

ENVIRONMENTAL PROTECTION
AGENCY
19 JUL 2010

Sonja Smith
Administration Officer
Office of Climate, Licensing & Resource Use
Environmental protection Agency
PO box 3000

The Environmental Protection
Agency
20 JUL 2010
CORK

Johnstown Castle Estate
County Wexford

Dear Sonja

Please find attached the following documents relating to my second submission to the Environment Protection Agency in response to the letter I received on 7th May 2010 regards Reg No: P091401.

This submission is inclusive of the following

- ✓ Response to the submission dated 7th May for request for additional information in regards to our Application for an Integrated Pollution Prevention Control License Coole (2 copies of each).
- ✓ Also included in this submission EPA Submission #2 is the responses to submission number 6 Our Ref: E20 1 O/ 1 8 which was received from the Environmental protection Agency on 24th June 2010
- ✓ Attachment Number B2 1A- Ordinance Survey Ortho Maps showing silt traps emission locations for Clonsura and the locations for Mayne, Ballinealoe & Lower Coole (2 copies of each).
- ✓ Attachment B2 1B -Ordinance survey maps for each location at Clonsura and Lower Coole, Mayne & Ballinealoe (2 copies of each).

If you have any questions regards any of the information included in the application form or the supporting documentation and attachments package please do not hesitate to contact me on the number or E mail attached below.

Kind regards

Yours sincerely

Mark Hamill 16/07/2010

Mark Hamill
Quality Systems Manager
Westland Horticulture
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EPA Submission #2
Reg No: P0914-01

**Supporting Documentation &
Continuation Sheets for an
Application for an Integrated
Pollution Prevention Control
By Westland Horticulture
For The Management Of Peat
Harvesting operations For
Peat Bogs In County
Westmeath**

Signed

Date

Section B1:

1. The company's certificate of incorporation is attached Appendix A
2. The companies registration number is NI2731
3. The company was formed on 16/03/1993 the particulars of the companies registered office are 61 Malone Road, Belfast.

Section B2:

1. AutoCAD drawings in Irish Grid projection. I have attached 2 A3 maps of the bogs in Irish Grid projection and I have attached an ordinance survey Ortho map detailing the locations of the bogs and I have attached a table detailing the Irish grid references for the silt traps for each site at Coole & Clonsura.
2. I can confirm that we will not operate the small area of bog whose drainage discharges just below silt pond no. #1.

Section B.5

1. It is our believe that our operations are exempted from planning Permission under the exemptions detailed in the 2001 Planning & Development Regulations of 2001

As I understand it, Peat Extraction is regulated under the Planning and Development Act 2000, and the Planning and Development Regulations 2001, as follows;

Exempt Development, Class 17(b).

Peat extraction in a new or extended area of 10 hectares or more where the drainage of the bogland commenced prior to the coming into force of these Regulations.

The drainage of each of the Folios above commenced in or around the period 1982 to 1984, and indeed was grant aided by a then State Body, Bord na Mona.

The above lands have been continuously drained since the mid 1980's, and are therefore exempt development under the Planning and Development Act 2000, and Planning and Development Regulations 2001.

We have confirmed these facts with the Planning authorities of Westmeath County council and have received no further correspondence on this matter as yet to confirm if we are required to take any further action.

See attached letter of letter sent to Westmeath County council (Attachment B)

2. We have sent the Planning section of Westmeath County council a copy of our site notice detailing our application for an IPPC license to the EPA which was also publicly advertised in the Westmeath Examiner for the period of time stipulated by the EPA as part of our application process. To date we have not received any confirmation or request to complete an Environmental Impact Statement but if we are requested to do so we will complete with immediate effect. (Appendix C)

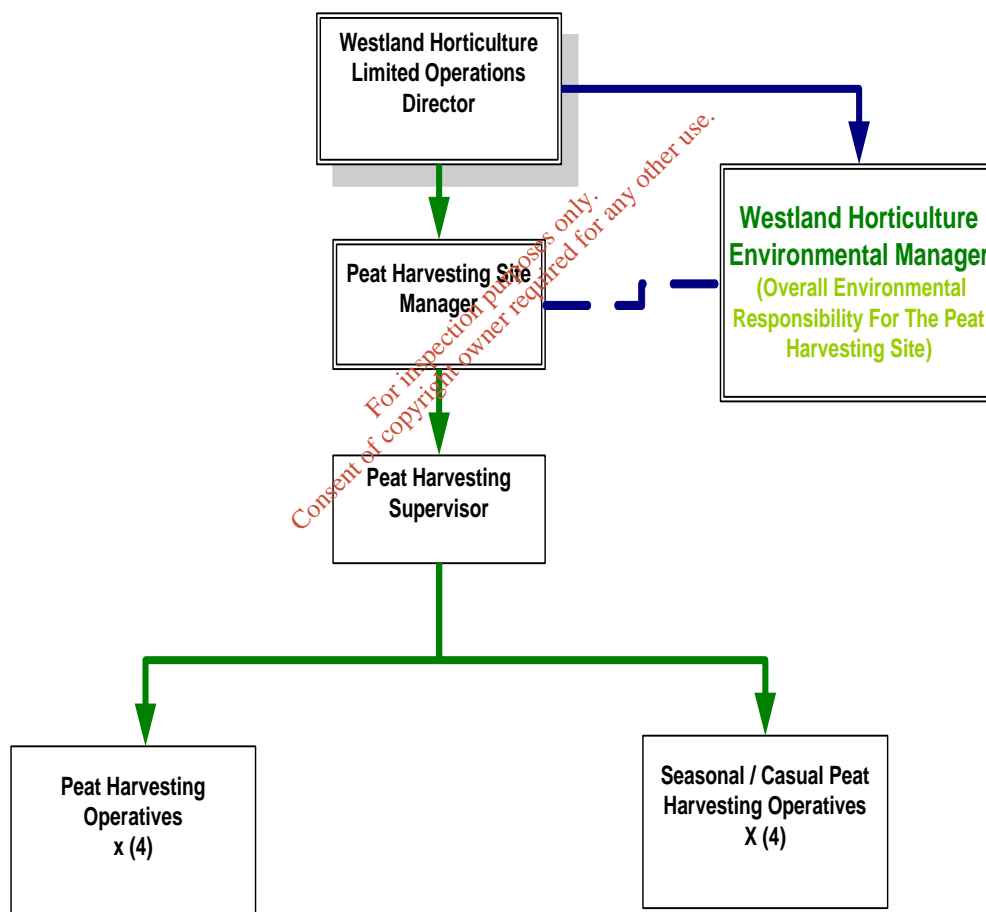
Section B.8

1. The maps will be resubmitted showing the site notice locations and a copy of the text of the site notice as placed on our site and as sent to the Planning office of Westmeath County Council. These maps will be sent this time without any confidential information demarcation. (Appendix D).
2. A copy of the site notice given to the Planning Department of Westmeath County council has also been attached (Appendix C).
3. The site notice at the entrance to Lower Coole/Mayne/Ballinealoe has been relocated so that it is more visible to people on the public road but we have had some issues with this notice being removed from our main gates.

Section C.1

1. See attached organisational chart detailing the site management structure and responsibility levels for Environmental Management.

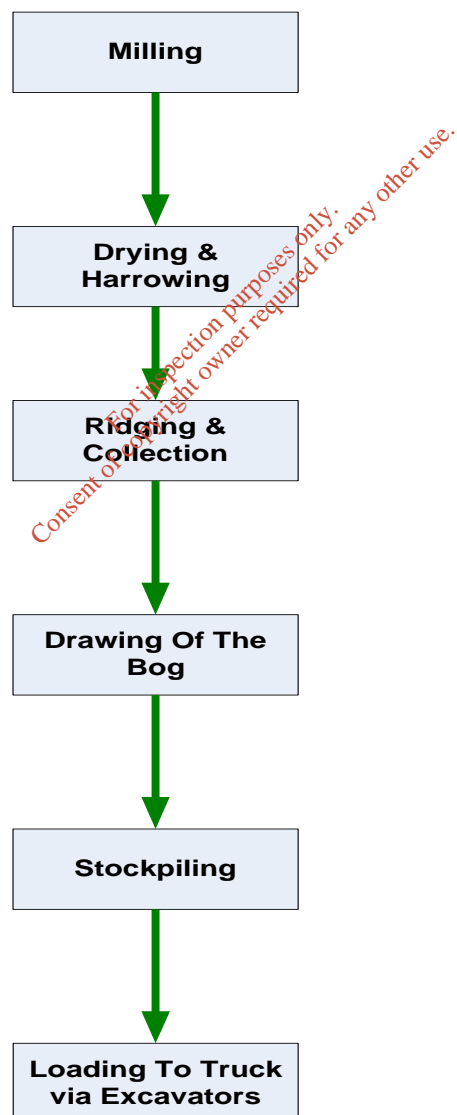
Organisational Chart For Peat Harvesting Operations, County Westmeath



Section D

1. The unit operations are simply detailed as those operations which take on or off the bog with details attached on the attached site map (Appendix E)
 - We only have 2 temporary structures located on the site at Lower Coole / Mayne site entrance as identified on the site map (Appendix E) These are old lorry containers with 1 used as an office and 1 used as storage we do not have any toilet or sanitation units on any of our sites.
 - We also have no permanent fuel storage on site as we only use a mobile bouser which is stored beside our offices on the hard standing area at the main entrance to our site at Lower Coole & Mayne.
2. The units operations occurring on the site are detailed as follows

Peat Harvesting Operations Process Flow:



Unit 1: On the bog Operations - These will include all tasks that take place on the active peat Bog itself as follows;

Milling – This is the loosening up of a fresh layer of peat from the surface which is required to free up the peat surface.

Drying & Harrowing – Harrowing is required to loosen up the pore structure of the peat and expose the fresh peat Layer to air to dry out and regularly turn over with the harrow.

Ridging & Collection – This is the positioning of the fresh dry peat surface layer into ridges or drills that are then collected in the collection machine.

Unit 2: Off the bog Operations - these will include all tasks that take place off the active peat Bog itself as follows;

Drawing off The Bog – This is the removal of the fresh dry peat layer of the active bog area to the stock piling area.

Stockpiling – This is the stock piling of Fresh, dry peat into compacted layers to prevent dust emissions in non sensitive locations of then bog ready for loading for transportation.

Silt pond Cleaning & The Draining of Silt Removed From The Silt Ponds: -

To ensure our silt ponds are operating at optimised performance we need to complete regular scheduled cleaning as detailed above with minimum occurrence of 2 times per year.

When cleaning there are some guidelines that we have outlined as per Work Instruction WI20/03 attached appendix “D”. This includes outline of instruction for reuse of excavated Silt Pond sludge.

These guidelines include the complete damming off or sealing of the outlet from the Silt pond through adjustable weir that will give us additional capacity to contain silt pond outlet flows post cleaning until disturbed silt has resettled.

The outfall from silt ponds are always cleaned from upstream direction with downstream end blocked

The sludge excavation should be carried out by a long reach excavator and were none is available ledging is required

Details of Work instruction WI2003 Silt Pond Cleaning Procedure.

- 1.1 All silt ponds need to be cleaned out a minimum of 2 times per year preferably in April before Peat Harvesting commences and in September after production has ceased for the year.
- 1.2 In years with higher than normal average rainfall the silt ponds should be cleaned out a 3rd time possibly in January.
- 1.3 The silt ponds will also be cleaned out as required dependent on the feedback from visual audit inspection completed every week for all silt traps.
- 1.4 Or alternatively based on the analytical results completed every 4 weeks for all silt traps for suspended solids exceeding 35 Mg/Litre as stipulated by Environmental Protection Agency.
- 1.5 Particular attention should be paid to silt pond cleanliness and weir level adjustment post occurrences of heavy rainfall.
- 1.6 When cleaning silt ponds the weir on the outlet of the silt traps need to be dammed up to contain all the liquid within the settlement trap ensuring that there is sufficient capacity to hold up to 6 hours worth of runoff volume.
- 1.7 The silt pond should be cleaned from upstream direction towards the downstream outfall.
- 1.8 The silt pond will then be dredged with mechanical digger with the excavated sludge being spread at least 3 mm away from the silt trap and allowed to dry out.
- 1.9 Once the dredges silt has dried out it will be spread out over the production fields or used for maintenance and bulldozed over cut away bog and stabilised.
- 1.10 Special care needs to be paid to ensure there is no run off back into the silt trap during cleaning and that we do not cause any additional peat deposition into the silt traps by disturbing the side walls.
- 1.11 The outlet of the silt trap needs to remain closed post cleaning and not opened until all suspended peat particles in the trap have settled post being disturbed by cleaning.

Section E

1. Tables E.2 (ii) Emissions to surface water for all settlement traps –

***Emission point reference number: Silt Trap #1 Lower Coole
Grid Reference - 239548 E, 272725 N***

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	10.75	10.75	5.88071225		
COD	42	42	22.975806		
pH	7.3	7.3	3.9934139		
Orthophosphate	0.05	0.05	0.02735215		
Total Suspended Solids	10	10	5.47043		
Ammonia	1	1	0.547043		
Turbidity	0.83	0.83	0.45404569		

**Emission point reference number: Silt Trap #2 Mayne
Grid Reference - 239263 E, 272363 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	4.5	4.5	2.4616935		
COD	39	39	21.334677		
pH	7.6	7.6	4.1575268		
Orthophosphate	0.01	0.01	0.00547043		
Total Suspended Solids	8.4	8.4	4.5951612		
Ammonia	1.29	1.29	0.70568547		
Turbidity	2.03	2.03	1.11049729		

**Emission point reference number: Silt Trap #3 Mayne
Grid Reference - 239247 E, 271815 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	13.5	13.5	6.9235155		
COD	72	72	36.925416		
pH	7.1	7.1	3.6412563		
Orthophosphate	0.05	0.05	0.02564265		
Total Suspended Solids	10.4	10.4	5.3336712		
Ammonia	45	45	23.078385		
Turbidity	4.52	4.52	2.31809556		

**Emission point reference number: Silt Trap #4 Mayne
Grid Reference - 239447 E, 271443 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	20.75	20.75	11.35114225		
COD	145	145	79.321235		
pH	6.1	6.1	3.3369623		
Orthophosphate	0.01	0.01	0.00547043		
Total Suspended Solids	8.8	8.8	4.8139784		
Ammonia	?	?	1.094086		
Turbidity	4.17	4.17	2.28116931		

**Emission point reference number: Silt Trap #5 Ballinealoe
Grid Reference - 239823 E, 271192 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	13.5	13.5	7.3850805		
COD	74	74	40.481182		
pH	7.1	7.1	3.8840053		
Orthophosphate	0.05	0.05	0.02735215		
Total Suspended Solids	3.6	3.6	1.9693548		
Ammonia	1.4	1.4	0.7658602		
Turbidity	1.02	1.02	0.55798386		

**Emission point reference number: Silt Trap #6 Ballinealoe
Grid Reference - 239260 E, 271289 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	12.5	12.5	4.70115		
COD	74	74	27.830808		
pH	7.2	7.2	2.7078624		
Orthophosphate	0.05	0.05	0.0188046		
Total Suspended Solids	5.2	5.2	1.9556784		
Ammonia	1.5	1.5	0.564138		
Turbidity	0.82	0.82	0.30839544		

**Emission point reference number: Silt Trap #7 Ballinaloe
Grid Reference - 240338 E, 2706939 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	15.38	15.38	9.46520574		
COD	94	94	57.849762		
pH	6.5	6.5	4.0002495		
Orthophosphate	0.05	0.05	0.03077115		
Total Suspended Solids	20	20	12.30846		
Ammonia	1.75	1.75	1.07699025		
Turbidity	1.48	1.48	0.91082604		

**Emission point reference number: Silt Trap #1 Clonsura
Grid Reference - 241291 E, 276763 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	20	20	10.94086		
COD	86	86	47.045698		
pH	7.3	7.3	3.9934139		
Orthophosphate	0.005	0.005	0.002735215		
Total Suspended Solids	10.4	10.4	5.6892472		
Ammonia	1.24	1.24	0.67833332		
Turbidity	3.22	3.22	1.76147846		

**Emission point reference number: Silt Trap #2 Clonsura
Grid Reference - 241639 E, 276801 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	10.25	10.25	5.60719075		
COD	111	111	60.721773		
pH	6.1	6.1	3.3369623		
Orthophosphate	0.1	0.1	0.0547043		
Total Suspended Solids	5.6	5.6	3.0634408		
Ammonia	1.65	1.65	0.90262095		
Turbidity	1.76	1.76	0.96279568		

**Emission point reference number: Silt Trap #3 Clonsura
Grid Reference - 242118 E, 277087 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	21.5	21.5	11.7614245		
COD	85	85	46.498655		
pH	7.4	7.4	4.0481182		
Orthophosphate	0.05	0.05	0.02735215		
Total Suspended Solids	7.2	7.2	3.9387096		
Ammonia	1.86	1.86	1.01749998		
Turbidity	3.15	3.15	1.72318545		

**Emission point reference number: Silt Trap #4 Clonsura
Grid Reference - 241824 E, 277185 N**

Parameter	As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	19.5	21.5	11.7614245		
COD	79	85	46.498655		
pH	7.3	7.4	4.0481182		
Orthophosphate	0.05	0.05	0.02735215		
Total Suspended Solids	4	7.2	3.9387096		
Ammonia	1.9	1.86	1.01749998		
Turbidity	3.72	3.15	1.72318545		

Resubmission Of Tables E2 (i)

- ❖ The waste assimilative capacities were calculated from the average level of rainfall per day by the area of bog serviced by each individual settlement trap or emission point then calculated out by using the actual analytical concentration as measured empirically in the lab for the key parameter of total suspended solids for each emission point or settlement trap.
- ❖ Note I have not submitted any data for the other key analytical parameter of Ammonia as the laboratory results I have received have shown no Ammonia detected in any of the analytical samples from any of our Emission points.
- ❖ Note the tables have been updated and resubmitted in this calculation as I noted that I had made an error in my calculations on the previous submissions in terms of assimilative capacity and as a result the figures that are now submitted in the tables below are now accurately reflecting the level of assimilative capacity for Total Suspended solids in Kg/day per emission point.
- ❖ The data for assimilative capacities are now all different for all silt traps as this data is calculated based on actual analytical data for each individual settlement trap for total suspended solids.

See Tables E2 (i) resubmitted for each emission point.

Emission Point:	
Emission Point Ref. N°:	Silt Trap #1
Source of Emission:	Rain water
Location :	Lower Coole
Grid Ref. (12 digit, 6E,6N):	239547E, 272724 N
Name of receiving waters:	Inny river
Flow rate in receiving waters:	0.15 m ³ .sec ⁻¹ Dry Weather Flow 0.23 m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	Average 5.47 Kg/day TSS

Emission Details:			
(i) Volume to be emitted			
Normal/day	547 m ³	Maximum/day	11520 m ³
Maximum rate/hour	480 m ³		

Emission Point:	
Emission Point Ref. N°:	Silt Trap #2
Source of Emission:	Rain water
Location :	Mayne
Grid Ref. (12 digit, 6E,6N):	239262E, 272362 N
Name of receiving waters:	Inny river
Flow rate in receiving waters:	0.15 m ³ .sec ⁻¹ Dry Weather Flow 0.23 m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	Average 10.33 Kg/day TSS

Emission Details:			
(i) Volume to be emitted			
Normal/day	1231 m ³	Maximum/day	25920 m ³
Maximum rate/hour	1080 m ³		

Emission Point:	
Emission Point Ref. N°:	Silt Trap #3
Source of Emission:	Rain water
Location :	Mayne
Grid Ref. (12 digit, 6E,6N):	239246E, 271815 N
Name of receiving waters:	Inny river
Flow rate in receiving waters:	0.14 m ³ .sec ⁻¹ Dry Weather Flow 0.24 m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	Average 5.33 Kg/day TSS

Emission Details:			
(i) Volume to be emitted			
Normal/day	513 m ³	Maximum/day	10800 m ³
Maximum rate/hour	450 m ³		

Emission Point:	
Emission Point Ref. N ^o :	Silt Trap #5
Source of Emission:	Rain water
Location :	Ballinealoe
Grid Ref. (12 digit, 6E,6N):	239822E, 271192 N
Name of receiving waters:	Inny river
Flow rate in receiving waters:	0.16 m ³ .sec ⁻¹ Dry Weather Flow 0.26 m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	Average 1.96 Kg/day TSS

Emission Details:			
(i) Volume to be emitted			
Normal/day	547 m ³	Maximum/day	11520 m ³
Maximum rate/hour	480 m ³		

Emission Point:	
Emission Point Ref. N ^o :	Silt Trap #6
Source of Emission:	Rain water
Location :	Ballinealoe
Grid Ref. (12 digit, 6E,6N):	239259E, 271289N
Name of receiving waters:	Inny river
Flow rate in receiving waters:	0.05 m ³ .sec ⁻¹ Dry Weather Flow 0.075 m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	Average 1.95 Kg/day TSS

Emission Details:			
(i) Volume to be emitted			
Normal/day	376 m ³	Maximum/day	7920 m ³
Maximum rate/hour	330 m ³		

Emission Point:	
Emission Point Ref. N ^o :	Silt Trap #7
Source of Emission:	Rain water
Location :	Ballinealoe
Grid Ref. (12 digit, 6E,6N):	240337E, 270693N
Name of receiving waters:	Inny river
Flow rate in receiving waters:	0.04 m ³ .sec ⁻¹ Dry Weather Flow 0.08 m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	Average 12.30 Kg/day TSS

Emission Details:			
(i) Volume to be emitted			
Normal/day	615 m ³	Maximum/day	12960 m ³
Maximum rate/hour	540 m ³		

Emission Point:	
Emission Point Ref. N°:	Silt Trap #8
Source of Emission:	Rain water
Location :	Clonsura
Grid Ref. (12 digit, 6E,6N):	241290E, 276673N
Name of receiving waters:	Inny river
Flow rate in receiving waters:	<u>0.16</u> m ³ .sec ⁻¹ Dry Weather Flow <u>0.028</u> m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	Average 5.68 Kg/day TSS

Emission Details:			
(i) Volume to be emitted			
Normal/day	547 m³	Maximum/day	11520 m³
Maximum rate/hour	480 m³		

Emission Point:	
Emission Point Ref. N°:	Silt Trap #9
Source of Emission:	Rain water
Location :	Clonsura
Grid Ref. (12 digit, 6E,6N):	241639E, 276801N
Name of receiving waters:	Inny river
Flow rate in receiving waters:	<u>0.17</u> m ³ .sec ⁻¹ Dry Weather Flow <u>0.28</u> m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	Average 3.06 Kg/day TSS

Emission Details:			
(i) Volume to be emitted			
Normal/day	547 m³	Maximum/day	11520 m³
Maximum rate/hour	480 m³		

Emission Point:	
Emission Point Ref. N°:	Silt Trap #10
Source of Emission:	Rain water
Location :	Clonsura
Grid Ref. (12 digit, 6E,6N):	242118E, 277086N
Name of receiving waters:	Inny river
Flow rate in receiving waters:	<u>0.58</u> m ³ .sec ⁻¹ Dry Weather Flow <u>0.71</u> m ³ .sec ⁻¹ 95%ile flow
Available waste assimilative capacity:	Average 3.93 Kg/day TSS

Emission Details:			
(i) Volume to be emitted			
Normal/day	547 m³	Maximum/day	11520 m³
Maximum rate/hour	480 m³		

Emission Point:			
Emission Point Ref. N ^o :	Silt Trap #11		
Source of Emission:	Rain water		
Location :	Clonsura		
Grid Ref. (12 digit, 6E,6N):	241824E, 277184N		
Name of receiving waters:	Inny river		
Flow rate in receiving waters:	0.58 m ³ .sec ⁻¹ Dry Weather Flow 0.71 m ³ .sec ⁻¹ 95%ile flow		
Available waste assimilative capacity:	Average 2.18 Kg/day TSS		
Emission Details:			
(i) Volume to be emitted			
Normal/day		547 m ³	Maximum/day 11520 m ³
Maximum rate/hour		480 m ³	

2. Table E6 Tabular Data On Emissions Points

Silt Trap ID	Silt Trap Location	Point Type	Grid Reference Easting	Grid Reference Northing	Verified	Emission
Coole ST #1	Lower Coole	SW	239548	272725	N	Total Suspended Solids
Coole ST #2	Mayne	SW	239263	272383	N	Total Suspended Solids
Coole ST #3	Mayne	SW	239247	271815	N	Total Suspended Solids
Coole ST #4	Mayne	SW	239444	271443	N	Total Suspended Solids
Coole ST #5	Ballinealoe	SW	239823	271192	N	Total Suspended Solids
Coole ST #6	Ballinealoe	SW	239260	271289	N	Total Suspended Solids
Coole ST #7	Ballinealoe	SW	240338	270693	N	Total Suspended Solids
Clonsura ST#1	Clonsara	SW	241291	276763	N	Total Suspended Solids
Clonsura ST#2	Clonsara	SW	241639	276801	N	Total Suspended Solids
Clonsura ST#3	Clonsara	SW	242118	277087	N	Total Suspended Solids
Clonsura ST#4	Clonsara	SW	241824	277185	N	Total Suspended Solids

Section F

- The design of our silt traps conforms to the Best Available Techniques guidance under BATNEEC Guidance which states the “best available technology not entailing excessive costs” that should be best at preventing pollution which we can verify it is based on our empirical evidence of our analytical data results received from both grab samples and 24 hour composite sampling of the discharge from our settlement traps. That it is available in the sense that it is procurable from then industry and relative cost effective to complete and addresses the balance between environmental benefit and financial expense.

- We believe that our settlement pond design ticks a number of the categories in section #4 of the BATNEEC guidance in terms of **containment** as it gives us the capacity to contain a large volume of rainfall and silt deposition as we can 50M³ of water for every nett hectare of bog serviced. This gives us a capacity of over 12 hours per hectare of bog services at an average rainfall as high as 10 mm. The fact we also have an adjustable weir allows us to control the level of the settlement pond and also allows us to dam off the weir to prevent and emissions of water or silt from leaving the settlement pond. This is particularly beneficial during periods of heavy rainfall or when cleaning the settlement ponds.

TECHNOLOGIES FOR TREATING WATER EMISSIONS

(No priority ranking is intended, and the appropriate selection in a particular case will depend on the specifics of the process concerned and on site constraints).

(Symbols refer to table 4.2).

4.6.1 Treatment

- Coagulation/flocculation (F1).
- **Sedimentation**/filtration/flotation (F2).
- We believe that we are clearly deploying the best available technique of F2 sedimentation to promote the sedimentation of silt in our settlement ponds by retaining the discharge waters and controlling emissions to water.

Table 4.2 - Summary of Technologies for Treating Water Emissions

(Symbols refer to Section 4.6) Emission Type	Technology
Suspended Solids	F1, F2

EMISSIONS TO WATER

It is generally accepted when completing an Environmental Risk Assessment of a peat harvesting operation that the most significant risk is to water pollution from loose peat deposition as silt with increased risk of total suspended solids exceeding the specified discharge limit as stipulated by Environmental Protection Agency.

There are a number of control measures that can be implemented to minimise the risk of water pollution, the main one being the implementation and optimisation of silt control systems including the following components:

- Catchments Areas and Silt Pond Design Optimisation.
- Adjustable Weir Outlet Flow Control
- Inspection.
- Sampling and Analysis.
- Cleaning frequency.
- Cleaning Methodology & Silt pond sludge Re-use

Each of the above items will now be covered in more detail.

a) **Catchments Areas and Silt Pond Design Optimisation**

The silt control ponds are based on the knowledge that peat bogs in milled moss peat production will produce approx 50m³ of runoff per hectare per annum. The silt ponds

are designed in accordance with this requirement. The design capacity of all silt ponds should be a minimum of 50m³ per hectare.

1. I can confirm that flow regulators will be fitted to all settlement ponds on the outlet side prior to discharge to ensure that we can modify the settlement pond level during periods of heavy rainfall and ensure the flow capacity of the settlement traps are not exceeded during flood events.
 - In relation to flood events are main contingencies are that we dam off the weir in the settlement pond to prevent water flowing through quickly across the settlement pond, leading to no retention time for the silt to settle out and deposit in the bottom of the settlement trap.
 - We will also not be harvesting during periods of excessive rainfall as we need the peat to be dry to be harvested hence the amount of fresh silt deposition from the harvesting process should be minimised with the main issue being encountered with rain water runoff as storm water drainage which we can hopefully contain within the capacity of the settlement pond.
 - We will also manage our settlement ponds to make sure they run down to low level and cleaned at the end of the harvesting season to allow us improved capacity during the flood season when we are not harvesting and the River Inny level rises.
3. The rise and fall of the River Inny should not really affect the performance of the settlement ponds gradually over time unless of freak 1 / 100 years storm event as we should be able to adjust our weir levels to compensate for changes in the River level to control the flow across the settlement pond and the discharge velocity of flow existing the settlement pond to the River Inny.
4. The Rotary Flow Velocity Meter is a standalone piece of instrumentation we looked at purchasing for completing ongoing flow velocity readings as detailed below.

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The Swoffer Fiber-optic sensors

The basic principle of the Swoffer fiber-optic sensor is simple and unique: Multiple bundles of fiber-optics, assembled into a propeller driven rotor, gate a beam of infrared light from a photo diode to a photo-sensitive transistor producing electronic pulses. These pulses, generated by the propeller rotor over a precisely measured amount of time, are directly proportional to water velocity.

The electronic half of the sensor is the latest opto-electronics and is epoxy encapsulated in a ½" (12.7mm) diameter acetal resin housing for protection from chemicals and the elements. It can be purchased separately and attached to and used with many in-water devices in addition to those offered by Swoffer. The sensor uses a two-wire signal system requiring only 3 volts for operation and can generate an output signal through over 1000 feet of cable.

The rotating portion of the sensor consists of a very low friction fiber-optics rotor rotating around a polished & hardened stainless steel shaft, all driven by a glass-reinforced nylon propeller. All rotor parts are easily replaceable in the field and spares are provided with every new instrument.

This is one possible longer term solution we looked at to allow us to complete water flow velocities analysis in a much more timely manner.

The "River Survey Method" is basically the standard method of completing flow velocity speed measurements using the distance measured between 2 points in a water course or river and timing the length of time it takes a float (usually an orange) to travel between the 2 premeasured points.



TABLE F.1(i): ABATEMENT / TREATMENT CONTROL

Control ¹ parameter	Equipment ²	Equipment maintenance	Equipment calibration	Equipment back-up
Total Suspended Solids	Settlement Trap	Settlement Traps were all cleaned out 10th - 12th March 2010 and will be cleaned out again at the end of the season in September	During Cleaning Silt Trap Dimensions will be verified	N/A only in emergency conditions as with oilspill when we would tanker out the stormwater
Total Suspended Solids	Adjustalbe Weir	Condition and functionality of the adjustable weirs will be reviewed in detail at the start and end of the peat Harvesting season and any amendments or replacement of the unit if required. There will also be ongoing visual inspection on a weekly basis to verify the operation of each weir.	Adjustments to weirs are made on an ongoing basis depending on weekly visual inspection as per procedure WIR2002 Silt Pond Visual Inspection & Audit Record Sheet or dependent on rainfall and chasnge in level of the settlement pond	Spare adjustable weirs are available if required to refrofitdamaged or faulty units.

5. Table F1(i) only related to the maintenance of our settlement traps with all maintenance determined by visual inspection on a weekly basis as per procedure WIR2002 during the peat harvesting season and a detailed inspection of the condition and functionality of the settlement raps and adjustable weirs before the peat harvesting season commences in April (Normally March) and at the end of the peat Harvesting season (September) we will also complete any additional maintenance in terms of adjustment, amendments or replacement of adjustable weirs of silt disposition cleaning from the settlement traps at any other time based on our weekly visual inspection or analytical laboratory results for total suspended solids that highlight any performance issues. Note We do not complete any onsite maintenance on the bogs on any other equipment used in the peat harvesting operations with all maintenance of all equipment being serviced off site by 2 specialist maintenance contractors namely Seamus Lee Cavan & D & E McHugh Longford
6. There has been an extensive program of works completed for all settlement ponds in the area of Coole, Mayne, Clonsura & Ballinealoe including the addition of Adjustable weirs this has been completed in May. The Program of works for the silt traps in Clonsura including Silt Trap number 12 and associated drainage works will commence at the end of August 2010.
7. We believe there to be no risk of suspended solids in the river Inny from the large drain constructed just downstream from settlement trap 4 as this is solely a border drain to capture storm water runoff and it is located in an area where there is no active peat Harvesting taking place.
8. In terms of Dust Mitigation we have deployed the following Best Available Techniques under BATNEEC Guidance

The existing or possible measures for reducing and controlling emissions are described in this section.

- (i) Load minimisation
- (ii) Containment
- (iii) Recovery/recycle
- (iv) Emission reduction

We meet these guidelines by deploying the following techniques

- Selection of extraction equipment and methodologies to minimise particulate emissions.
- Removal of extracted material as soon as feasible.
- Optimisation of extraction area to reduce dust blow off.
- Minimisation of rain ingress, wind entrainment etc.
- Covered vehicles for offsite road transport.

This can be detailed more thoroughly as follows;

We will manage & control our operations on site to minimise the risk of dust adopting the following measures which have been detailed to all of our staff operating on site in DOC WIR20/01 Attached Appendix “B” with formal training & awareness and training sign off records completed and available for review attached Appendix “C” with originals retained on site at Cul Na Gun.

- i. All headlands and travel areas must be kept free of loose peat at all times by regular ridging & harvesting.
- ii. There should be no harvesting equipment transportation in the designated 30 metre buffer zone adjacent to the Inny River.
- iii. The 30 metre buffer zone adjacent to the Inny river will be maintained with natural vegetation species planted.
- iv. Traffic along headlands will be kept to a minimum and slow speeds maintained.
- v. At the end of season all milled peat remaining on fields should be ridged or compacted to prevent airborne dust generation or silt deposition in waterways.
- vi. There should be no stock piling of loose peat within 100 metres of the Inny River.
- vii. Production operations will be suspended in very windy weather.
- viii. When harvesting the jib is maintained low to the stockpile collection trailers.
- ix. Road transported Peat is suitably covered (sheeted or enclosed).

9. Table F2 (ii) Emissions Monitoring & Sample points

**Emission point Reference Number Dust Gauge #1 Coole Located Beside Silt Trap #2
Mayne, Grid Reference 239263 E, 272363 N**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Dust Gauges	Monthly	Good access	Bergerhoff Dust Gauge	Analytical Balance Weight

**Emission point Reference Number Dust Gauge #1 Clonsura Located Beside Silt Trap #4,
Grid Reference 241824 E, 277185 N**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Dust Gauges	Monthly	Good access	Bergerhoff Dust Gauge	Analytical Balance Weight

**Emission/ Sampling point Reference Water Course #1 Inny River at Float Bridge Grid
Reference 239405 E, 272544 N**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Total Suspended Solids	Quarterly	Good access	Grab	Filtration, Drying & Weighing

**Emission/ Sampling point Reference Water Course #2 Small Tributary Of River Inny at
silt traps #4 Mayne Grid Reference 239447 E, 271443 N**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Total Suspended Solids	Quarterly	Good access	Grab	Filtration, Drying & Weighing

**Emission/ Sampling point Reference Water Course #3 River Glore at silt traps #3
Clonsura Grid Reference 242118 E, 277087 N**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
Total Suspended Solids	Quarterly	Good access	Grab	Filtration, Drying & Weighing

10. Table F3 – Tabular Data on Monitoring & Sampling Points;

Point Code	Point Type	Easting	Northing	Verified	Pollutant
Dust Gauge #1 Coole	M	239263 E	272363 N	N	Dust
Dust Gauge #1 Clonsura	M	241824 E	277185 N	N	Dust
River Inny@Coole	M	239405 E	272544 N	N	TSS
Inny Tributary@Mayne	M	239447 E	271443 N	N	TSS
River Glore @Clonsura	M	242118 E	277087 N	N	TSS

Section G

1. The main source of energy expired during the Peat Harvesting operations is the use of fuel in the form of diesel and it is entirely in our interests to minimise this energy consumption based on the fuel costs. We are trying to combine the benefits of reducing the fuel consumption with the best practise on the bogs by completing the following training & awareness sessions with our operators;

1. The operators will maintain a slow speed at all times when driving along the bogs and the headlands
2. There will be no aggressive change in gears or braking

We will further try to optimise energy or fuel efficiency by implementing effective maintenance.

3. All vehicles will be regularly serviced to ensure efficient fuel economy and optimisation of fuel consumption.

Section H

1. Diesel will be stored on site in a mobile Bouser, this mobile bouser will be stored on the hard standing areas at the main entrance to our sites.
2. There will be no municipal waste generated on site. All equipment maintenance will take place off site at specialist contractors as detailed previously and no waste shall be generated on site as a result.
3. There will be no requirement for sanitary effluent on site as there are no toilet facilities.

Section I

Table I2 (i) Surface Water Quality For River Inny Downstream of Silt Traps 1,2,3 & 5 at Coole

Parameter	Results (mg/l)	Sampling method ² (grab, drift etc.)	Normal Analytical Range ²	Analysis method / technique
	14/06/2010			
BOD	6.5	Grab		Winkler
pH	7.7	Grab		Electrometry
Ammonia	0	Grab		Spectrophotometry
Turbidity	0.567	Grab		
Total Suspended Solids	1.2	Grab		Filtration, Drying & Weighing

Table I2 (i) Surface Water Quality For River Glone Downstream of Silt Traps 3 & 4 at Clonsura

Parameter	Results (mg/l)	Sampling method ² (grab, drift etc.)	Normal Analytical Range ²	Analysis method / technique
	14/06/2010			
BOD	4.75	Grab		Winkler
pH	6.7	Grab		Electrometry
Ammonia	0	Grab		Spectrophotometry
Turbidity	0.94	Grab		
Total Suspended Solids	4.4	Grab		Filtration, Drying & Weighing

1. Looking at the maps from the water framework directive the River Inny at Coole has a status of moderate and the risk analysis states that it expected to achieve good status by 2015 with overall Biological performance stated as moderate and the overall Ecological status cited as moderate.

Status Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: Inny, Trib of Inny

WaterBody Code: IE_SH_26_1371

Overall Status Result: Moderate



	Status Element Description	Result
EX	Status from Monitored or Extrapolated Waterbody	
	Biological Elements	
Q	Macroinvertebrates (Q-Value)	Moderate
F	Fish	n/a
DI	Phytobenthos (Diatoms)	n/a
FPM	Status value as determined by Margartifera	n/a
	Supporting Elements	
MOR	Hydromorphology	n/a
SP	Specific Pollutants	n/a
PC	General Physico-Chemical	Pass
	Chemical Status	
PAS	Chemical Status	n/a
	Overall Ecological Status	
O	Overall Ecological Status	Moderate

When looking at the European Communities (Quality of Salmonoid Waters) regulations 1988 the River Inny is actually not stated as a Salmonoid river under schedule 1 of the regulations.

- ❖ When you look at the analytical data in table I2(i) for the River Inny you will actually see that this river has good water quality as measured downstream from our silt traps. This is evident for all main pollutants particularly Ammonia & Total Suspended solids with no Ammonia detected at all in the analysis and whilst total suspended solids was only analysed at 1.2 Mg/Litre which clearly supports the evidence that our silt traps are performing efficiently and effectively. pH of the river is in the alkaline range which is desirable for this River which feeds into Lough Dergavaragh downstream. Turbidity is also very low as analysed indicating that there is minimal particulate matter present which is normally a very positive indicator of the quality of the water. So overall when you look at the analytical data for all the main River pollutants including Ammonia, Total suspended solids, Turbidity & pH the River Inny is currently displaying very good water quality downstream of our Peat Harvesting Operations.

- ❖ Looking at the maps from the water framework directive the River Glore near Clonsura has a status of Poor and the risk analysis states that it is at risk of not reaching good status by 2015 with overall Biological performance stated as Poor and the overall Ecological status cited as Poor. In regards to this River we only have 2 settlement traps which discharge into this river post a settlement traps that are contracted to Best Available Techniques giving us 50m³ capacity per Hectare to promote containment, retention time in the settlement trap and sedimentation of the silt to prevent siltation of the river. The performance of these silt traps are supported by empirical laboratory analytical data which shows that the discharges from this River are of a sufficiently high quality to suggest that the our peat harvesting operations are not a contributing influence to the poor quality rating of this river particularly as we are only operating over a very small section of this tributary of the River Inny..

Status Report

WaterBody Category: Subbasin Waterbody

WaterBody Name: Glore

WaterBody Code: IE_SH_26_2976

Overall Status Result: Poor



	Status Element Description	Result
EX	Status from Monitored or Extrapolated Waterbody	
	Biological Elements	
Q	Macroinvertebrates (Q-Value)	Poor
F	Fish	n/a
DI	Phytobenthos (Diatoms)	n/a
FPM	Status value as determined by Margartifera	n/a
	Supporting Elements	
MOR	Hydromorphology	n/a
SP	Specific Pollutants	n/a
PC	General Physico-Chemical	Pass
	Chemical Status	
PAS	Chemical Status	n/a
	Overall Ecological Status	
O	Overall Ecological Status	Poor

With regards to the European Communities Environmental Objectives (Surface Waters) Regulations 2009, S.I no 272 all I can stat is that we will take all actions necessary to meet the environmental objectives detailed in the report as follows; We believe that the measures we have in place regards peat Harvesting operational controls and training and by the design of our Settlement Traps and cleaning, inspection and analysis regime that we will actively help to promote and assist the Pollution reduction plan as detailed in this report. We are also applying

for an EPA license so we can work more closely with the EPA to put any additional measures as deemed necessary in place to prevent any risk of pollution of the Rivers Inny or Glore. Currently we have been monitoring our settlement pond performance and detailing analytical results to Westmeath county council to ensure that our settlement traps discharge are meeting the requirements of 25Mg/litre for suspended solids as detailed in our consent to discharge license application. By ensuring that our settlement ponds are performing and by deploying good practises in our peat harvesting operations we believe we can assist pollution prevention in the form of silt sedimentation to the Rivers in our operational area.

- ❖ When you look at the laboratory analysis taken for the River Glore downstream from our settlement traps at Clonsura you can see that the water quality of this River as analysed is of good quality and is particularly low for main pollutants Ammonia with no Ammonia present in the sample and for Total Suspended solids with only 4.4 Mg/litre measured by analysis.
 - ❖ The analytical data for the River Glore for turbidity is low @0.94 indicating that there is minimal particulate present that would be impacting our detrimental to light absorption and hence the River Ecology in general. pH of the River is in Neutral range which is desirable from a water quality perspective.
 - ❖ The analytical data for the main river pollutant indicators such as Ammonia, pH, Total Suspended Solids and Turbidity would all definitely supports our belief that our Settlement traps at Clonsura are working very effectively and are minimising any impact on the River as it travels downstream from our peat harvesting operations
2. We had discussions led by Westmeath County council with Shannon Board Fisheries representatives in attendance where it was agreed that we would maintain a 30 metres buffer zone around the River Inny in particular which we are also deploying around the River Glore and the small stream that runs between the Town lands of Mayne & Ballinealoe. This area has been left clear of any peat harvesting operations and has been allowed to grow over as a natural grassland. With regards the small stream that runs between Mayne & Ballinealoe it was agreed that it would be very difficult to leave a buffer zone in this area so it was agreed that a 1 metre high bund or Levy created of compacted peat would be used to form a barrier to prevent run off from Bog surface water entering the water course. We have tried to leave a buffer zone where possible along this area also. The details of the Buffer zone as agreed with Westmeath County Council and Shannon Board Fisheries representatives are detailed as follows and included in our environmental management plan for the site which was submitted to Westmeath County council.

Additional Measures Taken To Minimize Emissions to Water;

- i. Along the small tributary river of the Inny river which runs through the centre of the bog a 1 metre high bund or levy shall be constructed out of compacted peat to prevent run off from the bog surface into the water course.
- ii. Where necessary outlets from field drains shall be blocked during stock pile loading.
- iii. Ditching process should occur in dry weather and while ditching outfalls from silt ponds will be blocked and we will ditch towards the outfall.
- iv. We will ensure that stock piles are kept away from field drains where possible but any field drains that are adjacent to stockpile loading should be cleaned out immediately after stock pile loading.

- v. We will investigate the planting of Reed beds post the outlet from our silt ponds to act as a final polish as part of a continuous improvement programme for the management of the site.
 - vi. A 30 metre buffer zone of non peat harvesting production will be maintained adjacent to all land adjacent to the Inny River. This Buffer zone will be planted with a species of native vegetation that will thrive in the harsh conditions of a peat environment with the optimum time to sew this successfully being during the sewing season from September to November.
3. Regards section I.4 of the application in terms of groundwater quality this is very difficult for us to analyse this data as all of our groundwater drains through our bog drains and runs through a settlement trap hence our actual settlement traps are also our means of collection and treatment and abatement of both Groundwater and surface water and are also our emissions points for the bogs.

Section K

- The rehabilitation program will take place gradually as an area of bog reaches the limitations of remaining depth of Peat remaining. In principle the bog rehabilitation plan will take place as follows,

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CUTAWAY BOG REHABILITATION

As part of our overall management plan we will develop plans for bog rehabilitation following termination or of use or involvement in all or part of the site currently used for peat harvesting.

At present we do not know what the remaining working life expectancy is off our harvesting sites in County Westmeath. Our calculations based on actual production volumes would indicate that at the current production rate the site at Coole for example would have a working life expectancy remaining in the region of 60 + years.

A detailed bog rehabilitation programme will be developed post consultation with numerous environmental organisations such as the EPA and also drawing on a wealth of experience and papers written on the subject of successful bog rehabilitation by other contractors e.g. Bord Na Mona who have been through this process in their life time. The outcome & findings of these consultations shall be recorded and reported to relevant local authorities or agencies or other interested parties.

The cutaway bog rehabilitation plan will be discussed with the local authorities and will be updated over time to monitor the progress of bog rehabilitation this plan will include the following considerations

- i. Decommission, render safe or remove for disposal/recovery, any soil, subsoil's, buildings, plant or equipment, or any waste materials or substances or other matter contained therein or thereon, that may result in environmental pollution
- ii. Complete a Risk assessment of the area including environmental & health & safety implications as applicable.
- iii. A study of the current state of the hydrology of the site with potential to return the area to a flooded natural wetland.
- iv. An evaluation of peat depth remaining
- v. A study of differing types of peat remaining
- vi. A study of natural flora & fauna on the site.
- vii. Definition of criteria that defines the successful rehabilitation of the site and ensures minimum environmental impact.
- viii. Will include a program of aftercare and maintenance of the site to promote bog rehabilitation.

Our main 2 options with regards bog rehabilitation will be as follows

- Flood the area and return the entire area to a natural wetland habitat to promote fresh peat deposition and regeneration.
- Re-vegetate the area with natural flora from the list of natural indigenous peat land vegetation as detailed in the table below.

Table #1 Common Peat Land Native Vegetation.

Common Raised Bog Plants

	Fen	Raised Bog	Blanket Bog
Bladderwort - lesser	✓	✓	✓

Bog Asphodel		✓	✓
Bogbean	✓	✓	✓
Bog Myrtle		✓	✓
Bog Pondweed	✓	✓	✓
Cottongrass - common	✓	✓	✓
Cottongrass - hare's tail		✓	✓
Cranberry		✓	✓
Deer Sedge		✓	✓
Heather - Cross-leaved heath		✓	✓
Heather - Ling		✓	✓
Lichen - <i>Cladonia sp</i>		✓	✓
Moss - <i>Sphagnum sp</i>		✓	✓
Purple Moor grass	✓		✓
Sundews		✓	✓
White-beaked Sedge		✓	✓

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Section L

1. Indicate how sections 83 (5)(a) (i) to (v) and (vii) to (x) of the EPA acts 1992 – 2008 will be met as per the license application form.

L.2 Relevant Air Legislation

Section 83 (5) (a) (I) of the Environmental Protection Agency Acts 1992 and 2003 states that the Agency may not grant a license for an activity unless it is satisfied that any emission from that activity will not result in the contravention of any air quality standard specified under the Air Pollution Act 1987 (No. 6, 1987). Air quality standards specified under Section 50 of the Air Pollution Act 1987 are contained in the Air Quality Standards Regulations S.I. No. 244 of 1987, and concern Sulphur Dioxide (SO2), Suspended particulates lead and Nitrogen Dioxide. These standards are being replaced on a phased basis, completed in 2010, by the Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), which also bring in standards for NOx and Benzene.

Westland Horticulture has no major air emissions as we only have mobile plant operating on our site using diesel fuelled emissions which would be categorised as minor. It is also generally understood that dust emissions from the peat harvesting operations are minor impacts on air quality emissions and we have put a number of practises in place to minimise the risk of contamination to air as follows.

We will manage & control our operations on site to minimise the risk of dust adopting the following measures which have been detailed to all of our staff operating on site in DOC WIR20/01 Attached Appendix “B” with formal training & awareness and training sign off records completed and available for review attached Appendix “C” with originals retained on site at Cul Na Gun.

- x. All headlands and travel areas must be kept free of loose peat at all times by regular ridging & harvesting.
- xi. There should be no harvesting equipment transportation in the designated 30 metre buffer zone adjacent to the Inny River.
- xii. The 30 metre buffer zone adjacent to the Inny River will be maintained with natural vegetation species planted.
- xiii. Traffic along headlands will be kept to a minimum and slow speeds maintained.
- xiv. At the end of season all milled peat remaining on fields should be ridged or compacted to prevent airborne dust generation or silt deposition in waterways.
- xv. There should be no stock piling of loose peat within 100 metres of the Inny River.
- xvi. Production operations will be suspended in very windy weather.
- xvii. When harvesting the jib is maintained low to the stockpile collection trailers.
- xviii. Road transported Peat is suitably covered (sheeted or enclosed).

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L.3 Relevant Water Legislation

Section 83 (5) (a) (ii) of the Environmental Protection Agency Acts 1992 and 2003 states that the Agency may not grant a license for an activity unless it is satisfied that any emission from that activity will not result in the contravention of any standard specified under the Local Government (Water Pollution Act) 1977 –1999. With the exception of phosphorous (Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorous) Regulations, 1998 (S.I. No. 258 of 1998), there are no standards specified under Section 26.

L.3 European Legislation

Section 83 (5) (a) (iii) of the Environmental Protection Agency Acts 1992 and 2003 states that the Agency shall not grant a licence for an activity ‘unless it is Satisfied that any emission from the activity will comply with, or not result in the Contravention of any relevant standard including any standard for an Environmental medium prescribed under Regulations made under the European Communities Act, 1972 or any other enactment.

The following regulations have been reviewed:

Regulation	Compliance
Regulations 1992-2001 (S.I. 155 of 1992, S.I. 145 of 1994, S.I. 177 of 1998 and S.I. 22 of 2001)	Westland Horticulture does not discharge into any drinking waters
The European Communities (Quality of Salmonoid Waters) Regulations (S.I. 293 of 1988)	We do not discharge directly into any Salmonoid rivers as detailed in S.I. 293 1998 as the River Glore we discharge into is a tributary of the River Inny and not the River Moy
Local Government (Water Pollution) Act 1977 (Control of Cadmium Discharges) Regulations (S.I. 294 of 1985)	None of our operations will result in Cadmium being discharged.
Local Government (Water Pollution) Act, 1977 (Control of Hexachlorocyclohexane and Mercury Discharges) Regulations	None of our operations will involve the discharge of Hexachlorocyclohexane and Mercury being emitted.
Quality of Shellfish Water Regulations (S.I. 200 of 1994, amended by Quality of Shellfish Waters (Amendment) Regulations (S.I. 459 of 2001)	None of our operations discharge into a shell fish water course as designated by the first or second schedules as designated in S..I 200/1994
Local Government (Water Pollution) Regulations, 1992 (S.I. 271 of 1992)	Westland complies with water quality standards laid out in the IPPC licence application and our consent to discharge license to local gOvernment authority which take into consideration limits set in These regulations.

Water Quality (Dangerous Substances) Regulations, 2001 (S.I. 12 of 2001)	Westland through its peat Harvesting operations does not discharge any of the Pesticides our solvents as detailed in table #1 of the standard schedule of these regulations or any of the metals or other substances listed in table #2 or water hardness issues.
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L.4. Relevant Noise Legislation

Section 83 (5) (a) (iv) of the Environmental Protection Agency Acts 1992 and 2003 states that the Agency may not grant a license for an activity unless it is satisfied that any emission from that activity will not result in the contravention of any regulations under section 106 of the EPA Act. This section enables the minister to make regulations for the purpose of the prevention of limitation of noise, which may cause a nuisance.

Although no noise control regulations have been made, the EPA Guidance note for Noise in Relation to the Scheduled Activities recommend that to avoid disturbance the noise level at sensitive locations should not exceed a Laeq T value of 55dBA during the daytime and a Laeq T value of 45dBA at night time. It also recommends that audible tones and impulsive noise at sensitive locations at night should be avoided.

Our operations are not a source of noise pollution as they involve mobile plant operating in non noise sensitive areas in a remote peat bog location with the operation only operational up until 9 PM at night and only operational within the months of April to September. We have also taken various measures to minimise the noise levels by educating our drivers on the correct methods of driving and operation with no unnecessary revving of accelerator and maintaining steady operational controlled driving to also minimise excessive fuel consumption and wasting of energy.

L.5 Significant Environmental Pollution

Section 83 (5) (a) (v) of the Environmental Protection Agency Acts 1992 and 2003 states that the Agency may not grant a license for an activity unless it is satisfied that any emission from that activity will not cause significant environmental pollution.

After a review of activities at the plant, it is concluded that there will be no uncontrolled significant emissions as derived from the following events / sources:

- Spillages – All contained on hard standing area in bunded mobile bouser with spill kits on standby
- Waste – No direct waste generated that does not pass through settlement traps to promote containment of silt and deposition as sedimentation in designated settlement traps.
- Air Emissions – no significant weir emissions from operations or from fugitive dust emissions.
- Accidents / Emergencies – We have an emergency response procedure which we have trained all of our personnel on but we have never had to use it and deem this a very low risk occurrence.

L.6 Production & Disposal of Waste

Section 83 (5) (a) (vii) of the Environmental Protection Agency Acts 1992 and 2003 states that production of waste should be prevented or minimised, and where waste is produced, it will be recovered, and where it is not economically and technically possible to recover it, be disposed of in a manner which will prevent or minimise any impact on the environment.

We do not generate any wastes from our operations in terms of municipal or chemical waste as all general waste is collected in the office in regular bins and disposed off in local council collection points.

The waste silt generated from our settlement ponds is dredged from the p settlement traps and allowed to dry naturally in air and is then re-used or recycled and spread back over the production fields.

As stated we have never had any requirement to use special waste collection or hazardous waste as although we have spill kits in situ at our sites we have never actually had a spill or had to have waste spill kits collected. We have no wastes produced from maintenance or spent batteries as all of our maintenance is carried out by specialist contractor's offsite and away from the Peat Harvesting operations. If we do ever require any waste collection and transportation for recovery or disposal it will be carefully regulated under our environmental management system to ensure that all contractors are in possession of valid Waste Collection Permits, Waste Permits and Waste Licenses where appropriate.

We will agree to control and manage the disposal of all wastes on site including any of the following:

- i. Fuel waste
- ii. Contaminated waste post fuel spills
- iii. Spent Batteries
- iv. Polythene

Waste sent off site for recovery or disposal shall only be conveyed to a licensed waste Contractor, and only transported from the site of the activity to the site of disposal in a manner which will not adversely affect the environment.

Records will be kept of all waste generated on site the records will include

- i. The name of the agent or transporter of the waste
- ii. The name of the person ultimately responsible for disposal /recovery of the waste
- iii. The ultimate destination of the waste
- iv. Written confirmation of the acceptance & disposal /recovery of the waste

L.7 Energy

Section 83 (5) (a) (viii) of the Environmental Protection Agency Acts 1992 and 2003 states that energy is to be used efficiently in the carrying on of the licensed activity.

Energy use forms a significant component of the overall production costs of Peat Harvesting in the form of fuel consumption and is an area that we are giving considerable attention. We have conducted energy audits and are monitoring our fuel consumption to try and manage and reduce these costs where possible and there is programme currently in place, which is focusing resources in particular areas. Owing to the high contribution of energy costs to overall operating costs, we will ensure best practise in driving techniques with our operators under site

supervision and ensure that all mobile plant used in the harvesting operations are regularly maintained and serviced to promote energy efficiency.

L.8 Accident Prevention

Section 83 (5) (a) (ix) of the Environmental Protection Agency Acts 1992 and 2003 requires that necessary measures be taken to prevent accidents in the carrying on of the activity. In addition, it is required that where an accident occurs, its consequences for the environment are limited, and where there are consequences, these consequences are remedied.

The Site Manager shall notify the relevant local authorities by telephone and e mail if available as soon as practicable after the occurrence of the following:

- i. Any release to atmosphere resulting in significant impairment of, or significant interference with amenities or the environment.
- ii. Any emission that does not comply with the requirements of this Environmental management plan.
- iii. Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by a Local Authority.

The Site Manager shall include as part of the notification, date and time of the incident, details of the occurrence, and the steps taken to minimise the emissions and avoid recurrence.

The Site Manager shall make a record of any incident as set out in Condition above. The notification given to the Agency shall include details of the circumstances giving rise to the incident and all actions taken to minimise the effect on the environment and minimise wastes generated.

In the case of any incident as set out in Condition b) above which relates to discharges to water, the Site Manager shall notify the Shannon Regional Fisheries Board, as soon as practicable after such an incident.

In the event of any incident, as set out in Condition c) having taken place, the Site Manager shall notify the appropriate Local Authority as soon as practicable, after such an incident.

(**Appendix E**) outlines the emergency response procedures and the measures in place to deal with an environmental incident, including measures to reduce potential for adverse effects off site.

These include the following;

- ❖ WI2004 Action To Be Taken in Event Of Chemical Spills On Peat Harvesting Site Emergency Response Procedure (ERP 1.0) (Oil, Diesel & Petrol Spillage's)

L.9 Cessation of the Activity

Section 83 (5) (a) (x) of the Environmental Protection Agency Acts 1992 to 2008 requires that necessary measures be taken upon the permanent cessation of the activity (including such a cessation resulting from the abandonment of the activity) to avoid any risk of environmental pollution and return the site of the activity to a satisfactory state.

The actions to be taken in the event of a cessation of the activities on the site are detailed below as follows;

- i. Decommission, render safe or remove for disposal/recovery, any soil, subsoil's, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution
- ii. Complete a Risk assessment of the area including environmental & health & safety implications as applicable.
- iii. A study of the current state of the hydrology of the site with potential to return the area to a flooded natural wetland.
- iv. An evaluation of peat depth remaining
- v. A study of differing types of peat remaining
- vi. A study of natural flora & fauna on the site.
- vii. Definition of criteria that defines the successful rehabilitation of the site and ensures minimum environmental impact.
- viii. Will include a program of aftercare and maintenance of the site to promote bog rehabilitation.

Section L Point #2

2. On the River Inny side of our operations the closest site is the National Heritage Site at Lough Derravaragh which is situated approximately 3km south East from our site

Lough Dergavaragh is located approximately 12 km north of Mullingar town mainly in the town lands Clonava, Derrya, Kiltoom, Donore, Ballynakill, Streamstown and Knockbody in Co. Westmeath and approximately 3 km South East of our Peat harvesting operations at Coole, Mayne & Ballinealoe. The majority of the site comprises the lake, but it also includes a variety of wetland, grassland and woodland habitats. The site includes a small area of raised bog. The site is bounded in the north-west by the River Inny

See site synopsis for this site as detailed below

SITE NAME: LOUGH DERRAVARAGH NHA
SITE CODE: 000684

The River Inny, which is a major tributary of the River Shannon, flows into and out of Lough Dergavaragh at its north-west end. At this end, the lake is wide and shallow and the raised bog and cutover is found in this area. Lough Derravaragh is shallow and its water is hard with an alkaline pH. There is only a small area of raised bog in the site, but formerly it comprised a very large bog complex which extended to the north-west of the lake. Most of this has now been cutover and large areas have been reclaimed for agriculture. The remaining area of bog has hummock hollow complexes but no pools. Coniferous forestry has been planted on the high bog and a section of cutover. Cutover is found all around the high bog and there is also a separate small area of old cutover 2.5 km south of the raised bog.

Much of the high bog has vegetation typical of a Midland Raised Bog, with such species as Ling Heather (*Calluna vulgaris*) and Hare's-tail Cottongrass (*Eriophorum vaginatum*). The hummock-forming bog moss *Sphagnum papillosum* has been recorded on the high bog as has the more scarce *S. imbricatum*. Overall, *Sphagnum* covers around one third of the high bog area and the centre of the bog is wet with standing water in places. The

aquatic bog moss *S. cuspidatum* has been recorded in the hollows on the bog. Ling Heather and Hare's-tail Cottongrass are common on the hummocks as are lichens (*Cladonia* sp.). There are dried out channels on the bog which are colonised by algae, Deergrass (*Scirpus cespitosus*) and lichens. Coniferous forestry has been planted on the western side of the high bog and on adjoining areas of cutover. On the cutover in the south-east, south and north of the site there are areas of Downy Birch (*Betula pubescens*) woodland, with patches of Gorse (*Ulex europaeus*) scrub in between.

A notable feature of Lough Derravaragh is the range of Charophytes (Stoneworts) that occur in the lake; to date eight species have been recorded here, several of which have a restricted range in Ireland. Around the lake margin, a range of habitats have been created as a result of drainage of the River Inny. At the western end are extensive reed beds and swamps dominated by Common Reed (*Phragmites australis*) with scattered stands of Downy Birch and willows (*Salix* spp.). Elsewhere, there is freshwater marsh vegetation dominated by sedges (*Carex* spp.) and often tussock forming grasses such as Tufted Hairgrass (*Deschampsia cespitosa*) and fescues (*Festuca* spp.), with a range of flowering herbs including Nodding Bur-Marigold (*Bidens cernua*) and Trifid Bur-Marigold (*Bidens tripartita*). The lakeshore is a mineral-rich substrate and several plant species of poor fen habitats occur in abundance, such as Black Bog-rush (*Schoenus nigricans*) and Long-stalked Yellow sedge (*Carex Zepidocarpa*). Knockeyon and the other hills around the south-eastern end of the lake support deciduous woodland which is comprised mostly of native species. Hazel (*Colylus avellana*), Rowan (*Sorbus aucuparia*), Ash (*Fraxinus excelsior*) and Sessile Oak (*Quercus petraea*) are abundant. Exotic species occur occasionally, including Beech (*Fagus sylvatica*).

Lough Derravaragh is an important site for wintering waterfowl, and is of particular note as a site for geese, swans and diving duck. It is a traditional haunt for the internationally important midland flock of Greenland White-fronted Geese (which also use Loughs Iron, Owe1 and Ennel). This flock, whose numbers usually range between 300 and 400 birds, use the lake mainly for roosting purposes. Counts for principal waterfowl species over the five winters 1995/96 to 1999/00 are as follows (figures are average maxima): Little Grebe 42, Great Crested Grebe 34, Cormorant 34, Mute Swan 159, Whooper Swan 102, Greenland White-fronted Goose 409, Wigeon 207, Teal 52, Mallard 195, Pintail 6, Shoveler 12, Pochard 3129, Tufted Duck 1,073, Goldeneye 46, Coot 1,358, Golden Plover 158 and Lapwing 1,079. The populations of Little Grebe, Mute Swan, Whooper Swan, Pochard, Tufted Duck and Coot are of National Importance. At times, the Pochard population, which is one of the largest in the country, has exceeded the threshold for International Importance (i.e. 3,500).

This site regularly supports nationally important populations of six species, and at times is used by the internationally important population of Greenland White-fronted Geese which is based in the region. Three of the species which occur at the site (Greenland White-fronted Geese, Whooper Swan, Golden Plover) are listed on Annex I of the E.U. Birds Directive. The rare Charophyte *Chara denudata*, has been recorded in Lough Derravaragh and the Red Data Book species Otter and Irish Hare have also been noted from the site.

Current land uses on the site include active peat-cutting, apiculture, forestry, fishing, hunting and leisure activities. On the southern margins of the high bog there is a small area of active peat-cutting. There are only a small number of agricultural fields within the site, with a few on reclaimed cutover. There is coniferous forestry on a small section of high bog and cutover. Damaging activities associated with these land uses include drainage throughout the site and burning of the high bog. The lake is an important amenity for anglers, as it holds a population

of Brown Trout. Knockbody Wood is used for shooting Pheasant. Local groups use the lake for canoeing and watersports. Parts of the site have also been used for dumping and as an encampment. These activities have resulted in the loss of habitat and damage to the hydrological status of the site, and pose a threat to its viability.

Lough Derravaragh NHA is a site of considerable conservation significance, including as it does, a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. The site supports a good diversity of raised bog microhabitats, including hummocks and hollows. Ireland has a high proportion of the total E.U. resource of the raised bog (over 50%) and so has a special responsibility for its conservation at an international level. Lough Derravaragh itself is of importance for its aquatic flora and fauna and for its marginal wetland habitats. It is also of major ornithological importance and is designated a Special Protection Area under the E.U. Birds Directive.

- ❖ Although our site does discharge into the River Inny we don't believe that we are having an adverse impacts on the River Inny and as a result we are definitely no having a negative impact on Lough Dergavaragh which is situated 3 KM further downstream of our peat harvesting sites. We can make this determination due to the fact that all run off from our bogs discharges to the River Inny via settlement traps and based on our analytical data evidence from our recent composite sampling our settlement traps are working efficiently and effectively. This is evident for the table below particularly for total suspended solids which as analysed from the discharge from our settlement ponds which is well below our consent to discharge limits of 25Mg/litre as set by Westmeath county council.
- ❖ Overall the analysis of the River Inny downstream of our settlement traps would indicate that the River quality at this point post our Peat Harvesting operational site and post discharge from our settlement traps is very good and does not appear to be compromised in any way from our peat Harvesting operations. The Water quality of the River at this point would also indicate the efficiency of performance of our settlement ponds in preventing any negative impacts particularly silt deposition in the River Inny as supported by the low total suspended solids analytical data results for the discharges from our settlement traps and from the resulting analysis of the River Inny itself. From this data I think we can clearly state that there is not negative impact from our peat Harvesting operations on the water quality of the River Inny and hence there should be no attributable negative impacts on the quality of water in the River Inny as it meanders from our site and meanders south Easterly towards Lough Dergavaragh.
- ❖ One point of reference I would like to make regards the location of Lough Derravaragh is that the Lough is located 2 – 3km downstream from our peat harvesting sites located near Coole and actually travels through a number of peat harvesting areas which are located further downstream of our site and located much closer to Lough Dergavaragh, and we are not able to verify the impact of any of these additional peat harvesting sites that are located downstream from our site.
- ❖ In terms of flora , fauna and birds I do not believe that our site being located 3 KM upstream from Lough Dergavaragh will have any negative impact on Lough Dergavaragh status as an NHA and SPA as we do not have any significant emissions issues of dust or gaseous pollutants or noise pollution areas locally within our site attributable to the peat Harvesting operations and we will definitely not have any significant impact on the habitat, flora, fauna or birds situated at Lough Dergavaragh up to 3 KM downstream from our site.

ASPECT: Peat Harvesting Impact On Lough Derravaragh - Screening

Please tick the appropriate box for the statement under normal and abnormal operating conditions

ASPECT : Peat Harvesting Impact Screening on Lough Derravaragh															Significance Reference: MPR/021.1i											
ENVIRONMENTAL ISSUES																										
Increases Peat Silt Deposition in water courses as total suspended solids																										
ENVIRONMENTAL IMPACT																										
Characterisation & Assessment																										
Operating Conditions	Emissions to Air			Discharge to Water			Waste			Use of Natural Resources			Flora & Fauna			Human Nuisance										
	NA			Direct -ve effect on environment Legislative concern, local impact									indirect -ve effect on environment Business concern, local impact			NA										
	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L								
Normal				1	3	2										1	3	2								
Abnormal				1	3	2										1	3	2								
Total			Total			Total			Total			Total			Total											
															12						12					
GRAND TOTAL															GRAND TOTAL											
24																										
<u>CONTROLS: Silt traps designed to settle out all peat & prevent total suspended solids discharge to water courses.</u>																										
Legal *[Input reference from Register of Legislation]			EPA act 1992, Water Pollution Act 1977 (Irish Statute)																							
Documentation / Records *[Note relevant document / record reference number]			Environmental Management Plan																							
Emergency Conditions:			Torrential Rainfall or flood conditions were silt traps are not as effective in silt settlement and deposition occurs in water courses.																							
ENVIRONMENTAL MANAGEMENT PROGRAMME REFERENCE :									OBJ012																	

Table #3 Analytical Results for silt Traps At Lower Coole Mayne & Ballinealoe which are discharging into the River Inny

Silt Trap ID	Silt Trap Location	Grid Reference East	Grid Reference West	BOD Mg/l	COD Mg/l	pH	Orthophosphate (Mg/l)	Total Suspended Solids (Mg/l)	Turbidity (NTU)
1	Lower Coole	239547.6	272724.6	10.8	42.0	7.3	0.05	10.0	0.83
2	Mayne	239262.6	272362.6	4.5	39.0	7.6	0.01	8.4	2.03
3	Mayne	239246.6	271815.4	13.5	72.0	7.1	0.05	10.4	4.52
4	Mayne	239446.6	271443.4	20.8	145.0	6.1	0.01	8.8	4.17
5	Ballinealoe	239822.7	271192.3	13.5	74.0	7.1	0.05	3.6	1.02
6	Ballinealoe	239259.6	271289.3	12.5	74.0	7.2	0.05	5.2	0.82
7	Ballinealoe	240337.8	270693.2	15.4	94.0	6.5	0.1	20.0	1.5

- ❖ We have also analysed the River Inny on its downstream flow post Silt trap #5 at Ballinealoe and the River analysis proves that the River quality at this point is very good before it travels downstream towards Lough Derravaragh.
- ❖ See attached table I2 of results for the River Inny. As you will see from the table below the River pH is in the alkaline range and hence will not have a negative impact on the ALKALINE CONDITIONS of Lough Dergavaragh also the amount of total suspended solids that was detected from the analysis on the River would indicate that the accumulation of suspended solids post our settlement traps is very minimal and at the limits of detection of the measurement equipment. There was zero detection of Ammonia contamination in the River Inny from our analysis and and turbidity which are also 2 key indicators of water quality were analysed at very low levels as you can see from Table I.2 below for the River Inny.
- ❖ I have tried to follow the appropriate assessment and screening as detailed by the EPA guidance but I just cannot understand how our operations based on the nature of the Natural Heritage Area area of Lough Derravaragh and its location processes as our main source of pollutant will be from Suspended solids in terms of discharges to water and based on our laboratory analysis on the performance of our settlement traps and the analytical data taken from the River Inny itself downstream from our Peat Harvesting operations and the fact that Lough Derravaragh is an additional 3KM further downstream of the River Inny at that point I do not believe that we will have a significant Negative Impact on Lough Derravaragh.

Parameter	Results (mg/l)	Sampling method ² (grab, drift etc.)	Normal Analytical Range ²	Analysis method / technique
	14/06/2010			
BOD	6.5	Grab		Winkler
pH	7.7	Grab		Electrometry
Ammonia	0	Grab		Spectrophotometry
Turbidity	0.567	Grab		
Total Suspended Solids	1.2	Grab		Filtration, Drying & Weighing

- ❖ The closest site located to our Bogs at Coole which is listed on the EU habitats directive is Lough Owel which is also special Protection area and is also listed on the EU habitats directive. Lough Owel is a large hard water lake, and is a habitat listed on Annex I of the EU Habitats Directive.

SITE NAME: LOUGH OWEL SPA
SITE CODE: 004047

The lake is located approximately 4km north-west of Mullingar. It is a relatively shallow lake with a rocky, marl-covered bottom. Submerged vegetation includes a number of Stoneworts, notably *C. rudis* and *C. tomentosa*. The rocky nature of the shoreline has given rise to marginal vegetation which is patchy and sparse. Apart from some reedswamp formed by Common Reed (*Phragmites australis*) and Common Clubrush (*Scirpus lacustris*), shoreline vegetation is dominated by occasional patches of Alder (*Alnus glutinosa*).

Aquatic vegetation includes a number of stoneworts (***Chara*** spp., notably *C. denudata* and *C. tomentosa* which are Red Data Book species). The rocky nature of the shoreline has given rise to marginal vegetation which is patchy and sparse. Apart from some reedswamp formed by Common Reed (*Phragmites australis*) and Common Clubrush (*Scirpus lacustris*), shoreline vegetation is dominated by occasional patches of Alder (*Alnus glutinosa*). Areas of marsh and fen occur above the shoreline in the northern and south-western comers of the lake. Several small islands occur in the southern sector.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Shoveler and Coot. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetlands & Waterbirds.

Lough Owel is one of the most important Midland lakes for wintering waterfowl, with nationally important populations of Shoveler (142) and Coot (1,825) - figures given are mean peaks for the five seasons 1995/96-1999/00. The populations for both of these species represent a significant proportion (c. 4.7% and 6.5%) of the respective All-Ireland totals.

The lake is also of importance for diving duck, including Pochard (291), Tufted Duck (227) and Goldeneye (75). The lake has been used as a roost by the internationally important Midland lakes Greenland White-fronted Goose population (200 recorded at the site in 2004/05). The lake also supports populations of Little Grebe (16), Great Crested Grebe (18) and Cormorant (32). Lough Owel is one of the most important fishing lakes in the Midlands and is especially good for Trout. The lake also holds an important population of White-clawed Crayfish (*Austropotamobius pallipes*), a species that is listed on Annex II of the E.U. Habitats Directive.

Lough Owel has very significant populations of two species, Shoveler and Coot. It is also notable as it is used as a roost site on occasion by the internationally important. Midlands Greenland White-fronted Goose flock. Greenland White-fronted Goose is listed on Annex I of the E.U. Birds Directive.

- ❖ I do not believe that our Peat Harvesting Operations will have any detrimental impact on the special protection areas of Lough Owel for a number of key reasons.
- ❖ Firstly Lough Owel is situated 4KM North West of Mullingar and approximately 9 KM away from our peat Harvesting operations so there is no circumstances under which our peat harvesting operations could directly impact this special protection area directly. This is particularly relevant as we have no air Bourne or noise pollution associated with our operations that could impact this site even if it was situated in close to our sites.
- ❖ We do have emissions to surface water from rain water runoff and drainage from our operations that to discharge to the River Inny in this area but note all discharges firstly are diverted to a settlement trap prior to discharge and the laboratory analysis that we have displayed in Table #3 show that the settlement traps are performing efficiently and effectively and the emissions post settlement trap treatment are of acceptable quality. This is also evident from the analysis for the River Inny which is depicted in Table I.2 which shows that the River is of good quality downstream of our peat harvesting operations and is particularly low for all main pollutants listed i.e. Ammonia, pH, Total Suspended solids and Turbidity.
- ❖ the other main reason why our operations will have impact on Lough Owel is that this is a standalone Lough situated 9 KM South of our peat harvesting operations which is not connected to the River Inny in any form and hence there is no possibility that our peat Harvesting operations can have any impact on this special protection area even indirectly through the water courses that flow into the Lough.
- ❖ I have tried to follow the appropriate assessment and screening as detailed by the EPA guidance but I just cannot understand how our operations based on the nature of the Special protection area of Lough Owel and its location as a stand alone fresh water Lough that we can minimum impact on this location from our processes as our main source of pollutant will be from Suspended solids in terms of discharges to water and we do not discharge directly or indirectly to this Lough.

- ❖ **Stage 1 – Screening**
- ❖ Step 1 – Management of the Site
- ❖ Step 2 – Description of Plan or Project
- ❖ Step 3 – Characteristics of Site
- ❖ Step 4 – Assessment of Significance

I have followed this model when completing this assessment and cannot justify any significant issues from our site as our only real source of pollutant is Total suspended solids and I can not observe any significant issue based on our screening and based on the location and our laboratory analysis available.

- ❖ On the Clonsura side of our peat harvesting operations the closest Lough is Lough Bane situated approximately 100 Metres to the East of our peat harvesting operations site boundary.

See site summary below taken from the National Parks & Wildlife Service Website

SITE NAME : LOUGH BANE

SITE CODE: 001721

Lough Bane lies about **3km** to the south-east of Lough Kinale and Derragh Lough. For the most part it is surrounded by bogland, which to the west stretches to the River Inny and is otherwise mainly surrounded by Coillte plantation. The lake and surrounding bogs has been proposed as a Natural Heritage Area (NHA).

The Lough itself is now less extensive than it was in 1908 when it was mapped by the Ordnance Survey, possibly as a result of natural accretion, or possibly the water level was lowered as a result of drainage. Now, in places the level area fringing the lake which was formerly open water, has been colonised by bog mosses (*Sphagnum* spp.) and Common Cottongrass (*Eriophorum angustifolium*), and a large island has appeared in the south of the Lough. The contemporary edge of the open water is marked by swamps of Common Reed (*Phragmites australis*) and Bottle Sedge (*Carex rostrata*), and behind this there are areas of freshwater marshes with species such as Water Horsetail (*Equisetum fluviatile*), Wild Angelica (*Angelica sylvestris*), Common Marsh-bedstraw (*Galium palustre*) and Marsh Arrowgrass (*Triglochin palustris*) which grades into grassland dominated by Purple Moor-grass (*Molinia caerulea*), in which there is now considerable establishment of Downy Birch (*Betula pubescens*). At the edge of the NHA area to the west, Purple Moor-grass grassland grades into bog heath vegetation dominated by Heather (*Calluna vulgaris*).

There is little information on the use of the lake by water birds, but in 1971 a count included 53 Whooper Swan, 16 Teal, 7 Widgeon and 14 Curlew, suggesting that is of some local importance for these species, and that it may act as a refuge for swans disturbed from some of the larger Westmeath lakes.

Although the bogland in which Lough Bane is situated, has been damaged, the Lough itself appears less disturbed and has retained its interest as one of the only lakes in the area with a low calcium nutrient regime. The surrounding vegetation is a well developed ecological gradient from developing birch carr through to the open water.

There is already a conifer plantation to the south-west, now some 25 years old. Further plantation within the NHA area would be very deleterious, not only to the area in which the plantation was established, but over the whole site.

The bogs were overlooked when lowland raised bogs were surveyed in the 1980s and consequently their value was not realised until recently. Here their ecological position in relation to Lough Bane adds to their interest. Active raised bogs, once characteristic of central Ireland, are now rare and vulnerable, and have been recognised by the European Union as a habitat of international importance. Ireland has a special responsibility to conserve the best of its remaining bogs. Afforestation or further drainage work within this NHA is not consistent with this responsibility.

- ❖ We have completed an environmental risk assessment of our activities on this site based on the information at hand and the distance of the lake from our operations and have made the following screening assessment as part of our environmental management system.

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ASPECT:

Peat Harvesting Impact On Lough Bane

Please tick the appropriate box for the statement under normal and abnormal operating conditions

ASPECT : Peat Harvesting														Significance Reference: MPR/021.1i											
ENVIRONMENTAL ISSUES Increases Peat Silt Deposition in water courses as total suspended solids																									
ENVIRONMENTAL IMPACT Characterisation & Assessment																									
Operating Conditions	Emissions to Air			Discharge to Water			Waste			Use of Natural Resources			Flora & Fauna			Human Nuisance									
	NA			Direct -ve effect on environment Legislative concern, local impact									indirect -ve effect on environment Business concern, local impact			NA									
	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L							
Normal				1	3	2										1	3	2							
Abnormal				1	3	2										1	3	2							
Total			Total			Total			Total			Total			Total										
														12						12					
GRAND TOTAL																	GRAND TOTAL								
																	24								
<u>CONTROLS: Silt traps designed to settle out all peat & prevent total suspended solids discharge to water courses.</u>																									
Legal *[Input reference from Register of Legislation]				EPA act 1992, Water Pollution Act 1977 (Irish Statute)																					
Documentation / Records *[Note relevant document / record reference number]				Environmental Management Plan																					
Emergency Conditions:				Torrential Rainfall or flood conditions were silt traps are not as effective in silt settlement and deposition occurs in water courses.																					
ENVIRONMENTAL MANAGEMENT PROGRAMME REFERENCE :									OBJ012																

- ❖ Lough Bane is located very close to our peat Harvesting operations in Clonsura but we still believe that our impact on this proposed Natural heritage Area will be minimal for a number of reasons.
- ❖ We have a clearly defined buffer zone around this lake at the eastern tip of our bog of 100 metres from the Lough. This buffer zone is covered by natural vegetation with the boundary of our peat Harvesting also bordered by natural woodland to the west of Lough Bane and by a coniferous Plantation to the South East of the Lough which acts as both a physical barrier and also a shelter belt from our operations of which there is no evidence to substantiate that there is any issue with dust emissions from milled peat harvesting operations.
- ❖ We do not have any issue with noise emissions or gaseous pollutants from our peat harvesting operations in this area as we are only using mobile plant operating over a large surface area.
- ❖ The active peat harvesting area only run from April to August inclusive and hence the portion of the year in which we are actively operating is very minimal as it only operates predominantly in the summer season and should have minimal impact on the Ecosystem of Lough Bane particularly regards migrating birds species.
- ❖ There is no risk of water pollution directly from our operations into Lough Bane as we do not directly discharge into the Lough and we have no drains in close proximity to the Lough.
- ❖ All of our settlement traps in the Clonsura bog discharge to the fresh water rivers on the Inny for settlement traps 1 & 2 and to the River Glore for silt traps 3 & 4 neither of these rivers flows directly into Lough Bane which is a stand alone fresh water lake.
- ❖ There is no risk of any of our drainage networks on the bog lowering the water level of Lough Bane as the lake itself is very low lying and is actually 2 – 3 metres below the surface of our drains in the bog.
- ❖ I have tried to follow the appropriate assessment and screening as detailed by the EPA guidance but I just cannot understand how our operations based on the nature of the Special protection area of Lough Owell and its location as a stand alone fresh water Lough that we can minimum impact on this location from our processes as our main source of pollutant will be from Suspended solids in terms of discharges to water and we do not discharge directly or indirectly to this Lough.
- ❖ **Stage 1 – Screening**
 - ❖ Step 1 – Management of the Site
 - ❖ Step 2 – Description of Plan or Project
 - ❖ Step 3 – Characteristics of Site
 - ❖ Step 4 – Assessment of Significance
- ❖ I have followed this model when completing this assessment and cannot justify any significant issues from our site as our only real source of pollutant is Total suspended solids and I can not observe any significant issue based on our screening and based on the location of this site in relation to our bogs and the fact that we have well defined buffer zone that is actually segregated by natural woodland areas and also based on the fact that we do not discharge directly into this Lough.

Section L Point #3

3. As detailed in our responses above in regards to Lough Bane we do not believe that our operations will have any negative impact on this Lough even though it is located in close proximity to our harvesting operations in Clonsura. I have detailed the reasons for this answer previously in section #2 in regards to the proposed NHA site.

Section L Point #4 Fit & Proper Persons

4. I would like to complete the assessment of fit & Proper persons as detailed below
 - ❖ Personally (Mark Hamill BSC) I will be Responsible for the Environmental Management of the Bogs and will take full responsibility for all Environmental issues affecting the bogs. We have a number of Environmental policies for the company as part of Environmental Management system that is accredited and certified to ISO14001 and we also have a number of specific work instructions for operating the peat Harvesting areas that also come under this Environmental management system that all employees operating in the bogs have been trained to.
 - ❖ I have an Honours Degree degree in Environmental Science from the university of Ulster and have studied subjects including Pedology, ecology, conservation and marine and aquatic environments and river morphology during my degree studies so I have a good relevant background in dealing with Environmental issues relating to this particular subject.
 - ❖ From my work experience I have worked as Scientific officer for a number of years in my previous employment with the Department of Environment Northern Ireland Water Service where I was involved in water treatment and analysis so again I have a lot of experience in relation to water quality which I believe is important for the management of this particular application as a fit & proper person.
 - ❖ I have been working for Westland Horticulture for 2 years now and in that time I have gained invaluable experience in the peat harvesting operations and specifically in relation to Environmental Management of the peat Harvesting areas to minimise pollution control and I have made major improvements in our operations in conjunction with Westmeath County council specifically regards Settlement trap design, capacity, operation and analysis and I believe our analytical data submitted in support of this application also verifies the efficiency and effectiveness of our settlement traps and minimal impact on the receiving water courses.
 - ❖ As you will see from our Organisational chart I am the only relevant Westland Employee who has responsibility for all Environmental and operational aspects of the Peat harvesting areas to ensure we are operating within our Policies and procedures of our environmental Management system at all times and that all operations comply to Policy & Procedure with no risk of pollution resulting.

- ❖ From the Financial perspective Westland Horticulture represented by our company financial Director Jarlath Quinn will have full responsibility for all financial aspects affecting the peat harvesting operations inclusive of any specific Financial requirements related to the granting of the Integrated Pollution Prevention Control License by the Environmental Protection Agency. Westland as a company are in quite a healthy financial state as can be observed from the companies credit rating (attached below) Additional information is available on request.

- ❖ Myself with Environmental & Peat Harvesting operational responsibilities and Jarlath Quinn Financial responsibilities are the only relevant fit & proper persons in relation to this license application and to the best of our knowledge neither of these fit & proper persons nominees have ever been convicted under the PoE Act, the Waste Management Act 1996, the Local Government (Water pollution) Acts 1977 and 1990 or the Air Pollution Act 1987

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business report for ICC Credit

export save print

WESTLAND HORTICULTURE LIMITED

registered number NI027321
D-U-N-S® number 237180750

company ID credit control mortgages ownership directors p&I account balance sheet cash flow accounts notes int.rms growth rates sector comparison

credit decision commentary score and limit trend score and limit trend graph score bands unsatisfied exact match CCJs (most recent 12) unsatisfied reliable match CCJs (most recent 12) unsatisfied cross match CCJs (most recent 12) satisfied cross match CCJs (risk) high court writ

credit decision



days' sales outstanding: 54
days' purchases outstanding: 60
court judgment summary: there are 2 exact unsatisfied CJs totalling £1,384.00
high-court writ summary: there are no high-court writs involving this company
insolvency proceedings: no
winding-up petitions: no
audit qualification: fully audited - clean report

commentary

headlines and commentary

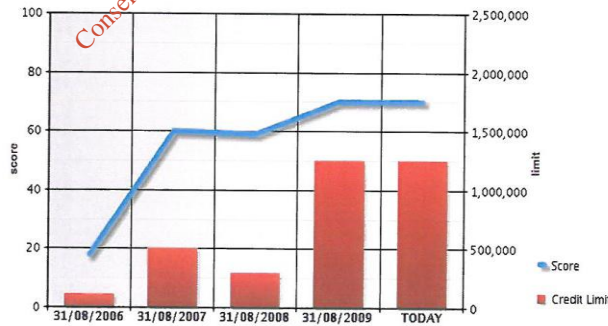
There was a significant increase in Sales from £50,239,000 to £59,095,000 for the period ending 31/08/09.
The latest Accounts show an increase in Pre-tax Profits from £335,000 to £2,165,000.
Shareholders Funds increased from £8,540,000 to £8,907,000, whilst Total Assets decreased from £41,524,000 to £25,636,000.
The percentage of Profit in each unit of sales of 3.66 is above the industry average of 2.44.
The business activity in which this company is involved contains a similar amount of insolvencies compared to total population averages.
Based on standard Companies House filing requirements the latest accounts were filed in time but the previous accounts were late.
The company has been established for more than 17 years.

score and limit trend

date	score	limit
31/08/2009	70	£1,250,000
31/08/2008	59	290,000
31/08/2007	60	500,000
31/08/2006	18	110,000

credit score: 70
previous credit score: 60
credit limit: £1,250,000
previous credit limit: £230,000
contract limit: £8,000,000
insolvency proceedings: no
winding-up petitions: no

score and limit trend graph



score bands

score band	description
0-35	Caution. High risk potential.
36-50	Caution. Moderate risk. Measured exposure.
51-60	Normal. Limited risk potential. Normal terms.
61-100	Confidence. Low risk potential.

http://www3.myicc.co.uk/displayReportTab.do?entity_ref=NI027321&company_key... 14/07/2010

Additional Information Requested As part of Submission No.6

Dated 21st June 2010

Our Ref: E20 1 O/ 1 8

Your Ref: PO914-01

- ❖ I have addressed the issues of Special protection Areas and Natural Heritage areas in close proximity to our sites in Section L 2 & 3 of this submission.
- ❖ I had previously submitted site location maps but these were marked as confidential and were hence returned by the EPA these maps will be resubmitted on this occasion along with in the form of ordinance survey maps of the bogs and Ortho maps showing the bog locations and silt trap and site locations and locations of buildings on our sites. CD ROMs were also submitted previously of the site surveys recently completed for each Bog.
- ❖ All adjustable weirs are positioned on the discharge outlets from the settlement ponds and do span the outlet drains post the settlement traps.
- ❖ In terms of contingency in regards to torrential rainfall we have contingency in place and a plan that has been detailed previously to Westmeath County council Environmental Representatives as follows

3. Measures in Place to Ensure that the silt traps from the silt traps / settlement ponds does not discharge to the river Inny during periods of elevated rainfall, elevated flows and during periods when the harvesting of peat no longer takes place.

- a) At the end of the peat harvesting season all settlement ponds will be de-sludged to improve the sedimentation and retention capacity of the settlement traps as detailed in Best Available Techniques.
- b) At the end of the peat harvesting season the silt traps will be left at low level to give optimal capacity in event of heavy rainfall
- c) The silt traps will be visually inspected on a weekly basis as per Work Instruction / Procedure document “WI2002 Silt Pond Visual Inspection & Sampling Requirements “and weir level adjustments will be made accordingly by the site manager on a weekly basis even during the non peat harvesting season as per the completed records of document “WIR2002 Silt Pond Visual Inspection & Audit Record Sheet” that were submitted to Westmeath County council as part of our annual review requirements for our consent to discharge license. (both these documents have been attached



WI2002 Silt Trap



WIR2002 Silt Traps

below) Visual Inspection & S Visual Inspection & A



- d) The adjustable weir levels will then be adjusted accordingly as per the design attached in the drawing below by the peat Harvesting Site Manager.



Adjustable Weir
Drawing

Manager.

- e) At the end of this year's peat harvesting season we are going to evaluate the potential use of reed beds on the discharge side of our weirs to act as a secondary settlement trap during periods of excessive flooding to act as a settlement trap to act as a final polish for the water exiting the settlement ponds. These Reed beds have grown naturally on the discharge side of a number of our settlement ponds before the water discharges to the River Inny.
- f) During periods of either heavy rainfall or heavy winds no Peat harvesting will take place to minimise any impact of silt deposition attributed to the peat harvesting operations
- ❖ We have included investigating the use of Reed Beds as secondary polishers on the discharge post our settlement traps and in fact a number of our discharge outlets have propagated naturally with Reeds. This is something we are going to evaluate in August at the end of the harvesting season 2010 and we will investigate how to plant these reed beds successfully length if time for them to mature to be effective and potential maintenance issues.
 - ❖ I have attached a lot of ecological information in section I of this submission regards the local Rivers and the Special protection and Natural Heritage areas in close proximity to our peat harvesting sites.
 - ❖ Bog rehabilitation plans are detailed in section K of this submission and we will work with the EPA to manage this process going forward.
 - ❖ The 30 Metre buffer zone along the River Inny as agreed with Westmeath County Council and the Shannon Fisheries Board has been detailed in section I point #3 of this submission.
 - ❖ All waste machinery from the site will be collected from the site and disposed by Wilton waste Cavan and we currently have an agreement set up with them. Wilton waste are an approved waste machinery disposal contractor.
 - ❖ I have submitted details in regards to our potential impact on the SPA namely Lough Owel which is quite a distance from our site with no likelihood that our site could have any direct or indirect negative impacts on the site. This has been described in more detail in Section L point #2 of this submission.
 - ❖ In section L point #4 of this submission I have detailed that neither myself nor our finance Director as Relevant Westland Horticulture personnel have ever been convicted of any offence.





Silt Trap 5

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Silt Trap 2

Silt Trap 1

Clonsura
E241639, N276801

Offices

Site Notice

Silt Trap 4

Silt Trap 3



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Silt Trap 5

Silt Trap 3

Silt Trap 2

Silt Trap 4

Mayne
E239246, N271815

Silt Trap 1

Ballinealoe
E239259, N271289

Lower Coole
E239547, N272724

Ballinealoe

Mayne

Lower Coole

Silt Trap 6

Offices

Silt Trap 7

Site Notice