a mean of 1.59 mg/l with 90% being less than 4.12 mg/l. In selecting an ammonia trigger level it was decided to pick the quarterly grab figure of 3.55 mg/l as this is more representative of licence emission points which are required to be sampled at least once every 5 years under condition 6.2. The basis for the above findings is attached in graph format. Therefore the proposed ammonia trigger level for Blackwater IPPC Licence 502 is 3.55 mg/l plus a freeboard of 20% giving a final trigger level of 4.26 mg/l.

				Bord na Mona Blackwater		Siltpond Monitoring Frequency				
				IPPC Licence P0502-01						
X	Y	Bog	SW	Monitoring	Status	Drainage	Upgrade Status	RBD	Receiving Water Quality	Sampled
188124.43	227737.31	Culliaghmore	SW-1	Q2 13	Operational	Gravity	Complete	SRBD	Poor	
189325.60	226464.60	Culliaghmore	SW-2	Q2 13	Operational	Pumped	Ongoing	SRBD	Poor	
189939.96	226469.40	Culliaghmore	SW-3	Q2 13	Operational	Pumped	Complete	SRBD	Poor	
188449.77	226433.58	Culliaghmore	SW-4	Q2 13	Operational	Gravity	Complete	SRBD	Poor	
189010.02	226437.01	Culliaghmore	SW-5	Q2 13	Operational	Gravity	Complete	SRBD	Poor	
180902.52	249292.48	Boughill	SW-131	Q2 13	Operational	Gravity	Complete	SRBD	Poor	
180550.26	249355.85	Boughill	SW-132	Q2 13	Operational	Gravity	Complete	SRBD	Poor	
180070.42	250026.88	Boughill	SW-133	Q3 13	Operational	Gravity	Complete	SRBD	Poor	
178971.22	249578.22	Boughill	SW-135	Q3 13	Operational	Gravity	Complete	SRBD	Poor	
179232.81	249514.39	Boughill	SW-136	Q3 13	Operational	Gravity	Complete	SRBD	Poor	
179163.83	248580.13	Boughill	SW-138	Q3 13	Operational	Gravity	Complete	SRBD	Poor	
190499.55	225107.26	Lismanny	SW-7	Q3 13	Operational	Gravity	Complete	SRBD	Poor	
192303.22	225342.18	Lismanny	SW-9	Q3 13	Operational	Pumped	Complete	SRBD	Poor	
194242.55	224648.00	Garryduff	SW-11	Q3 13	Operational	Pumped	Complete	SRBD	Poor	
194949.25	224611.01	Garryduff	SW-12	Q4 13	Operational	Pumped	Complete	SRBD	Poor	
206237.59	227777.74	Derryharney	SW-21	Q4 13	Operational	Gravity	Complete	SRBD	Pass	
206521.02	236852.02	Kilgarvin	SW-95	Q4 13	Operational	Gravity	Complete	SRBD	Pass	
206966.18	236771.02	Kilgarvin	SW-96	Q4 13	Operational	Gravity	Ongoing	SRBD	Pass	
206284.38	240035.71	Bunahinly	SW-97	Q4 13	Virgin	Gravity	Complete	SRBD	Pass	
179026.64	249928.15	Boughill	SW-134	Q4 13	Operational	Gravity	Complete	SRBD	Pass	
To Be Confirmed	To Be Confirmed	Glebe	SW-15	Q4 13	Development	Gravity	Complete	SRBD	Moderate	
199114.52	217827.05	Kilmacshane	SW-16	Q1 14	Operational	Gravity	Ongoing	SRBD	Moderate	
200866.74	217504.84	Kilmacshane	SW-17	Q1 14	Operational	Gravity	Ongoing	SRBD	Moderate	
201608.72	218385.31	Kilmacshane	SW-19	Q1 14	Operational	Gravity	Ongoing	SRBD	Moderate	
205374.69	227140.73	Derryharney	SW-20	Q1 14	Operational	Gravity	Complete	SRBD	Moderate	
206148.95	228425.87	Derryharney	SW-22	Q1 14	Operational	Gravity	Complete	SRBD	Moderate	
209315.20	230290.00	Ballaghurt	SW-23	Q1 14	Operational	Gravity	Ongoing	SRBD	Moderate	
209356.83	229725.69	Ballaghurt	SW-24	Q1 14	Operational	Gravity	Complete	SRBD	Moderate	
To Be Confirmed	To Be Confirmed	Ballaghurt	SW-25	Q2 14	Operational	Gravity	Ongoing	SRBD	Moderate	
209442.00	229429.71	Ballaghurt	SW-26	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
To Be Confirmed	To Be Confirmed		SW-27	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
206514.58	228337.68	Derryharney	SW-28	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
204488.47	230990.35	Bloomhill	SW-29	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
205547.62	232711.03	Bloomhill	SW-30	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	

205451.06	232775.35	Bloomhill	SW-32	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
205115.69	233023.61	Bloomhill	SW-33	Q3 14	Operational	Gravity	Complete	SRBD	Moderate	
204905.69	233024.27	Bloomhill	SW-34	Q3 14	Operational	Gravity	Complete	SRBD	Moderate	
204763.10	232973.54	Bloomhill	SW-35	Q3 14	Operational	Pumped	Complete	SRBD	Moderate	
207534.45	232106.89	Bloomhill	SW-36	Q3 14	Operational	Gravity	Ongoing	SRBD	Moderate	
207678.88	232177.99	Bloomhill	SW-37	Q3 14	Operational	Gravity	Complete	SRBD	Moderate	
208168.42	232535.60	Bloomhill	SW-38	Q3 14	Operational	Gravity	Complete	SRBD	Moderate	
207782.39	233800.82	Bloomhill	SW-39	Q3 14	Operational	Gravity	Complete	SRBD	Moderate	
207534.25	234227.54	Bloomhill	SW-40	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
207054.61	234796.69	Bloomhill	SW-41	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
206343.39	234493.76	Bloomhill	SW-42	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
205823.99	234334.45	Bloomhill	SW-43	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
To Be Confirmed	To Be Confirmed	Bloomhill	SW-44	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
204193.18	233292.08	Bloomhill	SW-45	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
209103.76	233133.72	Bloomhill	SW-46	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
194628.63	226099.90	Cornaveagh	SW-47	Q1 15	Operational	Pumped	Complete	SRBD	Moderate	
196839.94	227791.83	Cornaveagh	SW-48	Q1 15	Operational	Pumped	Complete	SRBD	Moderate	
196073.07	226174.31	Cornaveagh	SW-50	Q1 15	Operational	Pumped	Complete	SRBD	Moderate	
197786.75	230319.32	Clooniff	SW-51	Q1 15	Operational	Pumped	Complete	SRBD	Moderate	
199765.54	230706.39	Coolumber	SW-60	Q1 15	Operational	Gravity	Complete	SRBD	Moderate	
199689.01	233276.13	Cornafulla/Drumlosh	SW-64	Q1 15	Operational	Pumped	Complete	SRBD	Moderate	
201775.03	232438.69	Cornafulla/Drumlosh	SW-65	Q1 15	Operational	Gravity	Complete	SRBD	Moderate	
203060.63	233050.47	Cornafulla/Drumlosh	SW-67	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
202543.37	234207.99	Cornafulla/Drumlosh	SW-68	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
To Be Confirmed	To Be Confirmed	Cornafulla/Drumlosh	SW-71	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
200852.36	234070.07	Cornafulla/Drumlosh	SW-72	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
202333.29	229631.85	Blackwater Bog	SW-74	Q2 15	Operational	Pumped	Complete	SRBD	Moderate	
197838.19	225326.32	Blackwater Bog	SW-77	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
202648.98	224016.88	Blackwater Bog	SW-78	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
202336.42	226119.40	Blackwater Bog	SW-80	Q3 15	Operational	Pumped	Ongoing	SRBD	Moderate	
204150.77	225621.38	Blackwater Bog	SW-81	Q3 15	Operational	Gravity	Ongoing	SRBD	Moderate	
204328.91	225955.12	Blackwater Bog	SW-82	Q3 15	Operational	Gravity	Ongoing	SRBD	Moderate	
203526.10	225073.81	Blackwater Bog	SW-83	Q3 15	Operational	Gravity	Complete	SRBD	Moderate	
204544.16	226075.53	Blackwater Bog	SW-84	Q3 15	Operational	Gravity	Complete	SRBD	Moderate	
204397.36	225985.10	Blackwater Bog	SW-86	Q3 15	Operational	Gravity	Complete	SRBD	Moderate	
206357.24	236321.59	Kilgarvin	SW-88	Q3 15	Operational	Gravity	Complete	SRBD	Moderate	
207140.85	235210.03	Kilgarvin	SW-89	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
207016.78	235121.11	Kilgarvin	SW-89A	Q4 15	Development	Gravity	Complete	SRBD	Moderate	

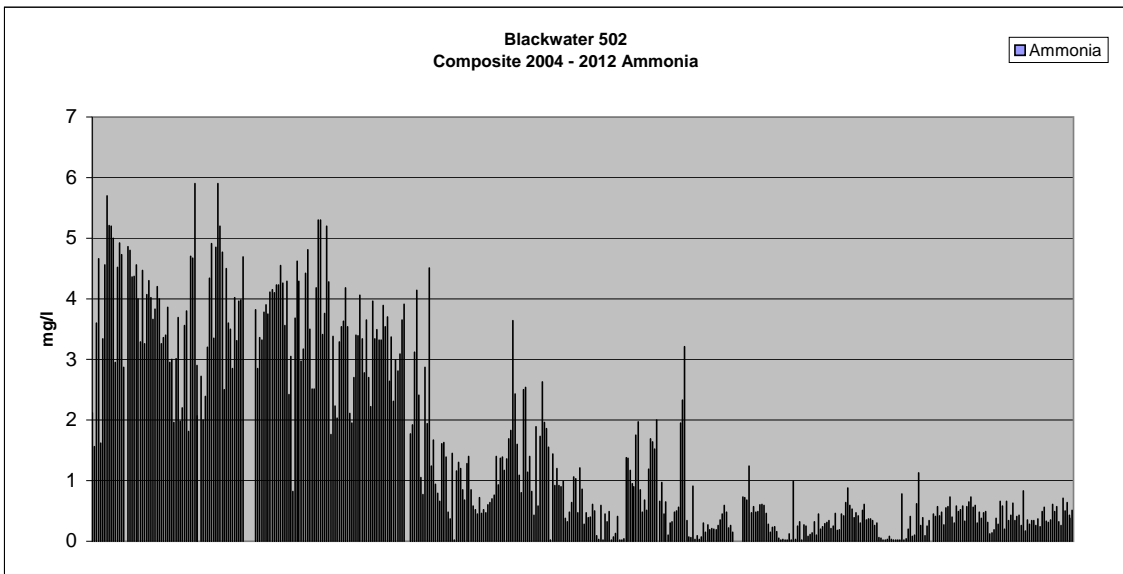
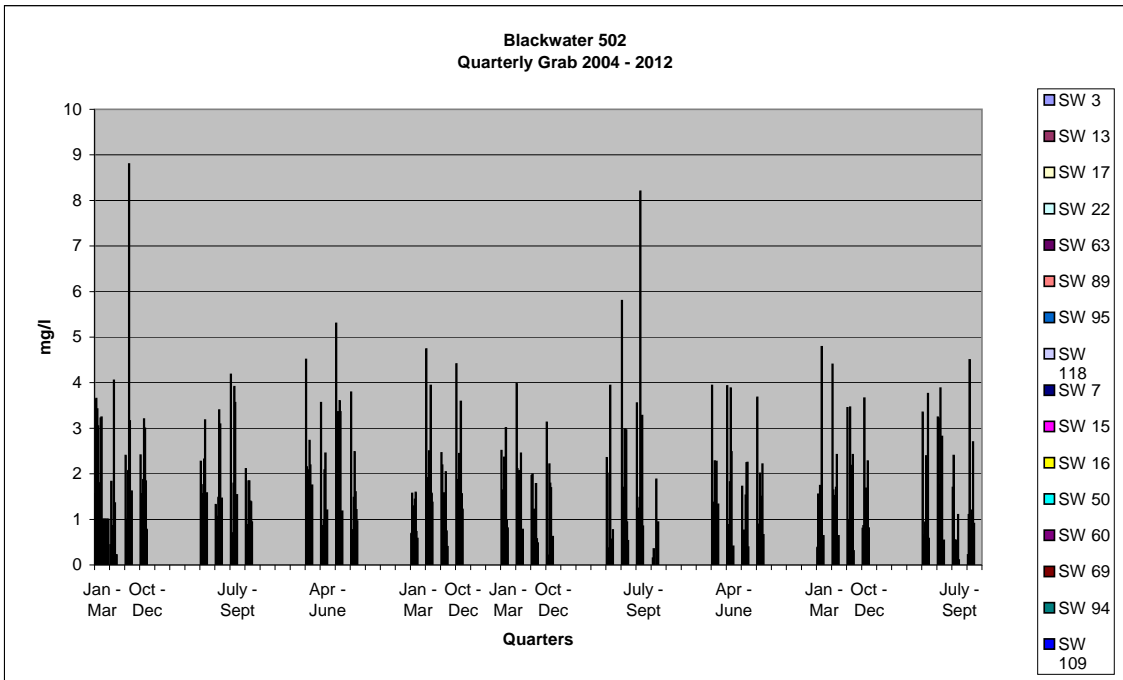
208033.11	235779.32	Kilgarvin	SW-90	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
206651.86	235235.78	Kilgarvin	SW-91	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
205547.19	238164.83	Bunahinly	SW-94	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
209411.14	230131.84	Ballaghurt	SW-98	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
182093.30	245946.00	Derryfadda Bog	SW-99	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
182388.81	245823.47	Derryfadda Bog	SW-100	Q1 16	Operational	Gravity	Complete	SRBD	Moderate	
182316.10	245297.50	Derryfadda Bog	SW-101	Q1 16	Operational	Gravity	Complete	SRBD	Moderate	
182139.73	245264.91	Derryfadda Bog	SW-102	Q1 16	Operational	Gravity	Complete	SRBD	Moderate	
183228.01	244324.76	Derryfadda Bog	SW-103	Q1 16	Operational	Pumped	Complete	SRBD	Moderate	
To Be Confirmed	To Be Confirmed	Derryfadda Bog	SW-104	Q1 16	Operational	Gravity	Complete	SRBD	Moderate	
182430.30	242742.19	Derryfadda Bog	SW-105	Q1 16	Operational	Gravity	Ongoing	SRBD	Moderate	
To Be Confirmed	To Be Confirmed	Derryfadda Bog	SW-106	Q1 16	Operational	Gravity	Complete	SRBD	Moderate	
180966.12	244030.48	Derryfadda Bog	SW-107	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
180631.06	243928.81	Killaderry	SW-108	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
181456.84	243133.74	Killaderry	SW-109	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
182202.14	242638.34	Killaderry	SW-110	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
182686.37	241713.45	Killaderry	SW-111	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
182715.77	241407.91	Killaderry	SW-112	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
182704.22	240840.26	Killaderry	SW-113	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
182203.20	241175.49	Killaderry	SW-114	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
181563.73	241235.50	Killaderry	SW-115	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
182399.93	239909.95	Castlegar	SW-118	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
183590.31	240198.77	Castlegar	SW-119	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
184106.45	239849.36	Castlegar	SW-120	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
184125.26	239565.89	Castlegar	SW-121	Q3 16	Operational	Gravity	Ongoing	SRBD	Moderate	
184137.69	239522.07	Castlegar	SW-122	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
184479.03	239013.00	Castlegar	SW-123	Q4 16	Operational	Gravity	Complete	SRBD	Moderate	
183794.87	237417.33	Castlegar	SW-124	Q4 16	Operational	Gravity	Complete	SRBD	Moderate	
178464.41	246488.91	Gowla	SW-125	Q4 16	Operational	Gravity	Complete	SRBD	Moderate	
179271.28	244726.80	Gowla	SW-128	Q4 16	Operational	Gravity	Complete	SRBD	Moderate	
181512.95	248204.34	Boughill	SW-130	Q4 16	Operational	Gravity	Complete	SRBD	Moderate	
179707.29	248776.74	Boughill	SW-137	Q1 17	Operational	Gravity	Ongoing	SRBD	Moderate	
196289.52	229517.21	Clooniff	SW-54	Q1 17	Operational	Gravity	Complete	SRBD	Moderate	
206721.04	238609.93	Bunahinly	SW-92	Q1 17	Operational	Gravity	Complete	SRBD	Pass	
206662.99	238274.82	Bunahinly	SW-93	Q1 17	Operational	Gravity	Complete	SRBD	Pass	
197086.52	222116.69	Garryduff	SW-13	Q1 17	Operational	Pumped	Complete	SRBD	Good	
196834.50	231514.48	Clooniff	SW-58	Q1 17	Operational	Gravity	Complete	SRBD	Good	
179332.06	244537.90	Gowla	SW-127	Q1 17	Operational	Gravity	Complete	SRBD	Good	

198231.11	231265.33	Clooniff	SW-61	Q2 17	Operational	Gravity	Complete	SRBD	Good	
197925.10	231099.16	Clooniff	SW-57	Q2 17	Operational	Gravity	Complete	SRBD	Good	
202300.90	227130.53	Blackwater Bog	SW-75	Q2 17	Operational	Gravity	Complete	SRBD	Good	
202934.41	224449.28	Blackwater Bog	SW-79	Q2 17	Operational	Gravity	Ongoing	SRBD	Good	
198151.68	221499.90	Kilmacshane	SW-18	Q2 17	Operational	Pumped	Complete	SRBD	Good	
201809.59	235011.17	Cornafulla/Drumlosh	SW-69	Q2 17	Operational	Pumped	Complete	SRBD	Good	
197784.04	230364.06	Clooniff	SW-52	Q2 17	Operational	Pumped	Complete	SRBD	Not Monitored	
196003.55	230845.12	Clooniff	SW-53	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
202291.65	226866.28	Blackwater Bog	SW-76	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
182457.16	240577.59	Castlegar	SW-117	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
191166.43	227700.05	Culliaghmore	SW-6	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
200109.89	220928.62	Kilmacshane	SW-14	Q3 17	Operational	Pumped	Ongoing	SRBD	Not Monitored	

Licence	SW's	Proposed Quarterly Sampled	Proposed Yearly Sampled	Minimum Sampled/Quarter	Actually Sampled/Quarter	Actually Sampled/5 Years	Comment
502	125	7	28	6.25	7	140	Move Quarterly

Data

Q1 13	Virgin	Gravity	Ongoing	SRBD	High	Yes
Q2 13	Development	Pumped	Complete	ERBD	Good	No
Q3 13	Operational			SERBD	Moderate	
Q4 13	Cutaway				Pass	
Q1 14					Poor	
Q2 14					Bad	
Q3 14					Not Monitored	
Q4 14						
Q1 15						
Q2 15						
Q3 15						
Q4 15						
Q1 16						
Q2 16						
Q3 16						
Q4 16						
Q1 17						
Q2 17						
Q3 17						
Q4 17						



Response to RFI (RI000282)
In Relation to
Surface Water Discharge Monitoring Programme

- **Bog names to assist in identifying the monitoring point locations**

The bog name and easting and northing co-ordinates have now been included on the amended monitoring schedule.

- **Surface water discharge monitoring programme.**

Regarding the requirement to the requirements of 6.2:

6.2 The licensee shall, by the 1st February 2013, submit for agreement by the Agency a revised proposal for a surface water discharge monitoring programme. This programme shall have regard to the following:

The current status of each bogland (virgin, under development, operational or worked out);

The sensitivity of the receiving water;

The relevant River Basin Management Plan;

The nature, magnitude and variability of the discharges;

The reliability of the silt ponds control measures; and,

The status of the silt pond upgrade programme.

The revised surface water discharge monitoring location programme shall ensure that a representative selection of all surface water emission points from boglands within the licensed area is monitored annually and that all emission points are monitored at least once every five years. Surface water emission points shall be monitored as set out in Schedule 1(ii) Monitoring of Emissions to Water of this licence.

We will be prioritising these as follows:

1. Active bogs.
2. Sensitivity of receiving water (we will be prioritising any river we discharge to that are from moderate down to poor as per the EPA River Quality data). This will include any rivers prioritised in the South Eastern River Basin Plan and the Water Management Units Plans)
3. The status of the silt pond upgrade programme.
4. Pumped versus gravity drainage.

1. The current status of each bogland (virgin, under development, operational or worked out.

All active bogs will be prioritised ahead of bogs worked out or cutaway bogs

2. The sensitivity of the receiving water:

We will be prioritising any rivers classified as bad, with poor, pass, and moderate being prioritised next, ahead of good or high status rivers. Within each of these classifications emissions from ponds requiring upgrade will be further prioritized. Depending on the amount of discharge points to any particular water course classification, it may take more than one quarter to complete all the discharges to that classification. All the ponds will however be sampled within three years which is well within the five year window prescribed by condition 6.2 of the licence amendment. In addition any rivers prioritised in the RBMP's will be included in this prioritisation.

3. The reliability of the silt ponds control measures; and, The status of the silt pond upgrade programme.

Silt ponds that have been identified as requiring up grade as part of the silt pond upgrade programme will be prioritised within their respective river classification category.

4. Nature and Magnitude and Variability of discharges.

Discharges from Bord na Mona peatlands can be classified into two distinct categories, pumped or gravity. The majority of peatlands in the vicinity of the rivers Shannon and Suck are traditionally pumped but not exclusively so. Other licence areas such as Allen would have a higher percentage of gravity drainage with pumping traditionally taking place in the bogs in production the longest. The magnitude and variability is totally rainfall dependent. Sites that are pumped generally travel via gravity for considerable distances prior to final discharge with few if any sites being pumped directly to a receiving water course. The monitoring schedule includes whether a site is pumped or gravity drained.

- **Under licence condition 6.5, submit the trigger levels for Ammonia and the appropriate corrective action procedures.**

6.14 The licensee shall, by 1st February 2013, establish a suitable trigger level for total ammonia in surface water discharges. The licensee shall have in place a response programme to address the attainment or exceedence of the trigger level value. This response programme shall include the necessary actions to ensure there will be no emissions to surface water of environmental significance.

In establishing trigger levels for ammonia (NH₄-N) the results of quarterly grab samples from 14 sites were scrutinized from 2004 – 2012. The max value recorded being 3.29 mg/l with a mean of 0.898mg/l with 90% of results being less than 2.5 mg/l Similarly Composite Sampler ammonia results from 4 sites were scrutinized from 2004 – 2012, results show a max of 2.6mg/l and a mean 0.764 mg/l with only 0.42% being above 2.5 mg/l. It would appear that ammonia emissions from the

licence area are generally below 2.5mg/l however as there is no corrective actions available that could be implemented to reduce the incident of an exceedance in the trigger level, it is proposed to set a trigger level of 3 mg/l which is 20% above the experienced norm. This will allow a more realistic level of reporting in relation to ammonia trigger levels. The basis for the above findings is attached in graph format.

Bord na Mona Allen Silt Pond Monitoring Frequency

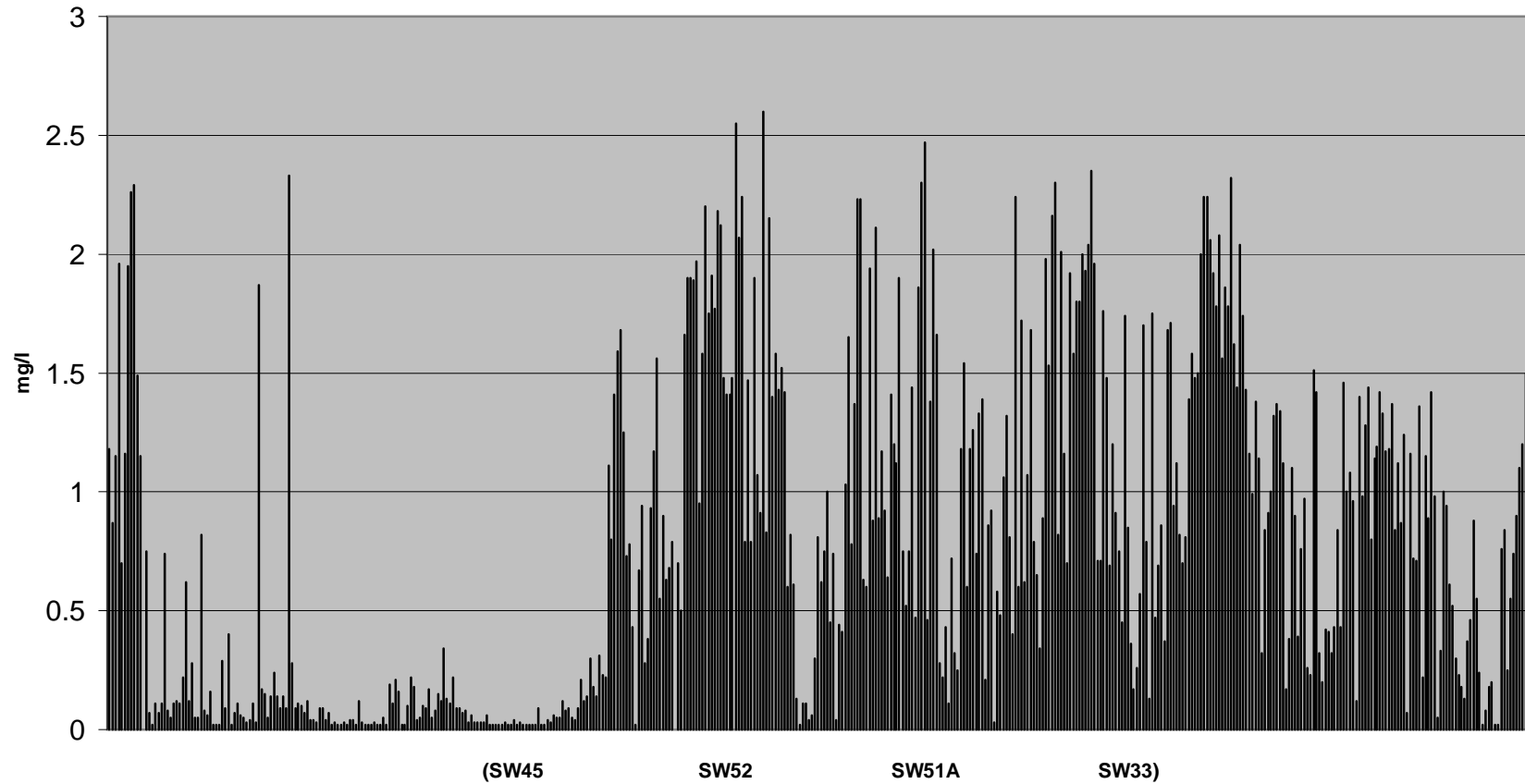
X	Y	Bog	IPPC Licence P0503-01		Status	Drainage	Upgrade Status	RBD	Receiving Water Quality	Sampled Y/N
			SW	Monitoring						
245814.66	223083.89	Clonad	SW-13	Q2 13	Operational	Gravity	Ongoing	SERBD	Poor	
245572.38	225495.02	Clonad	SW-12A	Q2 13	Operational	Gravity	Complete	SERBD	Poor	
269197.57	228032.68	Glashabaun South	SW-47	Q2 13	Operational	Gravity	Complete	SERBD	Poor	
268823.95	228190.35	Glashabaun South	SW-48	Q2 13	Operational	Gravity	Complete	SERBD	Poor	
269054.43	228057.26	Glashabaun South	SW-49	Q2 13	Operational	Gravity	Complete	SERBD	Poor	
268454.98	225617.94	Lullybeg	SW-56	Q2 13	Cutaway	Gravity	Complete	SERBD	Poor	
273261.10	224710.84	Lodge	SW-60	Q3 13	Cutaway	Gravity	Complete	SERBD	Poor	
273158.15	224383.30	Lodge	SW-61	Q3 13	Cutaway	Gravity	Complete	SERBD	Poor	
268001.63	223625.99	Barnaran	SW-62	Q3 13	Operational	Gravity	Complete	SERBD	Poor	
265940.18	224925.96	Blackriver	SW-65	Q3 13	Operational	Gravity	Complete	SERBD	Poor	
265768.96	229932.59	Ticknevin	SW-70	Q3 13	Operational	Gravity	Complete	SERBD	Poor	
265060.79	228192.45	Glashabaun North	SW-71	Q3 13	Operational	Pumped	Complete	SERBD	Poor	
264299.21	227722.00	Codd North	SW-72	Q4 13	Operational	Gravity	Complete	SERBD	Poor	
247623.23	225441.21	Clonad	SW-12	Q4 13	Operational	Gravity	Ongoing	SERBD	Moderate	
250117.79	219970.86	Ballykeane	SW-15	Q4 13	Operational	Gravity	Ongoing	SERBD	Moderate	
250247.90	219855.73	Ballykeane	SW-18	Q4 13	Operational	Gravity	Ongoing	SERBD	Moderate	
255326.91	214636.24	Derrylea	SW-43A	Q4 13	Operational	Gravity	Ongoing	SERBD	Moderate	
248527.20	224119.10	Mountlucas	SW-11A	Q4 13	Operational	Gravity	Complete	SERBD	Moderate	
250869.07	219763.05	Ballykeane	SW-14	Q1 14	Operational	Gravity	Complete	SERBD	Moderate	
249524.55	220230.29	Ballykeane	SW-16	Q1 14	Operational	Gravity	Complete	SERBD	Moderate	
251030.51	221700.00	Ballykeane	SW-17	Q1 14	Operational	Gravity	Complete	SERBD	Moderate	
251754.70	229410.12	Cavemount	SW-20	Q1 14	Cutaway	Gravity	Complete	SERBD	Moderate	
254333.53	229715.70	Esker	SW-24	Q1 14	Operational	Gravity	Complete	SERBD	Moderate	
254066.03	229231.46	Esker	SW-25	Q1 14	Operational	Gravity	Complete	SERBD	Moderate	
255848.09	228220.50	Esker	SW-26	Q2 14	Operational	Gravity	Complete	SERBD	Moderate	
255811.14	228181.42	Esker	SW-27	Q2 14	Operational	Gravity	Complete	SERBD	Moderate	
256098.51	227480.46	Esker	SW-28	Q2 14	Operational	Gravity	Complete	SERBD	Moderate	
253610.03	227876.29	Esker	SW-29	Q2 14	Operational	Gravity	Complete	SERBD	Moderate	
254079.86	227734.11	Esker	SW29-A	Q2 14	Operational	Gravity	Complete	SERBD	Moderate	
255866.18	225413.14	Ballycon	SW-30	Q2 14	Cutaway	Gravity	Complete	SERBD	Moderate	
258120.18	224725.27	Cloncreen	SW-32	Q3 14	Operational	Gravity	Complete	SERBD	Moderate	
257161.38	225368.56	Cloncreen	SW-33	Q3 14	Operational	Gravity	Complete	SERBD	Moderate	
256186.23	227016.03	Cloncreen	SW-34	Q3 14	Operational	Gravity	Complete	SERBD	Moderate	
260552.28	227277.74	Cloncreen	SW-35	Q3 14	Operational	Pumped	Complete	SERBD	Moderate	
260597.00	226777.19	Cloncreen	SW-37	Q3 14	Operational	Gravity	Complete	SERBD	Moderate	
260756.49	225793.84	Cloncreen	SW-37A	Q3 14	Operational	Gravity	Complete	SERBD	Moderate	
244906.14	212161.63	Garrymore	SW-40	Q4 14	Operational	Gravity	Complete	SERBD	Moderate	
259705.78	214693.84	Derrylea	SW-43	Q4 14	Operational	Gravity	Complete	SERBD	Moderate	
263592.36	226625.93	Codd South	SW-45	Q4 14	Operational	Gravity	Complete	SERBD	Moderate	
264507.34	223259.15	Ballydermot	SW-67A	Q4 14	Operational	Gravity	Complete	SERBD	Moderate	
264457.64	225650.79	Codd South	SW-67	Q4 14	Operational	Pumped	Complete	SERBD	Moderate	
266794.47	229663.32	Ticknevin	SW-68	Q4 14	Operational	Pumped	Complete	SERBD	Moderate	
266266.45	229593.59	Ticknevin	SW-69	Q1 15	Operational	Gravity	Complete	SERBD	Moderate	
263602.31	227263.88	Sheridans	SW-73	Q1 15	Operational	Gravity	Complete	SERBD	Moderate	
263712.36	226714.35	Codd North	SW-74	Q1 15	Operational	Gravity	Complete	SERBD	Moderate	
263831.27	226569.76	Codd North	SW-75	Q1 15	Operational	Gravity	Complete	SERBD	Moderate	
264471.44	226292.96	Codd North	SW-76	Q1 15	Operational	Gravity	Complete	SERBD	Moderate	
238801.40	230901.25	Daingean Derries	SW-3	Q1 15	Operational	Gravity	Ongoing	SERBD	Not Monitored	
238933.48	231178.52	Daingean Derries	SW-4	Q2 15	Operational	Gravity	Ongoing	SERBD	Not Monitored	
241835.40	230389.25	Rathdrum	SW-9A	Q2 15	Operational	Gravity	Ongoing	SERBD	Not Monitored	
251274.17	230209.75	Cavemount	SW-22A	Q2 15	Operational	Gravity	Ongoing	SERBD	Not Monitored	
243424.84	211640.12	Garrymore	SW-39A	Q2 15	Operational	Gravity	Ongoing	SERBD	Not Monitored	
240694.98	230298.04	Daingean Derries	SW-1	Q2 15	Operational	Gravity	Ongoing	SERBD	Not Monitored	
239594.68	230408.21	Daingean Derries	SW-2	Q2 15	Operational	Gravity	Complete	SERBD	Not Monitored	
239107.60	231601.27	Daingean Derries	SW-5	Q3 15	Operational	Gravity	Complete	SERBD	Not Monitored	
239491.98	231872.83	Daingean Derries	SW-6	Q3 15	Operational	Gravity	Complete	SERBD	Not Monitored	
240411.24	231853.09	Daingean Derries	SW-7	Q3 15	Operational	Gravity	Complete	SERBD	Not Monitored	
240239.99	231828.83	Daingean Derries	SW-7A	Q3 15	Operational	Gravity	Complete	SERBD	Not Monitored	
243969.34	228585.84	Rathdrum	SW-8	Q3 15	Operational	Gravity	Complete	SERBD	Not Monitored	
241227.37	229904.04	Rathdrum	SW-9	Q3 15	Operational	Gravity	Complete	SERBD	Not Monitored	
243801.34	228449.41	Rathdrum	SW-10	Q4 15	Operational	Gravity	Complete	SERBD	Not Monitored	
243109.60	227634.77	Rathdrum	SW-10A	Q4 15	Operational	Gravity	Complete	SERBD	Not Monitored	
251647.30	229723.35	Cavemount	SW-21	Q4 15	Operational	Gravity	Complete	SERBD	Not Monitored	
251340.44	229884.30	Cavemount	SW-22	Q4 15	Operational	Gravity	Complete	SERBD	Not Monitored	
252248.86	229568.82	Cavemount	SW-23	Q4 15	Operational	Gravity	Complete	SERBD	Not Monitored	
245107.00	211862.12	Garrymore	SW-39	Q4 15	Operational	Gravity	Complete	SERBD	Not Monitored	
244754.45	212504.25	Garrymore	SW-41	Q1 16	Operational	Gravity	Complete	SERBD	Not Monitored	
269278.18	227938.86	Glashabaun South	SW-50	Q1 16	Operational	Gravity	Complete	SERBD	Not Monitored	
266471.63	226777.93	Glashabaun South	SW-51	Q1 16	Operational	Gravity	Complete	SERBD	Not Monitored	
266530.75	226503.86	Glashabaun South	SW-52	Q1 16	Operational	Gravity	Complete	SERBD	Not Monitored	
266677.40	226324.12	Glashabaun South	SW-53	Q1 16	Operational	Gravity	Complete	SERBD	Not Monitored	
265523.70	225264.93	Blackriver	SW-65A	Q1 16	Operational	Gravity	Complete	SERBD	Not Monitored	

Source Data

Q1 13	Virgin	Gravity	Ongoing	SERBD	High	Yes
Q2 13	Development	Pumped	Complete	ERBD	Good	No
Q3 13	Operational			SERBD	Moderate	
Q4 13	Cutaway				Pass	
Q1 14					Poor	
Q2 14					Bad	
Q3 14					Not Monitored	
Q4 14						
Q1 15						
Q2 15						
Q3 15						
Q4 15						
Q1 16						
Q2 16						
Q3 16						
Q4 16						
Q1 17						
Q2 17						
Q3 17						
Q4 17						

Allen 503
Composite 2004 - 2012 Ammonia

Ammonia



Response to RFI (RI000311)
In Relation to
Surface Water Discharge Monitoring Programme

- **Bog names to assist in identifying the monitoring point locations**

The bog name and easting and northing co-ordinates have now been included on the amended monitoring schedule.

- **Surface water discharge monitoring programme.**

Regarding the requirement to the requirements of 6.2:

6.2 The licensee shall, by the 1st February 2013, submit for agreement by the Agency a revised proposal for a surface water discharge monitoring programme. This programme shall have regard to the following:

The current status of each bogland (virgin, under development, operational or worked out);

The sensitivity of the receiving water;

The relevant River Basin Management Plan;

The nature, magnitude and variability of the discharges;

The reliability of the silt ponds control measures; and,

The status of the silt pond upgrade programme.

The revised surface water discharge monitoring location programme shall ensure that a representative selection of all surface water emission points from boglands within the licensed area is monitored annually and that all emission points are monitored at least once every five years. Surface water emission points shall be monitored as set out in Schedule 1(ii) Monitoring of Emissions to Water of this licence.

We will be prioritising these as follows:

1. Active bogs.
2. Sensitivity of receiving water (we will be prioritising any river we discharge to that are from moderate down to poor as per the EPA River Quality data). This will include any rivers prioritised in the Shannon River Basin Plan and the Water Management Units Plans)
3. The status of the silt pond upgrade programme.
4. Pumped versus gravity drainage.

1. The current status of each bogland (virgin, under development, operational or worked out.

All active bogs will be prioritised ahead of bogs worked out or cutaway bogs

2. The sensitivity of the receiving water:

We will be prioritising any rivers classified as bad, with poor, pass, and moderate being prioritised next, ahead of good or high status rivers. Within each of these classifications emissions from ponds requiring upgrade will be further prioritized. Depending on the amount of discharge points to any particular water course classification, it may take more than one quarter to complete all the discharges to that classification. All the ponds will however be sampled within 4.5 years which is within the five year window prescribed by condition 6.2 of the licence amendment. In addition any rivers prioritised in the RBMP's will be included in this prioritisation.

3. The reliability of the silt ponds control measures; and, The status of the silt pond upgrade programme.

Silt ponds that have been identified as requiring up grade as part of the silt pond upgrade programme will be prioritised within their respective river classification category.

4. Nature and Magnitude and Variability of discharges.

Discharges from Bord na Mona peatlands can be classified into two distinct categories, pumped or gravity. The majority of peatlands in the vicinity of the rivers Shannon and Suck are traditionally pumped but not exclusively so. Other licence areas such as Allen would have a higher percentage of gravity drainage with pumping traditionally taking place in the bogs in production the longest. The magnitude and variability is totally rainfall dependent. Sites that are pumped generally travel via gravity for considerable distances prior to final discharge with few if any sites being pumped directly to a receiving water course. The monitoring schedule includes whether a site is pumped or gravity drained.

- **Under licence condition 6.5, submit the trigger levels for Ammonia and the appropriate corrective action procedures.**

6.14 The licensee shall, by 1st February 2013, establish a suitable trigger level for total ammonia in surface water discharges. The licensee shall have in place a response programme to address the attainment or exceedence of the trigger level value. This response programme shall include the necessary actions to ensure there will be no emissions to surface water of environmental significance.

In establishing trigger levels for ammonia (NH₄-N) the results of quarterly grab samples from 8 sites were scrutinized from 2005 – 2012 for the 90 percentile value, ie the ammonia level that 90% of the results were below. The max value recorded being 2.84 mg/l with a mean of 0.47 mg/l with 90% of results being less than 1.19 mg/l. Similarly Composite Sampler ammonia results from 3 sites were scrutinized from

2004 – 2012, using the same methodology with results showing a max of 2.93 mg/l and a mean 0.58 mg/l with 90% being less than 1.17 mg/l.

In selecting an ammonia trigger level it was decided to pick the quarterly grab figure of 1.19 mg/l as this is more representative of licence emission points which are required to be sampled at least once every 5 years under condition 6.2. The basis for the above findings is attached in graph format. Therefore the proposed ammonia trigger level for Moundillon IPPC Licence 504 is 1.19 mg/l plus a freeboard of 20% giving a final trigger level of 1.42 mg/l.

Bord na Mona Mountdillon **Siltpond Monitoring Frequency**

IPPC Licence P0504-01

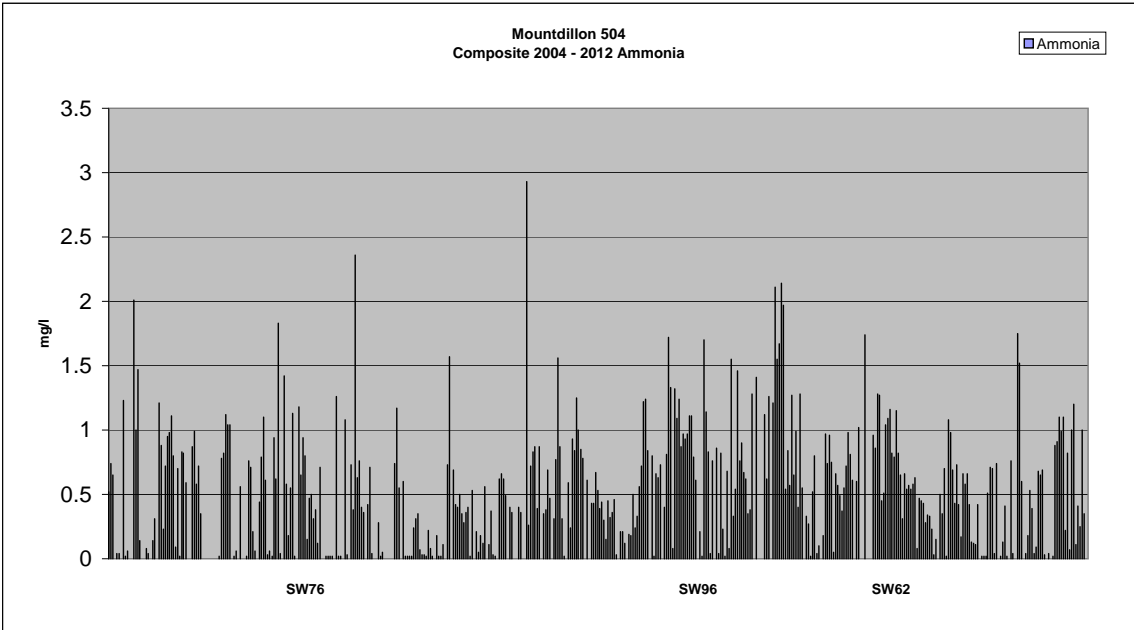
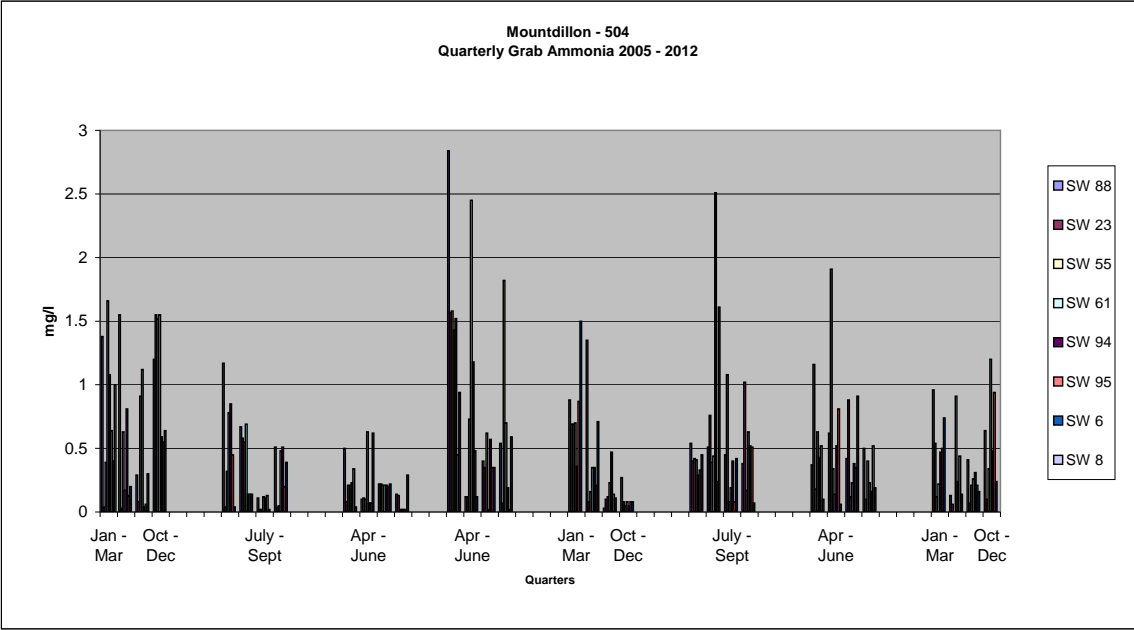
X	Y	Bog	SW	Monitoring	Status	Drainage	Upgrade Status	RBD	Receiving Water Quality	Sampled
203231.82	282838.72	Derrymoylin	SW-1	Q2 13	Operational	Pumped	Complete	SRBD	Bad	
201425.36	279968.71	Cloonshannagh	SW-6	Q2 13	Operational	Gravity	Complete	SRBD	Bad	
202255.50	279742.53	Cloonshannagh	SW-7	Q2 13	Operational	Gravity	Complete	SRBD	Bad	
239153.00	272761.06	Milkernagh	SW-100	Q2 13	Operational	Pumped	Complete	SRBD	Bad	
238999.58	271185.82	Coolnagun Bog	SW-101	Q2 13	Operational	Gravity	Complete	SRBD	Bad	
238932.15	270926.89	Coolnagun Bog	SW-102	Q2 13	Operational	Gravity	Complete	SRBD	Bad	
237624.43	269656.41	Coolnagun Bog	SW-103	Q3 13	Operational	Pumped	Complete	SRBD	Bad	
236100.91	269178.31	Coolnagun Bog	SW-104	Q3 13	Operational	Pumped	Complete	SRBD	Bad	
202604.45	281233.03	Cloonshannagh	SW-11	Q3 13	Operational	Gravity	Complete	SRBD	Bad	
202802.57	282212.51	Cloonshannagh	SW-11A	Q3 13	Operational	Gravity	Complete	SRBD	Bad	
201386.06	280466.96	Cloonshannagh	SW-12	Q3 13	Operational	Gravity	Complete	SRBD	Bad	
203087.79	277486.67	Derrycashel	SW-13	Q3 13	Operational	Pumped	Complete	SRBD	Bad	
202836.32	277415.17	Derrycashel	SW-14	Q4 13	Operational	Pumped	Complete	SRBD	Bad	
202442.72	277238.02	Derrycashel	SW-15	Q4 13	Operational	Pumped	Complete	SRBD	Bad	
201764.79	277022.51	Derrycashel	SW-16	Q4 13	Operational	Pumped	Complete	SRBD	Bad	
200798.96	275520.06	Mountdillon	SW-18	Q4 13	Operational	Pumped	Complete	SRBD	Bad	
200723.37	275195.91	Mountdillon	SW-18A	Q4 13	Operational	Pumped	Complete	SRBD	Bad	
200579.43	275879.05	Mountdillon	SW-19	Q4 13	Operational	Pumped	Complete	SRBD	Bad	
199243.17	274640.01	Curraghroe	SW-20	Q1 14	Operational	Gravity	Complete	SRBD	Bad	
199241.03	275382.10	Grannaghan	SW-21	Q1 14	Operational	Gravity	Complete	SRBD	Bad	
199522.07	275622.16	Grannaghan	SW-22	Q1 14	Operational	Gravity	Complete	SRBD	Bad	
199949.40	276004.88	Grannaghan	SW-22A	Q1 14	Operational	Gravity	Complete	SRBD	Bad	
199698.09	276893.88	Grannaghan	SW-23	Q1 14	Operational	Gravity	Ongoing	SRBD	Bad	
199038.96	274095.83	Erenagh	SW-24	Q1 14	Operational	Gravity	Complete	SRBD	Bad	
203249.23	283476.42	Derrymoylin	SW-2	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
202651.77	284748.83	Derrymoylin	SW-3	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
203369.33	285381.69	Derrymoylin	SW-4	Q2 14	Operational	Pumped	Complete	SRBD	Moderate	
203500.28	285433.11	Derrymoylin	SW-5	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
202994.69	279668.44	Cloonshannagh	SW-8	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
204457.50	279959.37	Cloonshannagh	SW-9	Q2 14	Operational	Gravity	Complete	SRBD	Moderate	
204693.18	280062.24	Cloonshannagh	SW-9A	Q3 14	Operational	Gravity	Complete	SRBD	Moderate	
204893.25	280860.61	Cloonshannagh	SW-10	Q3 14	Operational	Gravity	Complete	SRBD	Moderate	
201541.73	272805.72	Mountdillon	SW-17	Q3 14	Operational	Pumped	Complete	SRBD	Moderate	
201616.81	273699.66	Mountdillon	SW-17A	Q3 14	Operational	Pumped	Complete	SRBD	Moderate	
199917.99	273798.51	Mountdillon	SW-18B	Q3 14	Operational	Pumped	Complete	SRBD	Moderate	
198696.43	272374.18	Erenagh	SW-25	Q3 14	Operational	Pumped	Complete	SRBD	Moderate	
198696.31	272347.40	Cloontuskert	SW-26	Q4 14	Operational	Pumped	Complete	SRBD	Moderate	
198682.39	271189.62	Cloontuskert	SW-27	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
195895.85	269701.45	Clonadra	SW-28	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
197386.00	269672.35	Clonadra	SW-29	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
197431.16	269547.71	Clonadra	SW-30	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
197846.35	270246.30	Moher	SW-31	Q4 14	Operational	Gravity	Complete	SRBD	Moderate	
197403.85	270894.69	Moher	SW-32	Q1 15	Operational	Gravity	Complete	SRBD	Moderate	
197304.69	271399.80	Cloontuskert	SW-33	Q1 15	Operational	Gravity	Complete	SRBD	Moderate	
195960.31	269910.87	Clonadra	SW-34	Q1 15	Operational	Gravity	Complete	SRBD	Moderate	
202650.72	273122.31	Derryaroge	SW-37	Q1 15	Operational	Pumped	Complete	SRBD	Moderate	
202502.01	272689.16	Derryaroge	SW-38	Q1 15	Operational	Pumped	Complete	SRBD	Moderate	
202410.69	271393.37	Mountdillon	SW-39	Q1 15	Operational	Pumped	Complete	SRBD	Moderate	
203095.63	273341.49	Derryaroge	SW-40	Q2 15	Operational	Gravity	Complete	SRBD	Moderate	
203260.27	271785.26	Derryaroge	SW-41	Q2 15	Operational	Pumped	Complete	SRBD	Moderate	
203148.87	271351.76	Derryaroge	SDW-41A	Q2 15	Operational	Pumped	Complete	SRBD	Moderate	
202357.87	272474.81	Derryaroge	SW-42	Q2 15	Operational	Pumped	Complete	SRBD	Moderate	
203187.11	271923.18	Derryaroge	SW-43	Q2 15	Operational	Pumped	Complete	SRBD	Moderate	
202284.33	271432.46	Cloonbony	SW-44	Q2 15	Operational	Pumped	Complete	SRBD	Moderate	
202116.64	271257.33	Cloonbony	SW-45	Q3 15	Operational	Pumped	Complete	SRBD	Moderate	
202183.21	271461.75	Cloonbony	SW-46	Q3 15	Operational	Pumped	Complete	SRBD	Moderate	
202000.58	272467.09	Derryaroge	SW-47	Q3 15	Operational	Gravity	Complete	SRBD	Moderate	
206115.80	274878.92	Knappoge	SW-49	Q3 15	Operational	Pumped	Complete	SRBD	Moderate	
205061.08	275562.80	Killashee	SW-49A	Q3 15	Operational	Gravity	Complete	SRBD	Moderate	
204667.95	274040.57	Knappoge	SW-50	Q3 15	Operational	Pumped	Complete	SRBD	Moderate	
206887.04	274473.24	Begnagh	SW-51	Q4 15	Operational	Pumped	Complete	SRBD	Moderate	
206975.29	274705.14	Begnagh	SW-52	Q4 15	Operational	Pumped	Complete	SRBD	Moderate	
207813.09	274377.81	Begnagh	SW-53	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	

208041.06	273513.98	Begnagh	SW-54	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
207856.06	273044.13	Begnagh	SW-55	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
209203.68	273164.02	Clooneeny	SW-56	Q4 15	Operational	Gravity	Complete	SRBD	Moderate	
209144.76	273279.48	Clooneeny	SW-57	Q1 16	Operational	Gravity	Complete	SRBD	Moderate	
209068.65	274509.95	Clooneeny	SW-58	Q1 16	Operational	Pumped	Complete	SRBD	Moderate	
209739.62	271940.65	Clooneeny	SW-65	Q1 16	Operational	Gravity	Complete	SRBD	Moderate	
209556.46	272203.00	Clooneeny	SW-66	Q1 16	Operational	Gravity	Complete	SRBD	Moderate	
204806.31	268664.26	Derryadd	SW-68	Q1 16	Operational	Pumped	Complete	SRBD	Moderate	
207219.29	268277.37	Derryadd	SW-70	Q1 16	Operational	Gravity	Complete	SRBD	Moderate	
207139.24	268700.31	Derryadd	SW-71	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
209436.50	266841.89	Loughbannow	SW-76	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
209520.92	261717.87	Loughbannow	SW-77	Q2 16	Operational	Pumped	Complete	SRBD	Moderate	
207855.20	263302.19	Loughbannow	SW-78	Q2 16	Operational	Pumped	Complete	SRBD	Moderate	
203032.90	265358.57	Derryshannoge	SW-79	Q2 16	Operational	Gravity	Ongoing	SRBD	Moderate	
207371.13	259735.70	Derrycolumb	SW-91	Q2 16	Operational	Gravity	Complete	SRBD	Moderate	
208008.49	259636.58	Derrycolumb	SW-92	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
210769.22	258184.69	Edera	SW-95	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
211324.98	256892.74	Edera	SW-96	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
211251.58	256376.68	Edera	SW-97	Q3 16	Operational	Gravity	Complete	SRBD	Moderate	
196464.25	269128.74	Clonadra	SW-28A	Q3 16	Operational	Gravity	Complete	SRBD	Not Monitored	
204286.21	272640.87	Derryaroge	SW-35	Q3 16	Operational	Gravity	Complete	SRBD	Not Monitored	
203400.35	272510.11	Derryaroge	SW-36	Q4 16	Operational	Pumped	Ongoing	SRBD	Not Monitored	
210209.83	274038.53	Clooneeny	SW-59	Q4 16	Operational	Gravity	Complete	SRBD	Not Monitored	
210349.35	273925.60	Clooneeny	SW-60	Q4 16	Operational	Gravity	Complete	SRBD	Not Monitored	
210544.96	273475.13	Clooneeny	SW-61	Q4 16	Operational	Gravity	Complete	SRBD	Not Monitored	
210395.34	272549.20	Clooneeny	SW-62	Q4 16	Operational	Pumped	Complete	SRBD	Not Monitored	
210626.21	272173.61	Clooneeny	SW-63	Q4 16	Operational	Gravity	Complete	SRBD	Not Monitored	
207066.22	270009.38	Killashee	SW-71A	Q1 17	Operational	Gravity	Complete	SRBD	Not Monitored	
206957.05	270175.39	Killashee	SW-71B	Q1 17	Operational	Gravity	Complete	SRBD	Not Monitored	
206552.83	271606.89	Killashee	SW-71C	Q1 17	Operational	Gravity	Complete	SRBD	Not Monitored	
205264.48	266929.73	Derryadd	SW-72	Q1 17	Operational	Pumped	Ongoing	SRBD	Not Monitored	
205704.47	264985.60	Derryadd	SW-73	Q1 17	Operational	Pumped	Complete	SRBD	Not Monitored	
206483.50	264717.84	Loughbannow	SW-74	Q1 17	Operational	Pumped	Complete	SRBD	Not Monitored	
208383.69	266053.14	Loughbannow	SW-75	Q2 17	Operational	Pumped	Ongoing	SRBD	Not Monitored	
210699.18	261574.22	Corlea	SW-77A	Q2 17	Operational	Gravity	Complete	SRBD	Not Monitored	
204109.47	264468.02	Derryshannoge	SW-80	Q2 17	Operational	Gravity	Complete	SRBD	Not Monitored	
204007.27	264128.46	Derryshannoge	SW-81	Q2 17	Operational	Gravity	Complete	SRBD	Not Monitored	
204924.46	264012.79	Derryshannoge	SW-82	Q2 17	Operational	Gravity	Complete	SRBD	Not Monitored	
204202.83	265197.44	Derryshannoge	SW-83	Q2 17	Operational	Gravity	Complete	SRBD	Not Monitored	
204246.77	265266.02	Derryshannoge	SW-84	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
204271.29	265669.06	Derryshannoge	SW-85	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
204673.67	264817.11	Derryshannoge	SW-86	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
205440.03	264471.90	Derryshannoge	SW-87	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
205488.20	261055.08	Derrycolumb	SW-88	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
206320.96	260736.89	Derrycolumb	SW-88A	Q3 17	Operational	Gravity	Complete	SRBD	Not Monitored	
206675.47	260347.41	Derrycolumb	SW-89	Q4 17	Operational	Gravity	Complete	SRBD	Not Monitored	
209457.03	259759.30	Derrycolumb	SW-90	Q4 17	Operational	Pumped	Complete	SRBD	Not Monitored	
206651.08	262095.91	Derrycolumb	SW-93	Q4 17	Operational	Gravity	Complete	SRBD	Not Monitored	
206995.27	262194.95	Derrycolumb	SW-93A	Q4 17	Operational	Gravity	Complete	SRBD	Not Monitored	
209712.71	257877.59	Edera	SW-94	Q4 17	Operational	Gravity	Ongoing	SRBD	Not Monitored	
209397.17	257668.64	Edera	SW-98	Q4 17	Operational	Gravity	Complete	SRBD	Not Monitored	
209104.06	257598.54	Edera	SW-99	Q1 18	Operational	Gravity	Complete	SRBD	Not Monitored	

Licence	SW's	Proposed Quarterly Sampled	Proposed Yearly Sampled	Minimum Sampled/Quarter	Actually Sampled/Quarter	Actually Sampled/5 Years	Comment
504	115	6	24	5.75	6	120	Move Quarterly

Source Data

Q1 13	Virgin	Gravity	Ongoing	SRBD	High	Yes
Q2 13	Development	Pumped	Complete	ERBD	Good	No
Q3 13	Operational			SERBD	Moderate	
Q4 13	Cutaway				Pass	
Q1 14					Poor	
Q2 14					Bad	
Q3 14					Not Monitored	
Q4 14						
Q1 15						
Q2 15						
Q3 15						
Q4 15						
Q1 16						
Q2 16						
Q3 16						
Q4 16						
Q1 17						
Q2 17						
Q3 17						
Q4 17						
Q1 18						



**Response to RFI (RI000283)
In Relation to
Surface Water Discharge Monitoring Programme**

- **Bog names to assist in identifying the monitoring point locations**

The bog name and easting and northing co-ordinates have now been included on the amended monitoring schedule.

- **Surface water discharge monitoring programme.**

Regarding the requirement to the requirements of 6.2:

6.2 The licensee shall, by the 1st February 2013, submit for agreement by the Agency a revised proposal for a surface water discharge monitoring programme. This programme shall have regard to the following:

The current status of each bogland (virgin, under development, operational or worked out);

The sensitivity of the receiving water;

The relevant River Basin Management Plan;

The nature, magnitude and variability of the discharges;

The reliability of the silt ponds control measures; and,

The status of the silt pond upgrade programme.

The revised surface water discharge monitoring location programme shall ensure that a representative selection of all surface water emission points from boglands within the licensed area is monitored annually and that all emission points are monitored at least once every five years. Surface water emission points shall be monitored as set out in Schedule 1(ii) Monitoring of Emissions to Water of this licence.

We will be prioritising these as follows:

1. Active bogs.
2. Sensitivity of receiving water (we will be prioritising any river we discharge to that are from moderate down to poor as per the EPA River Quality data). This will include any rivers prioritised in the Shannon River Basin Plan and the Water Management Units Plans)
3. The status of the silt pond upgrade programme.
4. Pumped versus gravity drainage.

1. The current status of each bogland (virgin, under development, operational or worked out.

All active bogs will be prioritised ahead of bogs worked out or cutaway bogs

2. The sensitivity of the receiving water:

We will be prioritising any rivers classified as bad, with poor, pass, and moderate being prioritised next, ahead of good or high status rivers. Within each of these classifications emissions from ponds requiring upgrade will be further prioritized. Depending on the amount of discharge points to any particular water course classification, it may take more than one quarter to complete all the discharges to that classification. All the ponds will however be sampled within 4.5 years which is within the five year window prescribed by condition 6.2 of the licence amendment. In addition any rivers prioritised in the RBMP's will be included in this prioritisation.

3. The reliability of the silt ponds control measures; and, The status of the silt pond upgrade programme.

Silt ponds that have been identified as requiring up grade as part of the silt pond upgrade programme will be prioritised within their respective river classification category.

4. Nature and Magnitude and Variability of discharges.

Discharges from Bord na Mona peatlands can be classified into two distinct categories, pumped or gravity. The majority of peatlands in the vicinity of the rivers Shannon and Suck are traditionally pumped but not exclusively so. Other licence areas such as Allen would have a higher percentage of gravity drainage with pumping traditionally taking place in the bogs in production the longest. The magnitude and variability is totally rainfall dependent. Sites that are pumped generally travel via gravity for considerable distances prior to final discharge with few if any sites being pumped directly to a receiving water course. The monitoring schedule includes whether a site is pumped or gravity drained.

- **Under licence condition 6.5, submit the trigger levels for Ammonia and the appropriate corrective action procedures.**

6.14 The licensee shall, by 1st February 2013, establish a suitable trigger level for total ammonia in surface water discharges. The licensee shall have in place a response programme to address the attainment or exceedence of the trigger level value. This response programme shall include the necessary actions to ensure there will be no emissions to surface water of environmental significance.

In establishing trigger levels for ammonia (NH₄-N) the results of quarterly grab samples from 4 sites were scrutinized from 2004 – 2012 for the 90 percentile value, ie the ammonia level that 90% of the results were below. The max value recorded being 6.7 mg/l with a mean of 1.78mg/l with 90% of results being less than 3.78 mg/l Similarly Composite Sampler ammonia results from 3 sites were scrutinized from

2004 – 2012, using the same methodology with results showing a max of 4.81mg/l and a mean 1.4 mg/l with 90% being less than 2.69 mg/l.

In selecting an ammonia trigger level it was decided to pick the quarterly grab figure of 3.78 mg/l as this is more representative of licence emission points which are required to be sampled at least once every 5 years under condition 6.2. The basis for the above findings is attached in graph format. Therefore the proposed ammonia trigger level for Kilberry IPPC Licence 506 is 3.78 mg/l plus a freeboard of 20% giving a final trigger level of 4.53 mg/l.

Bord na Mona Kilberry
IPPC Licence P0506-01

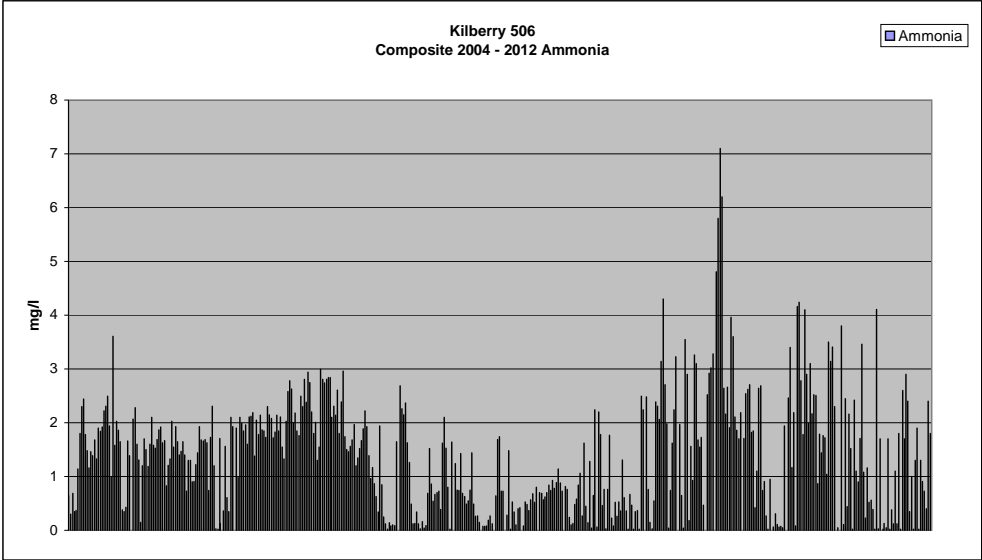
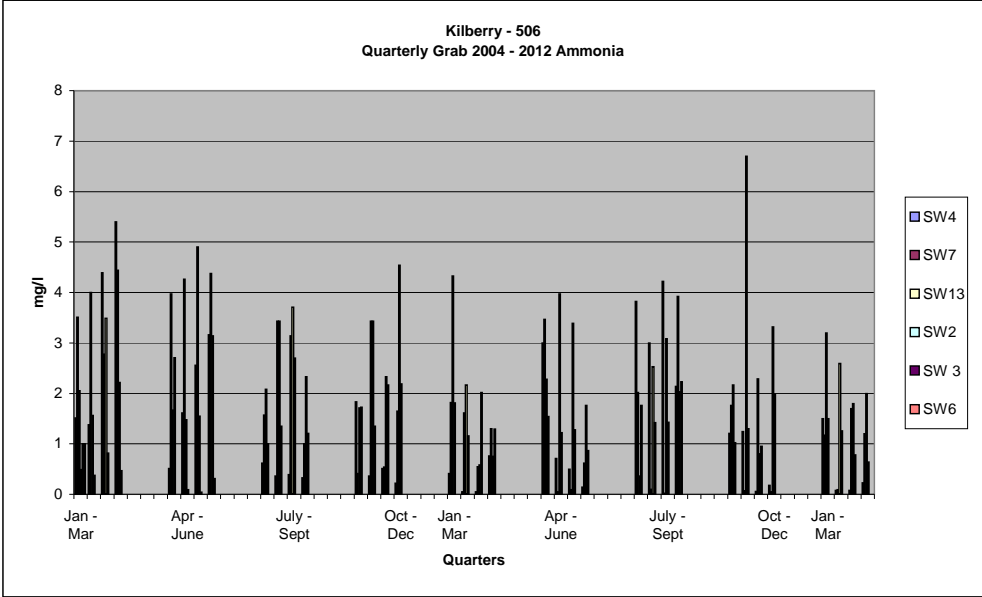
Siltpond Monitoring Frequency

X	Y	Bog	SW	Monitoring	Status	Drainage	Upgrade Status	RBD	Receiving Water Quality	Sampled
266654.80	199892.88	Kilberry	SW-1	Q2 13	Operational	Gravity	Complete	SERBD	Moderate	
267239.42	201958.36	Kilberry	SW-2	Q2 13	Operational	Gravity	Complete	SERBD	Moderate	
267200.77	201949.29	Kilberry	SW-3	Q2 13	Operational	Gravity	Complete	SERBD	Moderate	
268870.08	199128.68	Kilberry	SW-3A	Q3 13	Operational	Gravity	Complete	SERBD	Moderate	
270082.33	199354.32	Kilberry	SW-3B	Q3 13	Operational	Gravity	Complete	SERBD	Moderate	
270684.25	201649.88	Kilberry	SW3-C	Q3 13	Operational	Gravity	Ongoing	SERBD	Moderate	
262597.34	216781.70	Ummeras	SW-4	Q4 13	Operational	Gravity	Complete	SERBD	Moderate	
262581.53	214669.12	Ummeras	SW-6	Q4 13	Operational	Gravity	Complete	SERBD	Moderate	
262280.17	215578.65	Ummeras	SW-6A	Q4 13	Operational	Gravity	Complete	SERBD	Moderate	
283610.02	228467.98	Prosperous	SW-15	Q1 14	Operational	Gravity	Complete	ERBD	Not Monitored	
283497.47	230604.25	Prosperous	SW-16	Q1 14	Operational	Gravity	Complete	ERBD	Not Monitored	
284083.62	229490.13	Prosperous	SW-17	Q1 14	Operational	Gravity	Complete	ERBD	Not Monitored	
263559.73	214906.67	Ummeras	SW-5	Q2 14	Operational	Gravity	Complete	SERBD	Not Monitored	
279548.84	233696.75	Gilltown	SW-7	Q2 14	Operational	Gravity	Complete	ERBD	Good	
280775.39	233404.44	Gilltown	SW-9	Q2 14	Operational	Gravity	Complete	ERBD	Good	
279677.46	231646.85	Gilltown	SW-11	Q3 14	Operational	Gravity	Complete	ERBD	Good	
282032.94	221405.51	Allen	SW-13	Q3 14	Operational	Gravity	Complete	ERBD	Good	
279374.51	221128.33	Allen	SW-14	Q3 14	Operational	Gravity	Complete	ERBD	Good	
279522.44	220979.75	Allen	SW-14A	Q4 14	Operational	Gravity	Complete	ERBD	Good	

Licence	SW's	Proposed Quarterly Sampled	Proposed Yearly Sampled	Minimum Sampled/Quarter	Actually Sampled/Quarter	Actually Sampled/5 Years	Comment
506	19	3	12	0.95	3	60	Move Quarterly

Source Data

Q1 13	Virgin	Gravity	Ongoing	SRBD	High	Yes
Q2 13	Development	Pumped	Complete	ERBD	Good	No
Q3 13	Operational			SERBD	Moderate	
Q4 13	Cutaway				Pass	
Q1 14					Poor	
Q2 14					Bad	
Q3 14					Not Monitored	
Q4 14						
Q1 15						
Q2 15						
Q3 15						
Q4 15						
Q1 16						
Q2 16						
Q3 16						
Q4 16						
Q1 17						
Q2 17						
Q3 17						
Q4 17						



Response to RFI (RI000154)
In Relation to
Surface Water Discharge Monitoring Programme

- **Bog names to assist in identifying the monitoring point locations**

The bog name and easting and northing co-ordinates have now been included on the amended monitoring schedule.

- **Surface water discharge monitoring programme.**

Regarding the requirement to the requirements of 6.2:

6.2 The licensee shall, by the 1st February 2013, submit for agreement by the Agency a revised proposal for a surface water discharge monitoring programme. This programme shall have regard to the following:

The current status of each bogland (virgin, under development, operational or worked out);

The sensitivity of the receiving water;

The relevant River Basin Management Plan;

The nature, magnitude and variability of the discharges;

The reliability of the silt ponds control measures; and,

The status of the silt pond upgrade programme.

The revised surface water discharge monitoring location programme shall ensure that a representative selection of all surface water emission points from boglands within the licensed area is monitored annually and that all emission points are monitored at least once every five years. Surface water emission points shall be monitored as set out in Schedule 1(ii) Monitoring of Emissions to Water of this licence.

We will be prioritising these as follows:

1. Active bogs.
2. Sensitivity of receiving water (we will be prioritising any river we discharge to that are from moderate down to poor as per the EPA River Quality data). This will include any rivers prioritised in the Shannon River Basin Plan and the Water Management Units Plans)
3. The status of the silt pond upgrade programme.
4. Pumped versus gravity drainage.

1. The current status of each bogland (virgin, under development, operational or worked out.

All active bogs will be prioritised ahead of bogs worked out or cutaway bogs

2. The sensitivity of the receiving water:

We will be prioritising any rivers classified as bad, with poor, pass, and moderate being prioritised next, ahead of good or high status rivers. Within each of these classifications emissions from ponds requiring upgrade will be further prioritized. Depending on the amount of discharge points to any particular water course classification, it may take more than one quarter to complete all the discharges to that classification. All the ponds will however be sampled within 4.5 years which is within the five year window prescribed by condition 6.2 of the licence amendment. In addition any rivers prioritised in the RBMP's will be included in this prioritisation.

3. The reliability of the silt ponds control measures; and, The status of the silt pond upgrade programme.

Silt ponds that have been identified as requiring up grade as part of the silt pond upgrade programme will be prioritised within their respective river classification category.

4. Nature and Magnitude and Variability of discharges.

Discharges from Bord na Mona peatlands can be classified into two distinct categories, pumped or gravity. The majority of peatlands in the vicinity of the rivers Shannon and Suck are traditionally pumped but not exclusively so. Other licence areas such as Allen would have a higher percentage of gravity drainage with pumping traditionally taking place in the bogs in production the longest. The magnitude and variability is totally rainfall dependent. Sites that are pumped generally travel via gravity for considerable distances prior to final discharge with few if any sites being pumped directly to a receiving water course. The monitoring schedule includes whether a site is pumped or gravity drained.

- **Under licence condition 6.5, submit the trigger levels for Ammonia and the appropriate corrective action procedures.**

6.14 The licensee shall, by 1st February 2013, establish a suitable trigger level for total ammonia in surface water discharges. The licensee shall have in place a response programme to address the attainment or exceedence of the trigger level value. This response programme shall include the necessary actions to ensure there will be no emissions to surface water of environmental significance.

In establishing trigger levels for ammonia (NH₄-N) the results of quarterly grab samples from 2 sites were scrutinized from 2006 – 2012 for the 90 percentile value, ie the ammonia level that 90% of the results were below. The max value recorded being 4.24 mg/l with a mean of 0.858 mg/l with 90% of results being less than 2.40 mg/l. Similarly Composite Sampler ammonia results from 2 sites were scrutinized from

2005 – 2012, using the same methodology with results showing a max of 4.83 mg/l and a mean of 0.91 mg/l with 90% being less than 2 mg/l.

In selecting an ammonia trigger level it was decided to pick the quarterly grab figure of 2.40 mg/l as this is more representative of licence emission points which are required to be sampled at least once every 5 years under condition 6.2. The basis for the above findings is attached in graph format. Therefore the proposed ammonia trigger level for Cuil na Mona IPPC Licence 507 is 2.40 mg/l plus a freeboard of 20% giving a final trigger level of 2.88 mg/l.

Bord na Mona Cuil na Mona					Siltpond Monitoring Frequency					
IPPC Licence P0507-01										
X	Y	Bog	SW	Monitoring	Status	Drainage	Upgrade Status	RBD	Receiving Water Quality	Sampled
241044.03	196363.06	Coolnamona	SW-6	Q2 13	Operational	Gravity	Complete	SERBD	Poor	
243248.85	196667.60	Coolnamona	SW-9	Q2 13	Operational	Gravity	Complete	SERBD	Poor	
242800.57	192359.54	Coolnacarton	SW-12	Q2 13	Operational	Gravity	Complete	SERBD	Poor	
243650.14	192140.24	Coolnacarton	SW-14	Q3 13	Operational	Gravity	Complete	SERBD	Poor	
243409.81	192198.71	Coolnacarton	SW-14A	Q3 13	Operational	Gravity	Complete	SERBD	Poor	
245488.42	191084.90	Cashel	SW-16	Q3 13	Operational	Gravity	Complete	SERBD	Poor	
246065.49	191080.85	Cashel	SW-17	Q4 13	Operational	Gravity	Complete	SERBD	Poor	
241983.51	195773.17	Coolnamona	SW-8	Q4 13	Operational	Gravity	Complete	SERBD	Moderate	
244939.80	195193.19	Coolnacarton	SW-13	Q4 13	Operational	Gravity	Complete	SERBD	Not Monitored	
246075.03	192615.14	Cashel	SW-18	Q1 14	Operational	Gravity	Complete	SERBD	Not Monitored	
241454.18	198643.31	Coolnamona	SW-1	Q1 14	Operational	Gravity	Complete	SERBD	Good	
240535.90	197955.63	Coolnamona	SW-2	Q1 14	Operational	Gravity	Complete	SERBD	Good	
242328.78	198179.85	Coolnamona	SW-3	Q2 14	Operational	Gravity	Complete	SERBD	Good	

Licence	SW's	Proposed Quarterly Sampled	Proposed Yearly Sampled	Minimum Required Sampled/Quarter	Actually Sampled/Quarter	Actually Sampled/5 Years	Comment
507	13	3	12	0.65	3	60	Move Quarterly

Source Data

Q1 13	Virgin	Gravity	Ongoing	SRBD	High	Yes
Q2 13	Development	Pumped	Complete	ERBD	Good	No
Q3 13	Operational			SERBD	Moderate	
Q4 13	Cutaway				Pass	
Q1 14					Poor	
Q2 14					Bad	
Q3 14					Not Monitored	
Q4 14						
Q1 15						
Q2 15						
Q3 15						
Q4 15						
Q1 16						
Q2 16						
Q3 16						
Q4 16						
Q1 17						
Q2 17						
Q3 17						
Q4 17						

