BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Leabeg, Tullamore, Co Offaly

Srahmore Waste Licence W199-1

Annual Environmental Report

2005

24th March 2006

Contents:

Appendix 6 Groundwater Monitoring Results.

Appendix 7 Resource & Energy Consumption Summary.

Appendix 8 Silt Pond Inspections Log.

Appendix 9 Waste Licence Emission & Monitoring Points

1. Introduction

1.1. Report Period

This Annual Environmental Report covers the period of 01/01/05 to 31/12/05 for the Srahmore Peat Repository at Attavally, Bangor-Erris, Co Mayo. In addition this AER contains a report of the period from the licence issue date and the end of that calendar year (29/10/04 – 31/12/04).

This is the first Annual Environmental Report for Bord na Mona's Peat Repository at Srahmore, Attavally, Bangor-Erris, Co Mayo. The structure and contents of this report are based on the requirements of Schedule D Reports & AER Content.

1.2. Waste Licence Register Number - W199-1

1.3. Operator & Address of Facility.

Bord na Mona Energy Ltd
Srahmore,
Attavally
Bangor-Erris
Co Mayo

1.4. Environmental Policy (attached on next page)

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Environmental Policy Statement

Bord Na Mona Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

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

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

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

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

Bord Na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts:

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

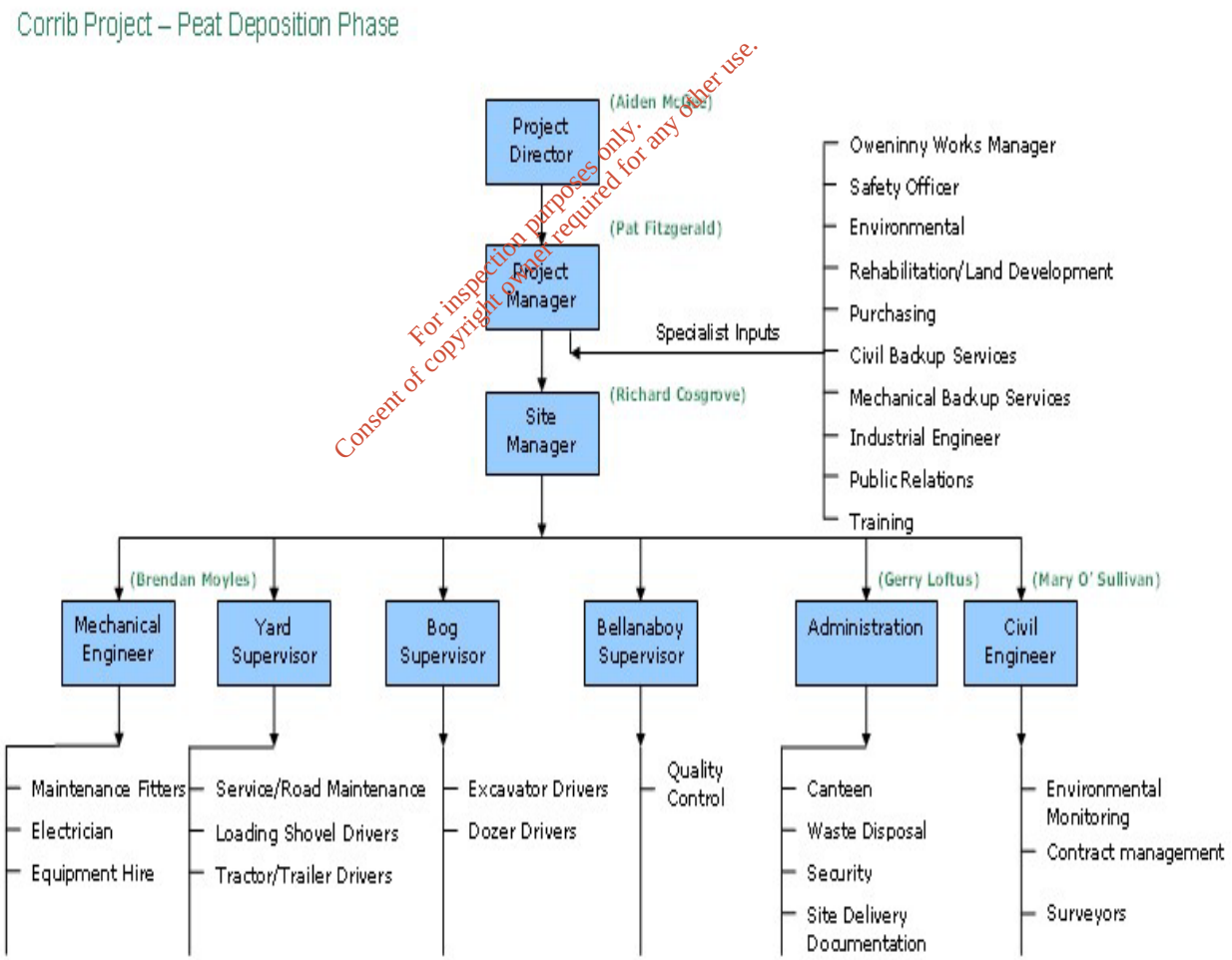
The environmental management system will be monitored, maintained and continually improved.

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

Bord Na Mona Energy Limited will continue research and development(R&D) into all aspects of its environmental impact.

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

1.5. Current Management Structure



2. Waste Management Report

2.1. Site Description

The site is situated approximately 1km northwest of the village Bangor-Erris and comprises cutover peatland in the Oweninny bog complex. This consists of eight separate areas of cutover peatland, numbered 1 – 8, each of which was assessed for suitability for the development. Area 5 was selected as the peat reception area. Area 6 was selected for the actual deposition of peat and a section of Area 7 is utilised as a "controlled overflow area" in the event of exceedance of the design rainfall. The peat reception area is utilised for off-loading of the peat is the closest area to the public road.

The site is a peat disposal area for the placement of c. 450,000m³ of peat waste excavated from the development of the Shell Corrib Gas Field Terminal at the nearby Bellanaboy Bridge site. The peat, which is from a 3000 to 5000 year old Atlantic Blanket Bog, is transported by road in trucks to the Srahmore deposit area. It was originally anticipated that peat transport and deposit would take place over a 6 month period, spread out over two seasons. However, peat transport and deposit ceased on the 4th July 2005, and as of that date, 112,937tonnes were transported to and deposited at the site. Details of all waste activities, from date of the first waste accepted to cessation of activities on the 4th July 2005 are included in Appendix 1.

As of the preparation of this AER for 2005, the recommencement date of operations at the site is unknown. Therefore it is not possible to estimate when the final capacity is to be reached.

As of the final delivery and deposition of peat to the site on 04/07/05, the remaining capacity is 337,063 tonnes. A map detailing the status of each bay is included in Appendix 2.

During the full operations at the site, up to 126 personnel were employed in the following areas:

BNM (support)	8	General Operatives	24	Security	4
BNM (Engineering)	2	Fitters	5	Environmental	1
Head Office Staff	2	Electricians	1	Archaeological	-
Site Office Staff	2	Site Supervisors	4	Canteen	3
Drivers	70	Contractors	-		
		Total			126

Plant on site during all operations are as follows:

Machine	Number	Operator
Excavators	20	BNM
Dozers	6	BNM
Tractors	28	BNM
Quads	4	BNM
Loading Shovels	3	BNM

3. Environmental Emissions of the Activity

3.1. Emissions to Atmosphere Summary

The only potential emissions to the atmosphere from the activities on site are dust. As required by Condition 8.8.1, locations for dust monitoring around the site were agreed with the Agency, and Bergerhoff Dust gauges were installed.

During peat deposition activities, which commenced on the 18th April, the dust gauges were monitored every 28 – 32 days. During this period 35 samples were taken from the 5 dust sensitive locations, with 3 of the samples exceeding the Emission Limit Value (350mg/m³/day). These exceedance's were reported to the agency with corrective actions in place. The dust gauges have since been removed, as peat deposition has been suspended. These will be replaced prior to re-commencement of peat deposition.

Results for the 5 dust gauges are included in Appendix 3.

Non-Compliances:

Monitoring Point	Emission (mg/m³/day)	Corrective Action
DM-02	422	SR-CA/002
DM-03	894	SR-CA/004
DM-03	1181	SR-CA/006

Procedures regarding dust suppression and dust monitoring are in place on site.

3.2. Emissions to Water Summary

Emissions to water from the site takes place at 3 locations:

Licence Emission Ref. No	SW No
S5-1	SW100
S5-2	SW101
Location 7 (combined from Area 5/6)	SW4

As required by Schedule C (2.2) the following parameters were monitored during peat deposition, from February to October. After this period, when peat deposition was suspended, a revised monitoring regime was agreed with the agency, until peat deposition recommences.

Parameter	Continuous	Daily	Weekly	Monthly	Quarterly
Flow	SW4				
pH			SW4,100 &101		
Conductivity	SW4		SW100 & 101		
COD			SW4, 100 & 101		
BOD					SW4
Suspended Solids		SW4	SW100 & 101		
TDS			SW4		
Nitrite (as N)				SW4	
Nitrate (as N)				SW4	
Ammonia (as N)			SW4, 100 & 101		
Total Phosphorus				SW4	
Oils, fats & greases					SW4

Emissions from SW4 are monitored using a flow proportional composite sampler, which operates on a continuous basis. Here a sample bottle is filled over a 24 hour period and sent to Complete Laboratory Services for analysis. The compliance requirements at SW4 are as follows:

> *8/10 consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value*

Emissions from SW100 & 101 are sampled by grab sample on a weekly basis and sent to the lab for analysis. The compliance requirements at SW100 ^ 101 are as follows:

> *No grab sample value shall exceed 1.2 times the emission limit value.*

The emission limit value (ELV) attached to emissions to water from the site is 35mg/l suspended solids.

Results for the 3 emission points are in Appendix 4.

Non-compliances:

Monitoring Point	Emission (SS mg/l)	ELV (mg/l)	Corrective Action
SW4	65	42	SR-CA/001
SW4	71, 49 & 71	42	SR-CA/003
SW101	72	42	SR-CA/003
SW4	62, 92 & 81	42	SR-CA/005
SW4	210	42	SR-CA/007
SW101	228	42	SR-CA/007
SW4	54	42	SR-CA/009
SW4	45	42	SR-CA/010

3.3 Ambient Monitoring.

River-water Monitoring:

Schedule C (6) requires monthly monitoring for Suspended Solids and Ammonia at two locations on the Munhin River, upstream and down stream of the discharge from Location 7 (SW4). The average suspended solids upstream of the discharge from the site was 9.6 mg/l, while the downstream average was 7.5 mg/l over the 10-month monitoring period.

The average ammonia levels upstream of the discharge are .0114mg/l to .0354 mg/l downstream. These results would be typical of levels found in peatland catchments and are well below the Maximum Allowable Concentration (0.23 mg/l)

This would indicate that the Srahmore Peat Repository activities are having no negative effect on the suspended solids content of the river.

Results of the analysis is attached in Appendix 5.

In addition Biological Quality (Q) rating/Q index is required annually. This was carried out, in agreement with the Agency, on the 17/09/05, by AMGC Environmental Agricultural Consultancy. Assessment was carried out upstream and downstream of the discharge from the site, to establish a Q index for both locations and identify any change in water quality.

The results obtained show an improvement in water quality from the sample location upstream of the discharge and sample location downstream of the discharge. Upstream results indicate a Q3 – Q3/4 (Class C Moderately polluted) while downstream show Q3-4 (Class B Slightly polluted). These results would indicate that the operations have had little or no effect on the Aquatic Ecology of the River. A copy of the report is maintained on file.

Groundwater Monitoring:

Condition 8.10 required the installation of a groundwater monitoring network at the site, in accordance with Agency guidelines. This required one up-hydraulic gradient, one down gradient of the peat reception area, and two down gradient of the peat deposition area.

Only one borehole survived from the initial site investigation, so this involved the installation of three addition boreholes, by Irish drilling Ltd between March 21st and 29th.

Sampling of the boreholes was carried out on the 13/04/05 and the 07/06/05, with the results attached in Appendix 6.

As can be noted, the first round of sampling indicated high COD levels from both the shallow and deeper boreholes even before peat deposition commenced. These were taken directly after the boreholes were installed and the sampling produced samples with high sediment levels. The second round of sampling showed significantly lower COD levels, and occurred after the wells had been pumped clear of all fresh sediment.

Groundwater monitoring will be carried out again, bi-annually, in 2006, once peat deposition recommences.

3.4 Noise Monitoring Report.

Condition 8.11 of the licence requires a noise survey to be carried out during weeks 2, 6 & 12. Due to the on-going difficulties at the Bellanaboy Site, peat deposition only took place on weeks 1, 5, 6, 9, 10 & 11. Based on the daily and weekly stop/start nature of the peat deposition, it was not possible to carry out a survey on weeks 2 & 6.

The first noise survey took place on week 10, on the 20th June 2005. This survey was carried out by Bord na Mona Environmental Ltd in accordance with the requirements of the licence and the methodology specified in the 'Environmental Noise Survey Guidance Document'. The noise survey took place at the same three Noise Sensitive Locations used in the EIA.

NRA – At site entrance from the R313.
NRB – North/West of the site on the R313 at a dwelling.
NRC – West of the site, close to Bangor-Erris Village

Results from the noise survey indicate that while noise levels monitored at the three locations were above the emission limits specified in Schedule B of the licence, it was not due to the activities on the site.

The L_{eq} dB(A) levels at the three sites from 18:30 to 21:00, when operations at the site had ceased, were the same as at 07:00 – 09:00, when the site was operating.
The report indicates that the main sources responsible for the high levels were traffic on the R313 and the N59. This was during the morning and evening periods, and while noise was recorded coming from the safety reversing alarms of the site machines, the overall results and observations indicated that the activity does not have any undesirable impacts on the existing neighbouring noise environment.

A copy of the report is available for inspection at the site office.

Map Ref.	Period (mins)	L_{eq} dB(A)	L_{10} dB(A)	L_{90} dB(A)	L_{Max} dB(A)
NRA (07:00 – 09:00)	30	72	72	49	94
NRA (16:30 – 18:30)	30	69	69	53	89
NRA (18:30 – 21:00)	30	72	75	46	90
NRB (07:00 – 09:00)	30	69	72	45	87
NRB (16:30 – 18:30)	30	68	70	49	86
NRB (18:30 – 21:00)	30	69	73	41	89
NRC (07:00 – 09:00)	30	48	51	40	72
NRC (16:30 – 18:30)	30	49	51	45	77
NRC (18:30 – 21:00)	30	48	51	43	64

3.5 Resource & Energy Consumption

A Resource & Energy Consumption Summary is included in Appendix 7.

There were a number of actions in 2005, which assisted in reducing energy consumption. These included:

1. The site lights were fitted with Photocell's which allowed the lights to automatically come on at dusk and turn off at dawn.

Result: A reduction in Electricity usage.

2. The diesel generator used to power the site was replaced with an electricity connection from the ESB.

Result: A reduction in diesel usage.

Actions planned for 2006 include:

1. A new road layout plan has been produced which aims to reduce the travel time of the tractor and trailer units. This, if successful will result in a reduction in diesel use/tonne of peat deposited.

2. Addition resources will be applied to the Maintenance Programme. This will allow for the efficient maintenance of the plant fleet, resulting in more fuel efficiency. All plant in operation at the facility are new, so the fuel efficiencies of the plant are optimised.

4 Environmental Management System

4.1 Management & Reporting Structure

This is included in section 1.5 and details the current management & reporting structure.

4.2 Schedule of Environmental Objectives & Targets

This sets out the schedule of objectives as proposed by Condition 2.2.2.2.

Objective	Target
1. Minimisation of suspended solids	Assessment of suspended solids generation during peat deposition during the first two months and setting a programme for its reduction
2. Reduction of fugitive dust	Establish the levels of dust generation during peat deposition during the first two months and setting a programme for its reduction.
3. Protection of dust sensitive areas	Establish the levels of dust nuisance at the three dust sensitive locations during the first two months of monitoring and setting a programme for the protection of these areas
4. Reuse of silt pond waste	Monitor the levels of silt pond waste cleanings at the 7 silt ponds and swale locations over the peat deposition period and establish a reuse option.
5. Effective spill leak management of Mobile fuelling units	Comply with all of the condition of the licence in relation to operation and maintenance of all mobile fuelling operations, and assess its effectiveness after 3 months operation.
6. Management of dangerous substances	Comply with the conditions of licence relating to oil and diesel storage, bunding and recycling and review after 2 months operation
7. Management of silt pond flow discharges	Comply with the conditions of the licence in relation to the management of silt pond flow discharges during high rainfall events and assess its effectiveness after two months operation.
8. Reuse of stone used in internal haul-road construction	Investigate any potential re-uses for the geotextile and stone used in the construction of the internal; haul-roads, either on site or in the locality.

4.3 Environmental Management Programme Report.

Minimisation of Suspended Solids (EMP1)

Activity/Emission	Objective	Target Date	Target	Persons Responsible
OT1 Emission of suspended Solids	Minimisation of suspended Solids	On-going programme during the life of the project and as part of aftercare & maintenance.	To comply with Conditions 8.9.1, 8.9.3 & 8.9.4. a programme of weekly inspections of all drainage and subsequent waste treatments systems, daily inspections of discharges to receiving waters and the regulation and monitoring of all silt generating activities will be put in-place. This will be used for establishing the cleaning roster. These systems will be assessed on an ongoing basis for the first two months of peat deposition, to assess the degree of suspended solids generation, and this along with the daily results for SS from the Composite Sampler will be used to establish targets for the reduction of Suspended Solids **Status: Daily & weekly inspections are being carried out as per the condition of the licence. These along with SS results have yielded a profile of the silt ponds and their effectiveness. Additional silt pond capacity has been provided, with more efficient utilisation of the controlled overflow area (area 7).**	Site Manager & Environmental Manager

Reduction of fugitive dust (EMP2)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT2 Fugitive dust emissions	Reduction of fugitive dust emissions during all operations	On-going programme during the life of the project.	This programme will establish the degree of dust generation during the first two months of peat deposition. Peat delivery, tipping on the peat reception area, loading into the trailers and deposition into the bays will be examined along with any dust suppression methods employed and the appropriate Dust Handling Procedure. This will include the first two months of dust monitoring. The results of these assessments will be used to establish targets for reduction of fugitive dust emissions. **Status: This programme and condition 8.8.1. has resulted in the provision of dust gauges at dust sensitive locations (see section 3.1 Emissions to Atmosphere). The main sources of dust from the site is the access road and peat deposition roads. The operations to date have resulted in exceedance's in dust levels on three occasions, with an overall compliance rate of 92%. With the current dust suppression measures in place for next year, BNM are confident that the compliance levels will be at 100%**	Site Manager & Environmental Manager

Protection of dust sensitive areas. (EMP3)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT3 Fugitive dust emissions	Protection of Dust sensitive areas.	On-going programme during the life of the project.	Based of the results of the initial two months dust monitoring at the five dust sensitive locations, a programme of protection of dust sensitive locations will be examined. This will address any measures to be put in-place, such as the planting of trees, or any special measures to be put in place to protect any areas that exceed the ELV of 350 mg/m²/day. **Status: There have been no complaints regarding dust received at the site. This along with the high level of compliance indicate that dust from the site is not a significant nuisance to any neighbours of the operations, and protection of dust sensitive location is not necessary. This programme will be kept under review.**	Site Manager & Environmental Manager

Reuse of silt pond wastes (EMP4)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT4 Reuse of Silt Pond Waste	The reuse of all silt pond wastes.	On-going programme during the life of the project.	As the silt wastes generated form the cleaning and maintenance of silt ponds S5-1, S5-2, Area 5 & Area 6 silt ponds are directly as a result of peat deposition, they will either be used in the Bog & Peat Deposition Area rehabilitation & aftercare, or will be incorporated into the existing bays once deposition is complete. Regardless of the final use, all silt wastes will be moved away from the immediate area of the pond following cleaning, within 5 days, to prevent re-entrainment. **Status: As all peat wastes accepted and generated at the site are for landfilling purposes, there is no further use for the silt pond cleanings. These will be incorporated into the peat deposited or if off benefit will be used in the final rehabilitation.**	Site Manager & Environmental Manager Site Manager & Environmental Manager

Management of mobile fuelling wagons (EMP5)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT5 Management of mobile Fuelling units	Effective spill/leak management of mobile fuelling units.	On-going programme during the life of the project.	To comply with conditions 3.17, 3.19 and 3.20, the two mobile fuelling units will be stored in a bunded location, with an oil spill kit in-place. Fuelling nozzles will be fitted with overflow shut-off mechanisms, auto fill clips will be disabled. All personnel will be made aware through training, of the Oil/Diesel Loading Procedure & the Emergency Response Procedure. Shortened versions of the procedures will be posted on the tanks and at the bunded storage location. All service wagons will be inspected before use and bi-annually there after. Leaks, flaws, necessary repair etc, will be reported to the Site Manager. All the above will be in-place before peat deposition commences, and will be re-assessed as to its effectiveness every 3 months. The out come of these assessments will determine any improvements to be made and target dates to achieve them. **Status: One diesel spillage occurred from one of the mobile bunded fuelling tanks. This was reported to the Agency. This was due to operator error on behalf of the external diesel delivery contractor. Other than this incident, the operation of these bunded mobile fuelling units has been successful. This project will continually assess its effectiveness and propose any**	Site Manager & Environmental Manager

			improvements.	

Management of dangerous substances (EMP6)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT6 Management of dangerous substances List I & List II	To manage of any dangerous substances as listed in I & II of the Dangerous Substances Directive 80/68/EEC	On-going programme during the life of the project.	The only substances from Lists I & II of the Dangerous Substances Directive (76/464/EEC and 80/68/EEC and amendments) are List I (7) Mineral Oils and Hydrocarbons. The management of these will include: (1). **Pollution Prevention** as required by Conditions 3.13 – 3.21. This includes the safe storage of diesels/oil/Filters and protection of ground and surface water during fuelling operations. (2). **Pollution Control**: Maintenance of diesel/oil interceptors as required by Conditions 8.9.1 & 8.9.2 All of these measures will be in-place before peat deposition commences. A review will be carried out after the first two months operation and every 3 months thereafter, to assess the effectiveness of programme OT6. A programme of improvement will be implemented once the operational performance of the management of diesels & oils has been assessed.	Site Manager & Environmental Manager

			Status: The oil interceptors installed at the site include 3 Klargester units. These units are installed downstream of the grit trap and are operating successfully. They have also been fitted with alarms, which indicate when they require cleaning. The operation and maintenance of these units is on-going.	

Management of silt pond flow discharges (EMP7)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT7 Effective management of Silt pond flow discharges	Effective management of flow discharges during periods of high precipitation and flooding.	On-going programme during the life of the project.	As is required by Conditions 3.11 & 3.12, all silt ponds must achieve specific design criteria i.e. max flow velocity <10 cm^{-1} and min. 75m^3/nett ha of bog. Flow regulators must also be fitted to ensure the design flow capacity is not exceeded. The drainage system has been designed to a rainfall event of 31 mm, which equates to a 100 year storm event of 1 hours rainfall. As the preferred option for the drainage management was the controlled discharge of water from the drains to the swale to the silt ponds, appropriate flow regulators will be in-place to ensure the design flow of each of the silt ponds is not exceeded during heavy rainfall and that any excess runoff generated is discharged to the overflow area (Area 7).	Site Manager & Environmental Manager

			Condition 3.4 requires a construction quality assurance validation to be completed on the surface water drainage/control/treatment works. This will include an assessment of the performance of the silt ponds and will assess its compliance with the stated maximum flow velocity < 10 cms^{-1} The drainage system will be monitored over the first two months of operation to assess if it can be improved. **Status: Based on SS results from Location 7 (SW4) and from SW100 & 101, silt control during heavy rainfall can be a problem. Based on this, overflow pumps have been installed as part of corrective action.**	

Reuse of road building materials (EMP8)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT8 Road materials re-use	Reuse of stone used in internal haul-road construction.	As stated in the EIS, the decommissioning plan for the internal haul road network would envisage it occurring at the end of the stabilisation period (5 yrs after deposition has been completed). There may also be a requirement to leave these roads in-place as part of the after use of the	All materials used in the internal haul road construction will be either recycled or reused. The Geotextile will be collected for reuse within BNM for under rail lines, or recycled through a licensed contractor. The 300mm of crushed stone will be recycled through one of the following: 1. As internal service roads to a Proposed Wind Farm Development at Oweninny.	Site Manager & Environmental Manager

		deposition area.	2. As construction material on an alternative site. 3. Through an appropriate recycling contractor. 4. Placement at the base of the toe drains to assist in drainage. **Status: This project will commence once peat deposition is completed.**	

4.4 Environmental Management Programme Proposal.

The proposal for 2006 is to continue with the existing EMP Objectives and Targets due to the short duration of the remaining peat deposition.

4.5 Silt Pond Inspection & Desilting Report.

The 7 silt ponds treating waste water from the Srahmore site were cleaned once during the peat deposition period. (see table below).

Pond Number	Date Cleaned
SP 1	21/04/05
SP 2a	02/09/05
SP 2b	02/09/05
SP 3a	02/09/05
SP 3b	02/09/05
SP S5-1	02/09/05
SP S5-2	02/09/05

Inspections of the silt ponds are carried out weekly on the log attached in Appendix 7. A full log of all inspections is maintained at the site office, and this along with SS results obtained form the silt ponds form the basis for the cleaning roster. Due to the fact that peat delivery only took place for 6-7 weeks of 2005, the cleaning requirements were significantly reduced.

The monitoring roster is maintained on site.

5 Site Development Works.

5.1 Summary of main changes/developments/works & planned works for 2006.

Post Deposition 2005.

1. Lining of exposed section of link drain from reception area.
Exposed subsoil covered with 1mm lining to prevent colloidal material entering silt ponds.

2. Lining of exposed section of Swale
Exposed subsoil covered with 1mm lining to prevent colloidal material entering silt ponds

3. Site perimeter fencing.
Sections of site open to public access fenced off.

4. Silt pond access fencing.
Access to silt ponds restricted by 2m chainlink fence due to safety concerns

5. Installation of Water Pumps
To assist with drainage of site and used for flow control into area 7.

Pre Deposition 2006.

1. Drainage of area around wheel wash tanks.
To prevent buoyancy of tanks during exchanging of water.

6 Waste received and consigned from the Facility

6.1 Non-hazardous waste received by the facility.

		Non-Hazardous Waste Received			
Waste Description	EWC Code	On-site Disposal		On-site Recovery	
		Method	Tonnes	Method	Tonnes
PEAT	17 05 04	Deposit on Land	113,227	None	
Grit Trap Waste	13 05 01	Deposit on Land	1.5		
Wheel Wash Waste	06 05 03	Deposit on Land	5		

6.2 Hazardous waste received by the facility.

		Hazardous Waste Received			
Waste Description	EWC Code	On-site Disposal		On-site Recovery	
		Method	Tonnes	Method	Tonnes
None					

6.3 Non-hazardous waste sent off-site for Recovery/Disposal.

Waste Description	EWC Code	Tonnes	Details of Haulage Contractor	Recovery /Disposal	Name & Address of recovery/Disposal Site
Canteen Waste	20 01 08	2.82	Mayo County Council	Disposal	Rathroeen, Killala Rd, Ballina, Co. Mayo
Paper Waste	15 01 01	0.02	Loftus Recycling	Recovery	Loftus Recycling, Farrandeelion, Ballina, Co. Mayo
Cardboard Waste	15 01 01	0.26	Loftus Recycling	Recovery	Loftus Recycling, Farrandeelion, Ballina, Co. Mayo
Septic Tank	20 03 04	26	Asethetic Services	Disposal	Ballina Wastewater Treatment Works, Belleek, Ballina, Co. Mayo
Site Construction Cleanup	17 09 04	1.5	McGrath Industrial Waste	Disposal	McGrath Industrial Waste Ltd, Turlough, Castlebar, Co.Mayo
Grit Trap Waste	13 05 01	1.5	Bord na Móna Energy ttd	Disposal	Peat Deposition Site, Srahmore, Bangor Eris, Co. Mayo
Wheel Wash Waste	06 05 03	5	Bord na Móna Energy ttd	Disposal	Peat Deposition Site, Srahmore, Bangor Eris, Co. Mayo

6.4 Hazardous waste sent off-site for Recovery/Disposal

Consignment Note/TFS Note Number	Date of Dispatch	Description of Waste	EWC Code	Tonnes	Details of Haulage Contractor	Disposal/ Recovery	Name & Address of Recovery/ Disposal site
2109599	03/01/2006	Waste Oil	13 02 05	0.75	Atlas Oil Ltd	Recovery	Atlas Oil Ltd Portlaoise Co Laois
B 205654	12/07/2005	Oil Filters	16 01 07	0.27	Safety Kleen Ireland Ltd	Recovery/Disposal	Safety Kleen Ireland Ltd Unit 5, Airton Rd, Tallaght, Dublin 24
B 200719	04/05/2005	Oil spill & Peat	13 07 01	1.139	Atlas Oil Ltd	Disposal	Atlas Oil Ltd Portlaoise Co Laois

7 Environmental Incidents & Complaints.

7.1 Reported Incidents Summary.

Date	Nature of Incident	Cause	Corrective Action
22/04/2005	Hydraulic oil spill on concrete reception pad	Rupture of hydraulic hose on tipping lorry.	Spill contained and treated with oil absorbent mats. Contaminated materials disposed off by Atlas oil Ltd. SR-EI/001
02/11/2005	Diesel spill from fuel lorry filling site fuel bowser.	Overfill of fuel bowser and diesel sprayed out from breather cap over bunded tank...	Spill contained in grit trap before oil interceptors. Oil booms and absorbent mats used to contain and capture material for disposal. SR-CA/008

7.2 Reported Complaints Summary

Date	Nature of Complaint	Cause	Corrective Action
19/05/2005	Complaint about dozing work & flooding bog in Area 7.	This work was necessary to control flow in Area 7.	Bord na Móna's Srahmore Project Manager (Pat Ftzgerald) & Site Manager (Richard Cosgrove) met Mr Carey to address his concerns detail why the required work was necessary. SR-CT/001
13/06/2005	Noise levels from reversing beepers on the loading shovels operating on site	A Safety device fitted to these particular types of machine that warns individuals when the machines are reversing.	Noise survey was carried out at noise sensitive location. The results were within limits. Reversing alarms cannot be deactivated. SR-CT/002

8 Review of Nuisance Controls.

The nuisance controls at the site only include dust suppression and pest control.

Pest control is provided by Pestguard Environmental Services, and involves the installation of bait boxes at various locations around the site office and canteen facilities. As the only waste accepted at the facility is peat, there is no other requirements regarding the control of pests e.g. bird control. This service is being retained on site for the 2006 season.

Dust suppression is carried out at the site as inspections and observations dictate. The Dust Handling Procedure (DHP) is used to establish when and where dust suppression is required, and was utilised during 2005. This operation will continue once peat deposition re-commences in 2006.

9 Review of Rehabilitation Plan.

Rehabilitation at the Srahmore site is outlined in the Rehabilitation Plan for the Srahmore Peat Deposition Area and Associated Facilities (Feb 2005). The main criteria[1] defining successful rehabilitation of the Srahmore PDA and associated facility are:

(i) Stabilisation of the deposited peat[2]

(ii) Mitigation of silt run-off

Natural revegetation processes are outlined as the BAT for rehabilitation of the Srahmore site. Results so far indicate that vegetation establishes rapidly on the deposited peat. It is anticipated that the plant roots will bind the introduced peat layer, altering the peat structure to create a homogeneous peat mass thereby stabilising the peat.

9.1 Vegetation assessment

Deposition Area

The deposition area comprises access routes on high fields, peat deposition area and drainage channels. To date, approximately 20% of the deposition area has been covered with peat. The peat was deposited and levelled between high fields using long-reach excavators. The final shaping allows for run-off into drainage channels with the peat remaining undisturbed to facilitate natural revegetation processes.

Within weeks the deposited peat was colonised by a flush of soft rush *Juncus effusus* seedlings. Other plants colonising included bulbous rush *Juncus bulbosus* and sorrel *Rumex acetosella*. The soft rush tussocks form the dominant character of the vegetation with inter-tussock spaces of patchy plant

[1] These are the basic criteria as identified in the consultation process for development of *The Rehabilitation Plan* for the entire Oweninny Works.

[2] Stabilisation of these areas infers revegetation. Once stabilised there will be no potential peat run-off from the site, which will cover the second criterion for successful rehabilitation.

cover (Fig. 1). The cover of this pioneer vegetation is continuous over the entire area of deposited peat.

Fig. 1. Overview of the vegetation establishing on peat deposited at the Srahmore site. This photo was taken in November 2005.

The establishment of other species between the tussocks of soft rush will further bind the peat together and eventually lead to a complete cover and stabilisation of the introduced peat.

Vegetation cover in the remaining uncovered area is low and comprises patchy growth of bog cotton *Eriophorum angustifolium* and soft rush *Juncus effusus*.

Water over-spill area (Area 7)

This area was rehabilitated in line with the rehabilitation plan for the Oweninny Works, Cutaway Bog Rehabilitation (2003). This involved field drain blocking and it is anticipated that natural revegetation processes will proceed in this area and over the duration of the peat deposition activity. The overflow facility will be maintained for the duration of the peat deposition and also for a number of years following the activity to ensure that there is no build-up of water on site. When the area is no longer required, the site will be re-surveyed to determine the vegetative condition and whether further rehabilitation work is required (unlikely to be more than superficial).

Off-loading facility (Area 5)

Construction work was completed in April 2005. To date, there has been extensive colonisation of the surrounding bare peat, predominantly soft rush *Juncus effusus.*

10 Review of Environmental Liabilities Insurance Cover.

In Accordance with the requirements of Schedule D, Annual Environmental Report Content, a review of the Environmental Liabilities Insurance Cover is required. The initial Environmental Liabilities Risk Assessment (ELRA) was carried out in March 2005. This assessment examined 8 Potential Hazards, including, peat combustion, dust blow, sediment laden run-off, fire etc.

Of the critical potential hazards identified, mobilisation of peat off site and sediment laden run-off have not been highlighted as a potential problem during the operation of the site in 2005. The number of non-compliances occurring has shown a compliance level of 97% for all emissions to water from the site. The risk of peat mobilisation from the site was identified as low in the ELRA, and during peat deposition in 2005, there were no indications that the status of this risk had increased.

The Licence requires the completion of a stability assessment of each bay, once it has been filled. No bays were filled during 2005, so a stability assessment will be carried out in 2006, after each bay is filled.

To date, the natural re-vegetation as specified in the EIS has progressed better than expected (see photo in previous section). The continuous cover of soft rush (*Juncus effusus)* is already well established on the deposited peat, and has progressed its stabilisation.

Based on the experiences of peat deposition during 2005 and the results of environmental monitoring, performance and compliance reported in this AER, the Environmental Liabilities Insurance Cover for 2006 is adequate.

11 Landfill Costs

Condition 12.2.1 requires the licence holder to submit a statement on the determination of charge for the disposal of waste in accordance with the requirements of S.I. No. 337 of 2002 European Communities Regulation 2002.

Following the consultation of this regulation, it is determined that as Srahmore Peat Deposition Site is only accepting waste peat from one permitted contractor, and that this charge has been agreed with the contractor prior to the commencement of the peat deposition and is applicable for the duration of the contract, the provision of this statement does not apply. The price agreed with the contractor is commercially sensitive.

12 Other Reports.

12.1 Fuel Bowser Testing.

Both fuel bowers were supplied by Cashes Engineering Ltd. Both of these bowers were certified and tested by the manufacturer. A copy of the conformity certificates are kept on file in Strathmore.

12.2 Placed Peat Stability Assessment.

Condition 8.7 requires a stability assessment of each bay once filled. As no bays were filled during 2005, the stability assessments will be carried out once each bay is filled when peat deposition recommences.

12.3 AER Report (Date of Licence to 31st December 2004)

The Srahmore Peat Repository licence was issued on the 29th March 2004. Condition 3.2 required the submission of a Construction Plan for the initial development works. This was agreed with the Agency and commenced on the 13th December.
During this period up to 31st December the following environmental works, as specified in the Construction Plan Stage 1, commenced in preparation for the site development works in 2005.

1. Silt ponds 1, 2a, 2b, 3a, & 3b were set out.
2. Silt ponds 1, 2a & 2b were excavated.
3. Silt Ponds 1, 2a & 2b were fitted with weirs on the inlet and outlet

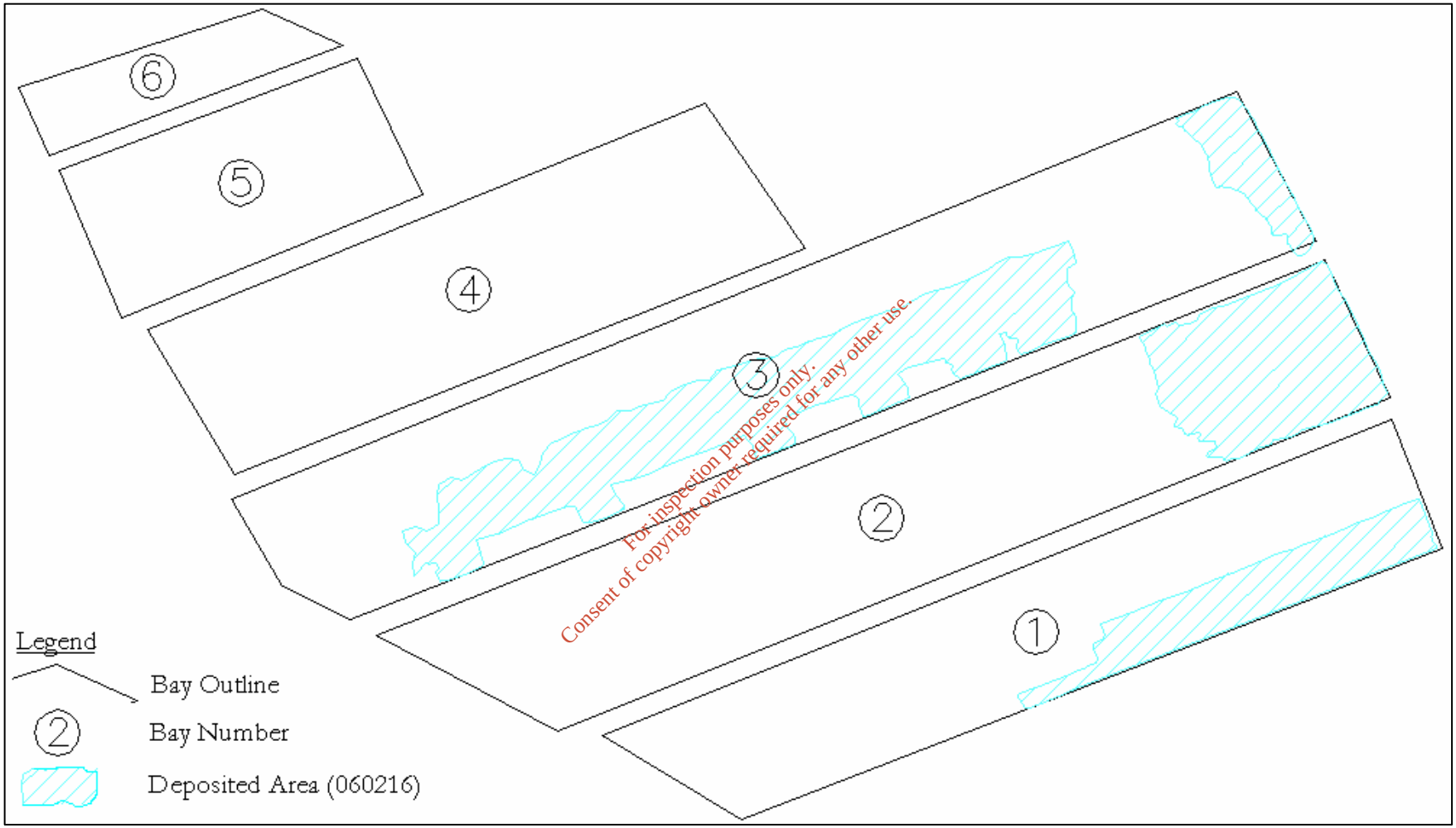
All other works were carried out in the AER reporting period.

Appendix 1

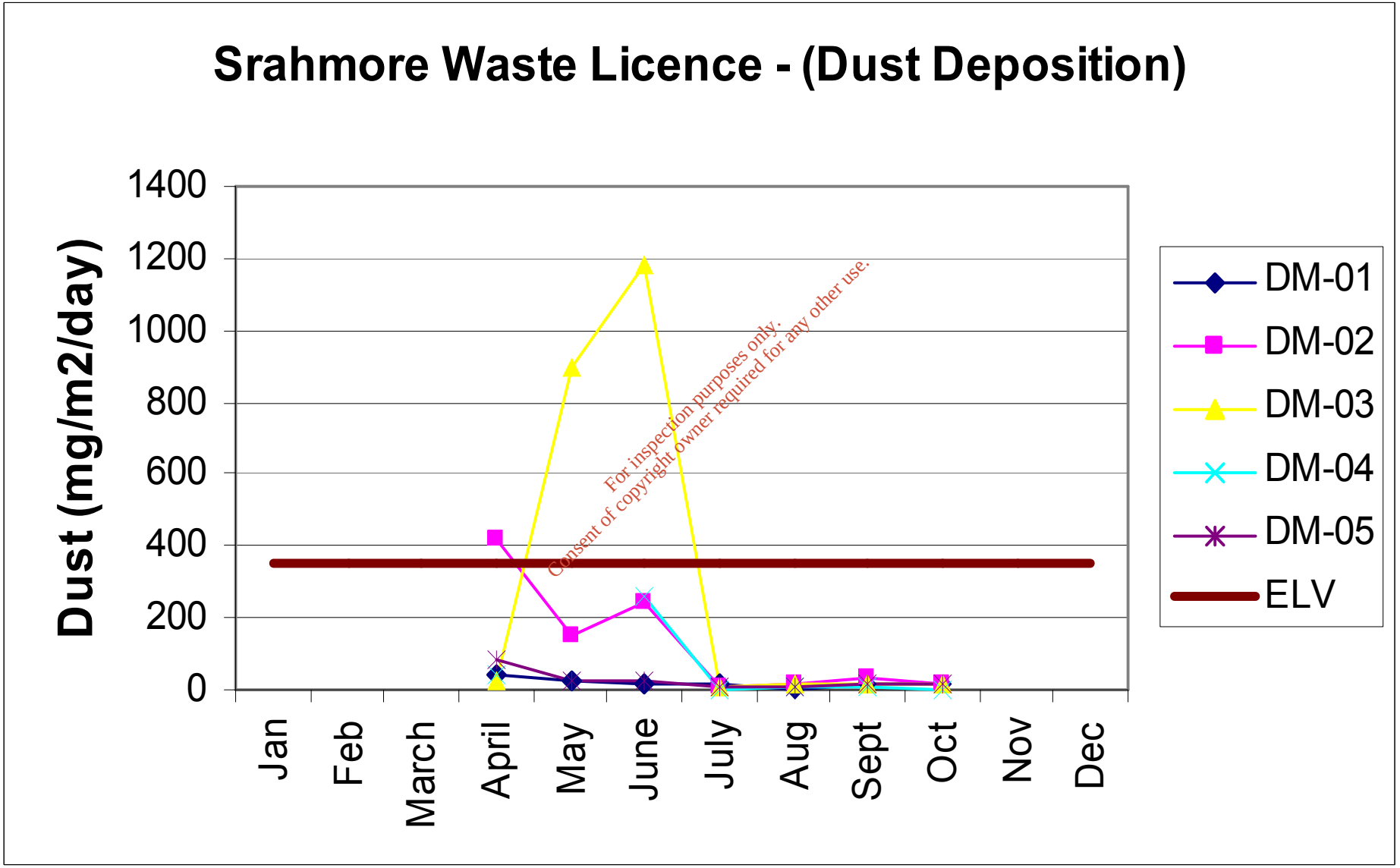
-

Opr. Week	Date	Deliveries In	Tonnes Delivered	Week	Date	Deliveries In	Tonnes Delivered	Opr. Week	Date	Deliveries In	Tonnes Delivered
Week 1	Mon 18 Apr 05	57	1,362	Week 5	Mon 16 May 05	7	127	Week 9	Mon 13 Jun 05	98	2,492
	Tue 19 Apr 05	90	2,150		Tue 17 May 05	98	2,170		Tue 14 Jun 05	113	2,821
	Wed 20 Apr 05	39	932		Wed 18 May 05	131	2,850		Wed 15 Jun 05	189	4,302
	Thu 21 Apr 05	51	1,218		Thu 19 May 05	151	3,347		Thu 16 Jun 05	220	5,028
	Fri 22 Apr 05	103	2,461		Fri 20 May 05	155	3,592		Fri 17 Jun 05	225	5,134
	Sat 23 Apr 05	0	No Peat		Sat 21 May 05	79	1,749		Sat 18 Jun 05	0	No Peat
		340	**8,123**			**621**	**13,835**			**845**	**19,776**
Week 2	Mon 25 Apr 05	58	1,322	Week 6	Mon 23 May 05	169	3,835	Week 10	Mon 20 Jun 05	218	5,044
	Tue 26 Apr 05	0	No Peat		Tue 24 May 05	169	3,923		Tue 21 Jun 05	221	5,024
	Wed 27 Apr 05	0	No Peat		Wed 25 May 05	183	4,195		Wed 22 Jun 05	228	5,274
	Thu 28 Apr 05	0	No Peat		Thu 26 May 05	165	3,779		Thu 23 Jun 05	153	3,588
	Fri 29 Apr 05	0	No Peat		Fri 27 May 05	130	3,059		Fri 24 Jun 05	191	4,473
	Sat 30 Apr 05	0	No Peat		Sat 28 May 05	0	No Peat		Sat 25 Jun 05	0	No Peat
		58	**1,322**			**816**	**18,791**			**1,011**	**23,402**
Week 3	Mon 02 May 05	0	B.H.	Week 7	Mon 30 May 05	99	2,423	Week 11	Mon 27 Jun 05	226	5,294
	Tue 03 May 05	0	No Peat		Tue 31 May 05	0	No Peat		Tue 28 Jun 05	237	5,491
	Wed 04 May 05	0	No Peat		Wed 01 Jun 05	0	No Peat		Wed 29 Jun 05	242	5,854
	Thu 05 May 05	0	No Peat		Thu 02 Jun 05	0	No Peat		Thu 30 Jun 05	205	4,777
	Fri 06 May 05	0	No Peat		Fri 03 Jun 05	0	No Peat		Fri 01 Jul 05	113	2,495
	Sat 07 May 05	0	No Peat		Sat 04 Jun 05	0	No Peat		Sat 02 Jul 05	0	No Peat
		0	**0**			**99**	**2,423**			**1,023**	**23,909**
Week 4	Mon 09 May 05	0	No Peat	Week 8	Mon 06 Jun 05	0	B.H.	Week 12	Mon 04 Jul 05	62	1,357
	Tue 10 May 05	0	No Peat		Tue 07 Jun 05	0	No Peat		Tue 05 Jul 05	0	No Peat
	Wed 11 May 05	0	No Peat		Wed 08 Jun 05	0	No Peat		Wed 06 Jul 05	0	No Peat
	Thu 12 May 05	0	No Peat		Thu 09 Jun 05	0	No Peat		Thu 07 Jul 05	0	No Peat
	Fri 13 May 05	0	No Peat		Fri 10 Jun 05	0	No Peat		Fri 08 Jul 05	0	No Peat
	Sat 14 May 05	0	No Peat		Sat 11 Jun 05	0	No Peat		Sat 09 Jul 05	0	No Peat
		0	**0**			**0**	**0**			**62**	**1,357**
			9,445				**35,049**				**68,444**
									Total Tonnes:		**112,937**

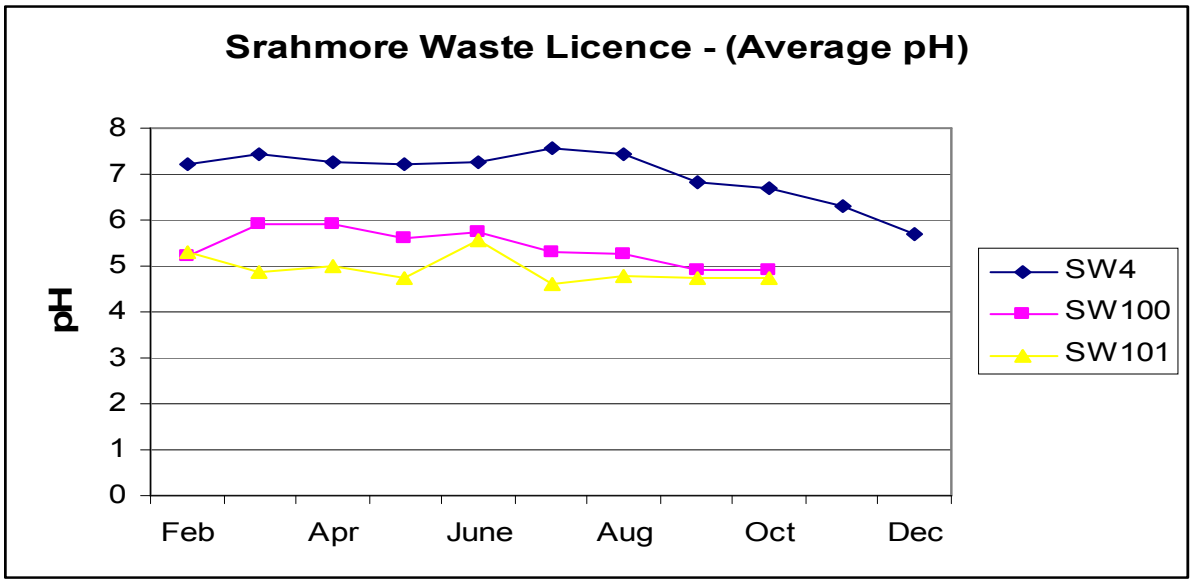
Appendix 2

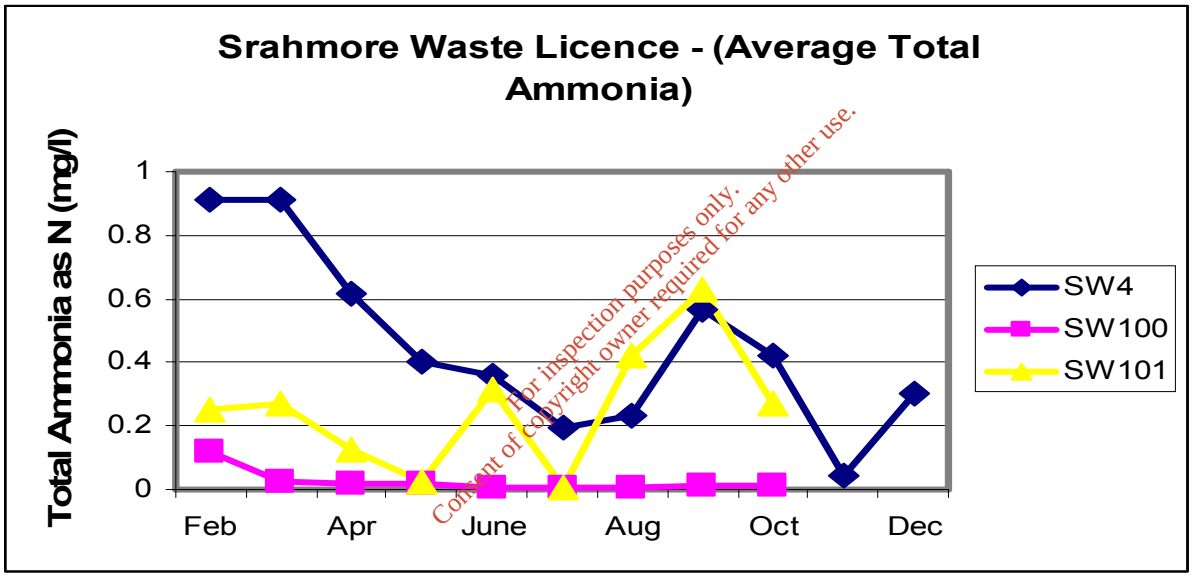


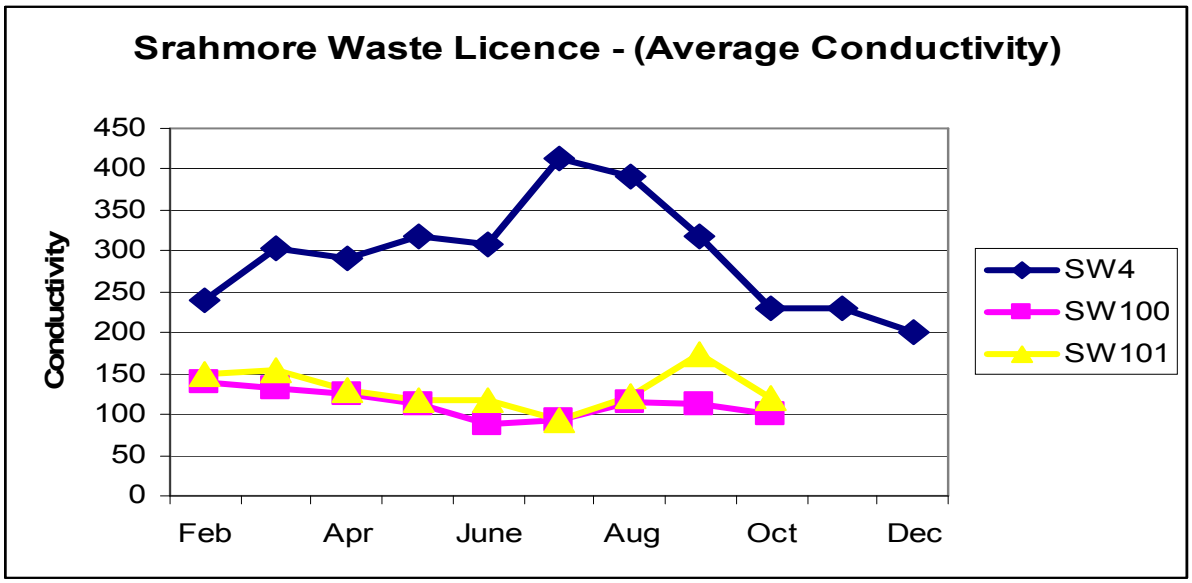
Appendix 3

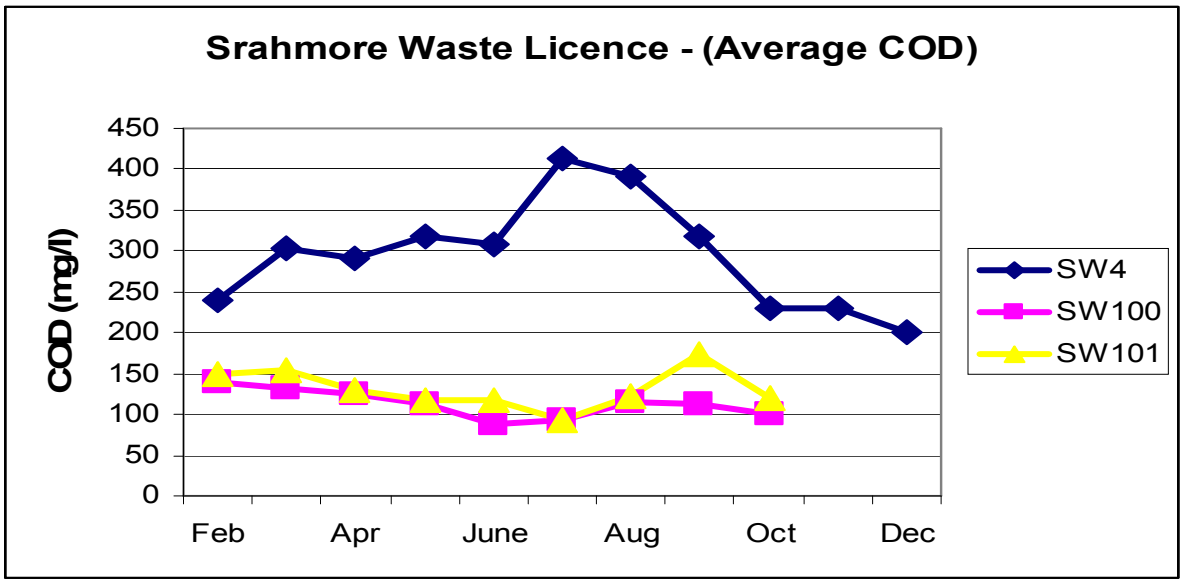


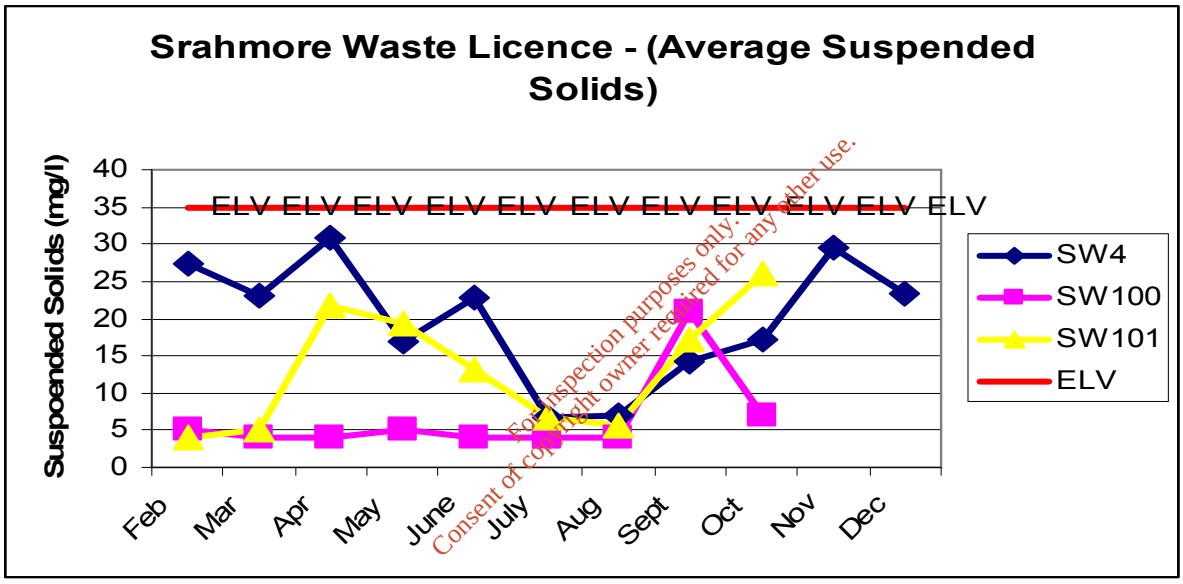
Appendix 4

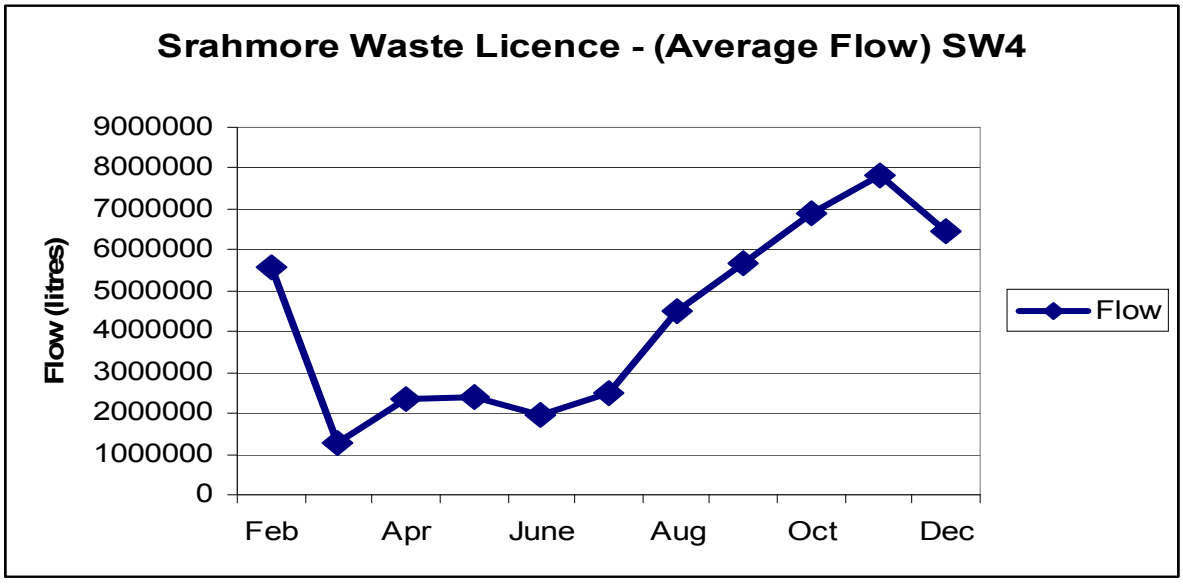


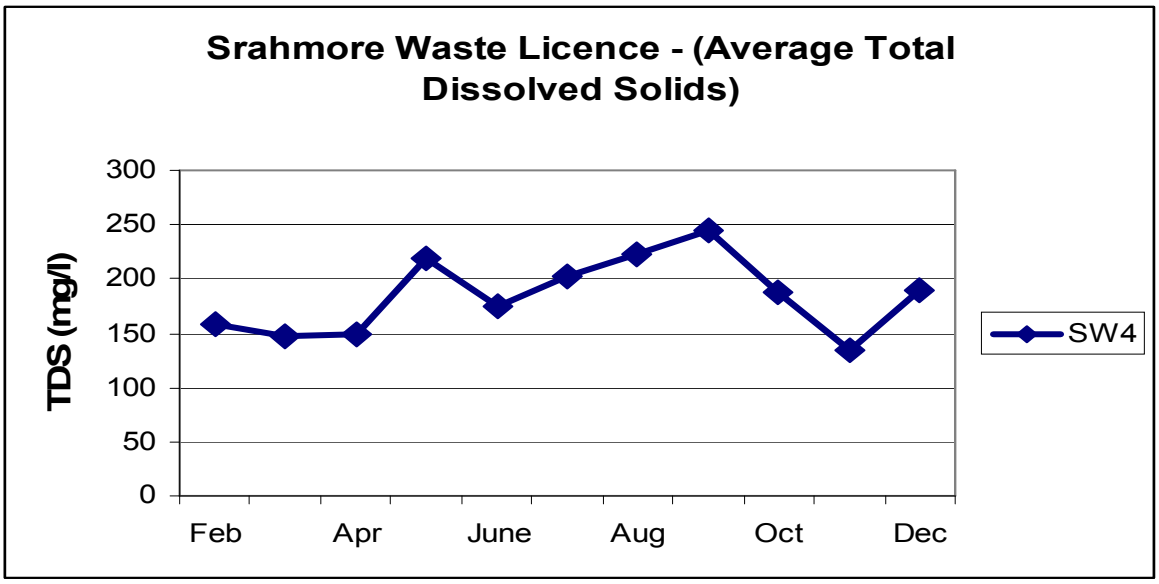


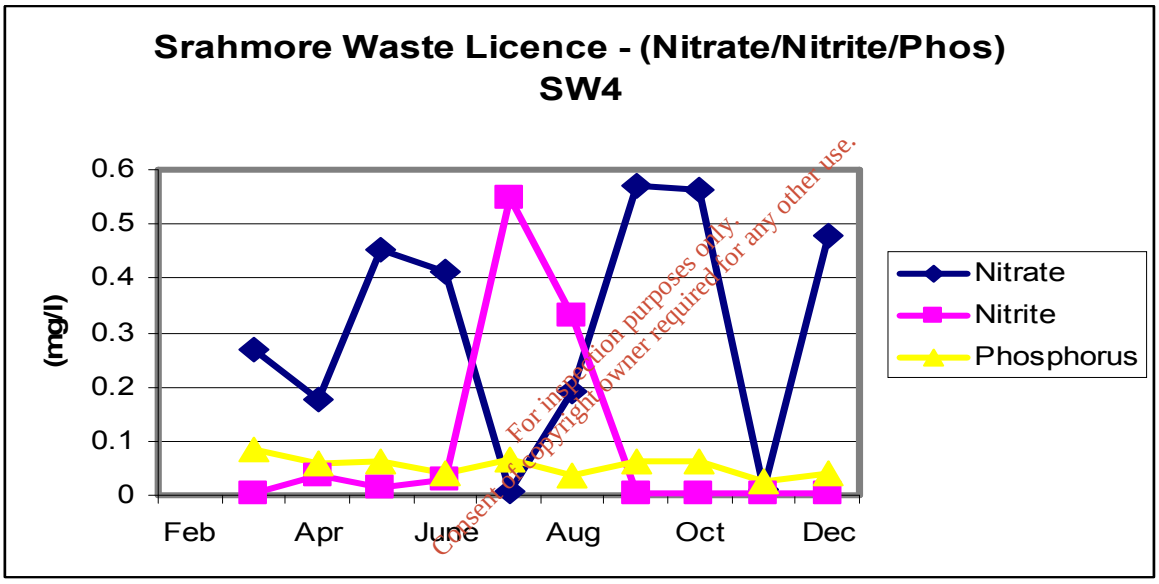


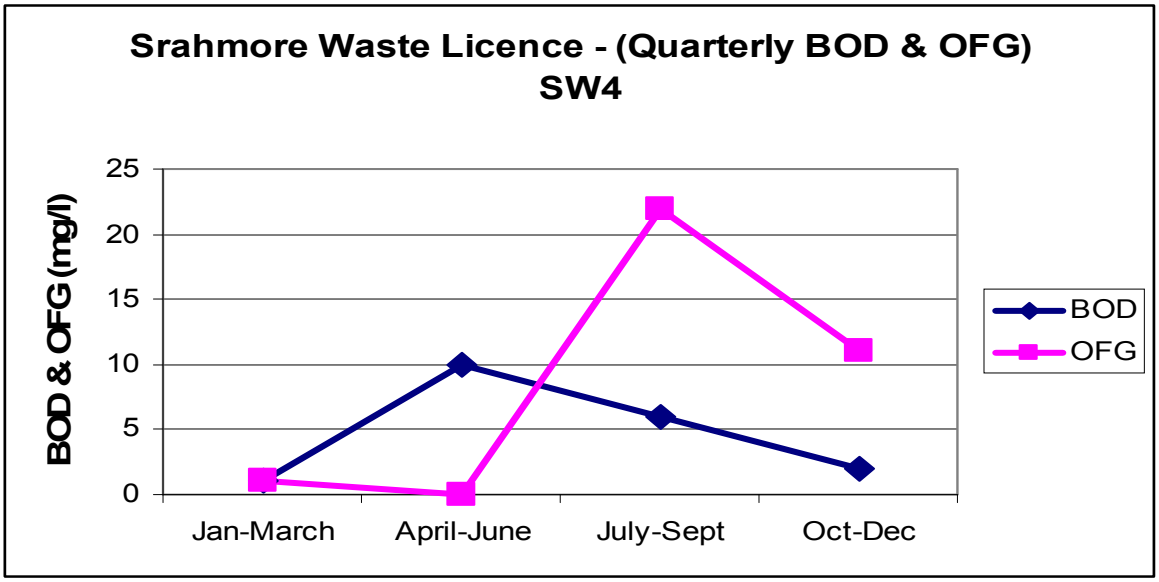




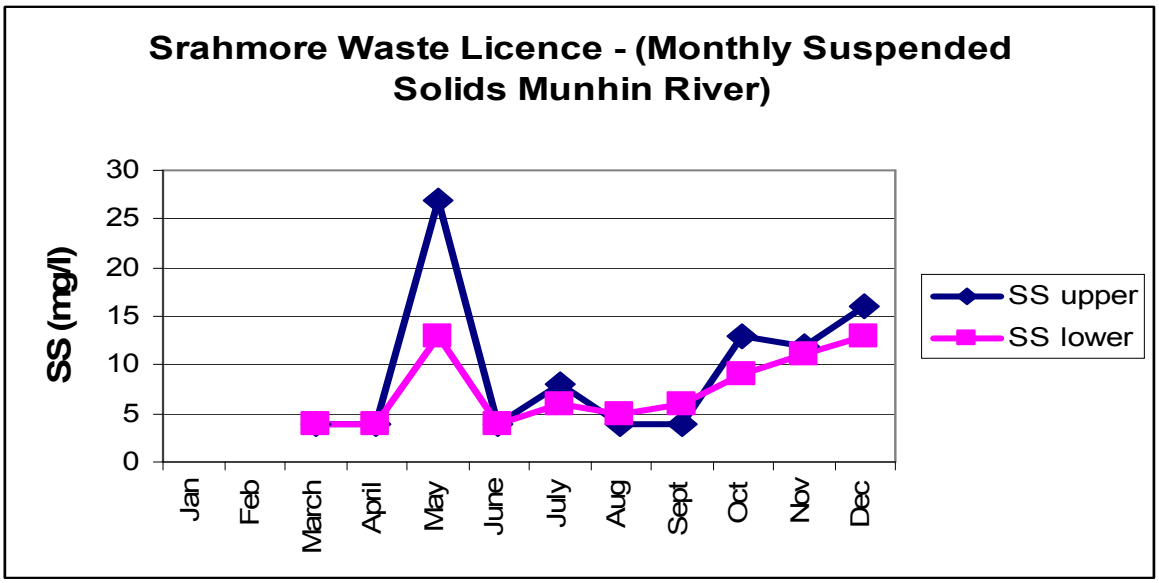


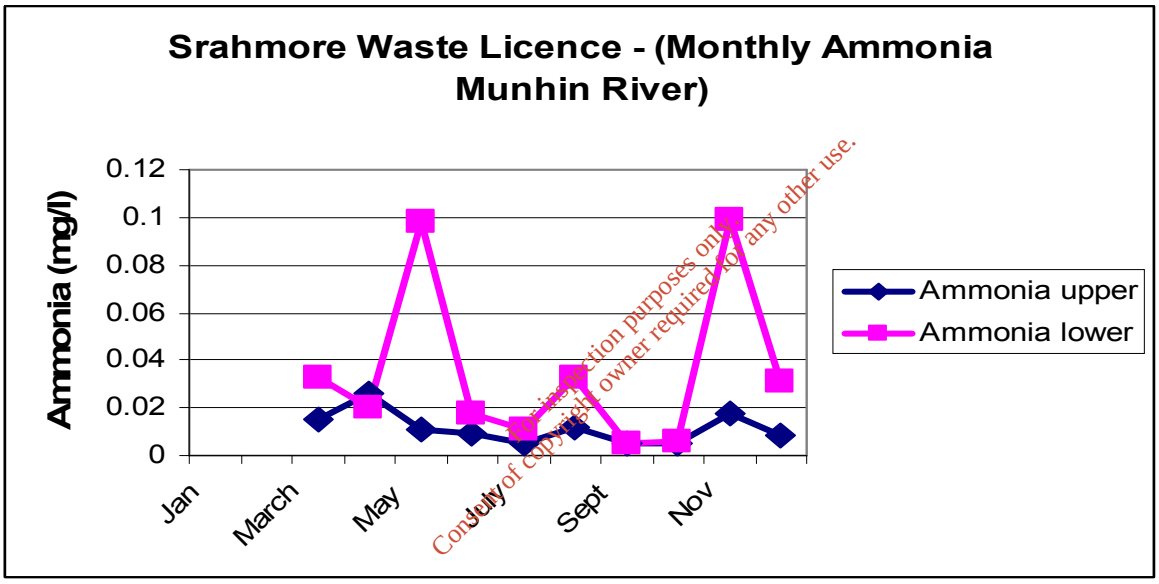






Appendix 5





Appendix 6

Srahmore Waste Licence W199-1							Groundwater	
Month: February 2005 - First Quarter								
Date	**BH 1A**	**BH 1B**	**BH 2A**	**BH 2B**	**BH 3A**	**BH 3B**	**BH 4A**	**BH4B**
Apr-05								
13/04/2005								
COD	39	33	1200	122	775	79	458	475
Nitrate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Ammonia	2.242	2.08	2.38	3.168	2.455	1.754	1.883	2.861
Conductivity	600	614	232	398	195.4	254	373	256
Diesel Range	<10	<10	<10	<10	<10	<10	<10	<10
Organics								
June 05'								
07/06/2005								
COD	21	16	34	80	16	97	358	45
Nitrate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.379	<0.1
Total Ammonia	2.533	3.977	2.408	3.352	1.652	2.554	1.988	2.852
Conductivity	555	261	550	255	253	187	259	212
Diesel Range	<10	<10	<10	<10	<10	<10	<10	<10
Organics								

Appendix 7

PEAT DEPOSITION SITE

Energy Usage

Marked Gas Oil

Litres	Period	Litres	Date Delivered	Litres	Date Delivered	Litres	Date Delivered	Litres	Date Delivered	Litres	Date Delivered	Litres	Date Delivered
30,002	13/12/04 - 4/04/05	7,779	04 April 2005	7,590	17 May 2005	2,638	07 June 2005	6,380	01 July 2005	4,000	06 September 2005	3,609	02 November 2005
		4,160	10 April 2005	2,031	19 May 2005	6,353	07 June 2005	5,492	04 July 2005	5,000	13 September 2005		
		8,064	18 April 2005	5,521	21 May 2005	4,133	12 June 2005			4,000	27 September 2005		
		4,668	25 April 2005	6,006	23 May 2005	6,948	16 June 2005						
		3,491	26 April 2005	2,638	24 May 2005	6,016	20 June 2005						
		5,845	20 April 2005	5,013	25 May 2005	7,390	21 June 2005						
				6,006	26 May 2005	5,263	23 June 2005						
				1,247	26 May 2005	1,473	24 June 2005						
						7,077	27 June 2005						
						6,860	29 June 2005						
30,002		34,007		36,052		54,151		11,872		13,000		3,609	
											Total Litres: →		182,693

Petrol

Litres	Period	
838	13 December 2004	31 December 2005
Total Litres→		838

Electrial

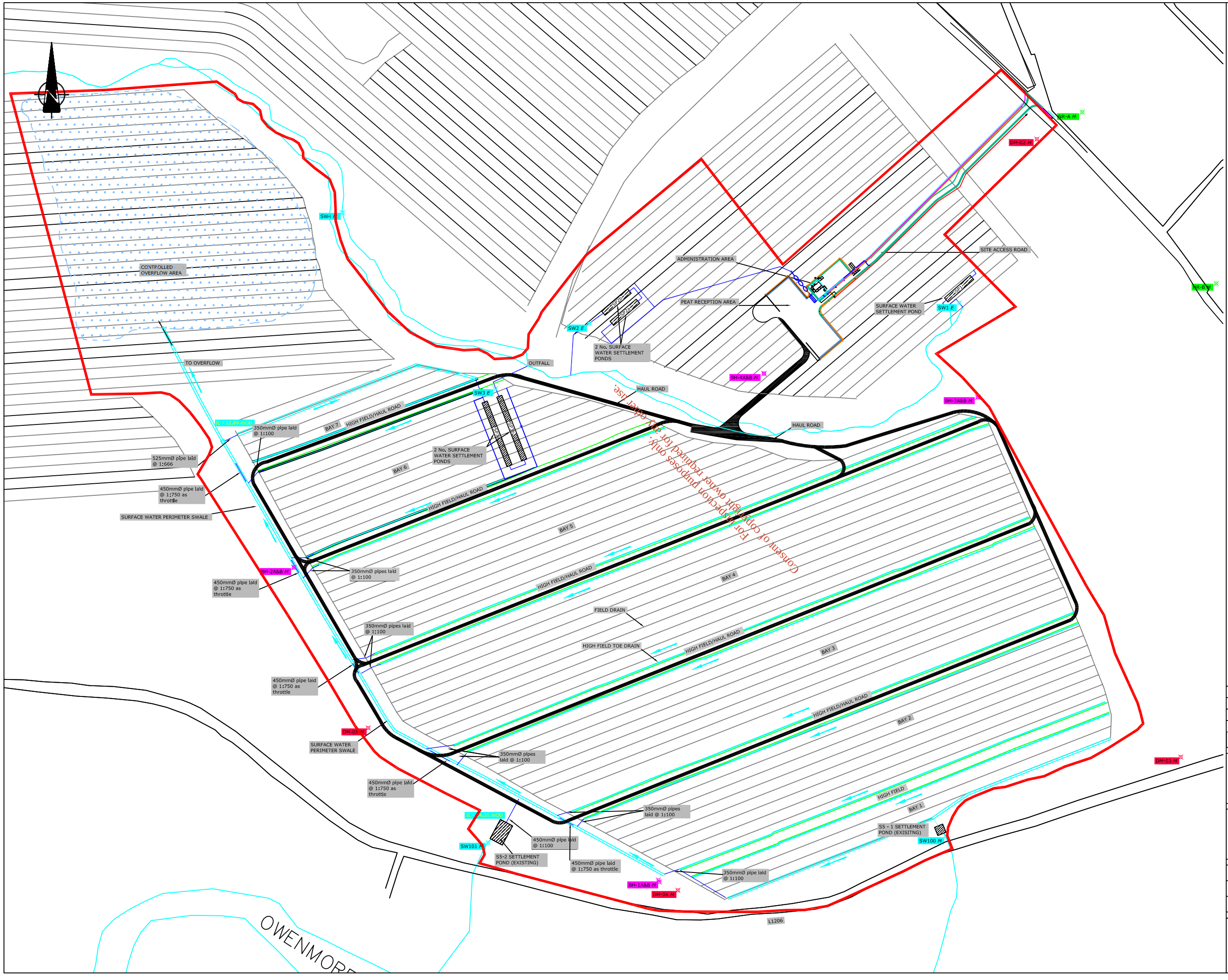
Kw Hrs	Period	
8,415	03 May 2005	15 July 2005
19,256	15 July 2005	31 December 2005
Total Units: →		27,671

Resource	Units	Total	Mw/Hrs
Marked Gas Oil	Litres	182,693	1789
Petrol	Litres	838	7.57
Electrical	Kw/Hrs	27,671	27.67

Appendix 8

Bord na Mona Energy Ltd								
Weekly Silt Pond Inspection Log								
Srahmore Peat Repository Site WL. 0199-01								
Silt Pond No.	Checked By.	Date.	Silt √				Comments	Date Cleaned
			¼	½	¾	Full		
SP 1								
SP 2a								
SP 2b								
SP 3a								
SP 3b								
SP S5-1								
SP S5-2								
SP 1								
SP 2a								
SP 2b								
SP 3a								
SP 3b								
SP S5-1								
SP S5-2								

Appendix 9



LEGEND

- REDLINE BOUNDARY
- PIPED DRAIN/OUTFALL
- HAUL ROAD
- HIGH FIELD
- FIELD DRAIN
- HIGH FIELD TOE DRAIN
- SURFACE WATER FLOW DIRECTION
- PERIMETER SWALE
- DM-01 M — DUST MONITORING POINT
- NR-A M — NOISE MONITORING POINT
- SW1 E — SURFACE WATER EMISSION POINT
- BH-1A&B M — BOREHOLES

E = EMISSION POINT;
M = MONITORING/SAMPLING POINT

NOTES

DUST MONITORING POINTS: DM-01 to DM-05

NOISE MONITORING POINTS: NR-A to NR-C

SURFACE WATER POINTS: SW1-4 & SW100-101

BOREHOLES: BH1 to BH4 (A & B)

DUST MONITORING POINT DM-01 and NOISE MONITORING POINT NR-C NOT VISIBLE IN A1 (1:2500) LAYOUT.

No.	Issue	Date
2	Revision 1	06/03/06
1	Orfglnal	23/08/05

Project:

Srahmore Peat Deposition Site

Title:

Waste Licence
Emission&MonitoringPoints

Drawn by: MO'S	**Scale:** 1:2500
Checked by:	**Drawing No.:** CW-SR-EPA
Date: 23/08/05	**Sheet No.:** 1 of 1

BORD NA MÓNA
PEAT ENERGY DIVISION
LEABEG, TULLAMORE CO. OFFALY

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Leabeg, Tullamore, Co Offaly

Srahmore Waste Licence W199-1

Annual Environmental Report

2006

29th March 2007

Contents:

1. Introduction

1.1. Report Period

This Annual Environmental Report covers the period of 01/01/06 to 31/12/06 for the Srahmore Peat Repository at Attavally, Bangor-Erris, Co Mayo.

This is the second Annual Environmental Report for Bord na Mona's Peat Repository at Srahmore, Attavally, Bangor-Erris, Co Mayo. The structure and contents of this report are based on the requirements of Schedule D Reports & AER Content.

1.2. Waste Licence Register Number - W199-1

1.3. Operator & Address of Facility.

Bord na Mona Energy Ltd
Srahmore,
Attavally
Bangor-Erris
Co Mayo

1.4. Environmental Policy (attached on next page)

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Environmental Policy Statement

Bord Na Mona Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

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

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

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

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

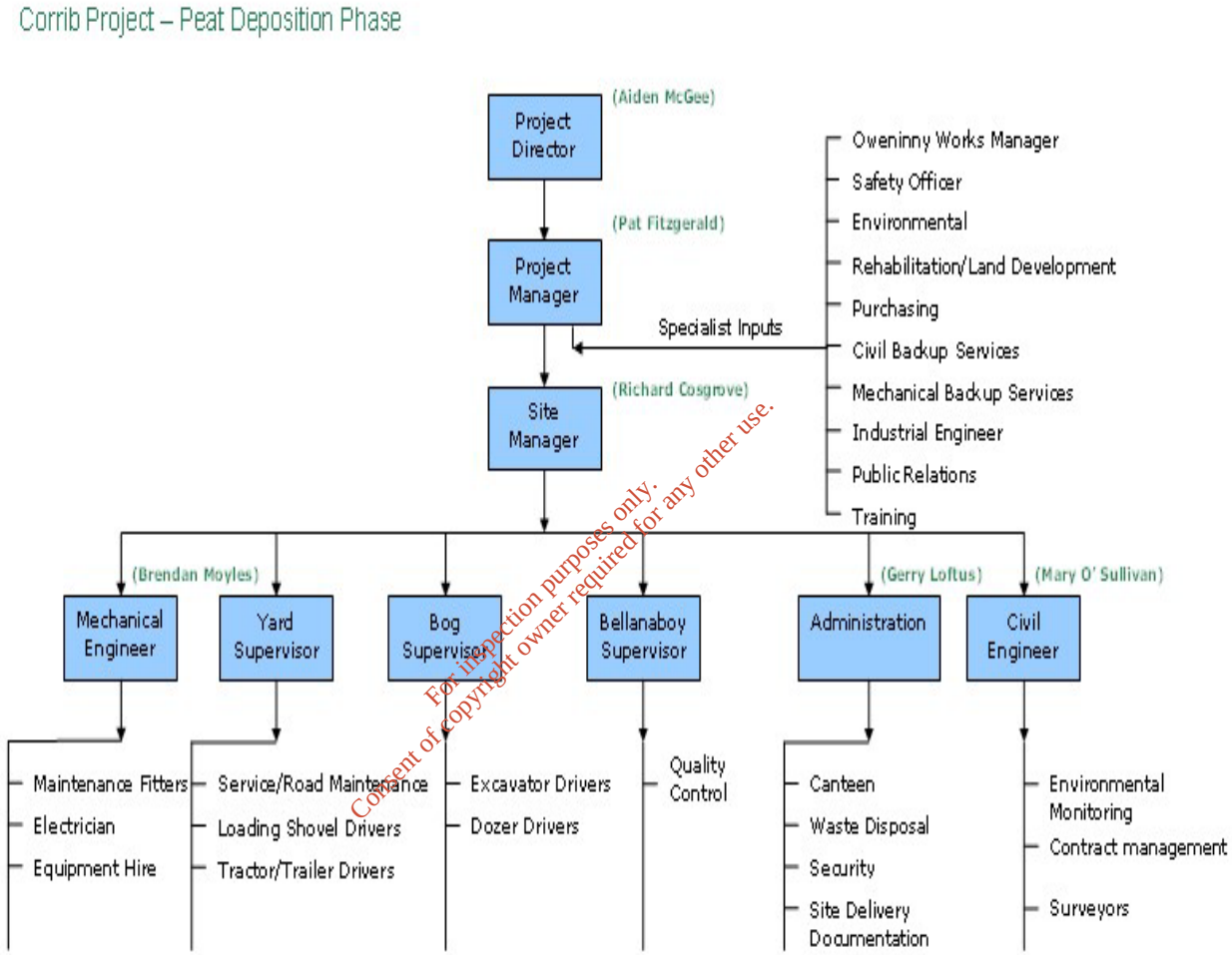
Bord Na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts:

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

The environmental management system will be monitored, maintained and continually improved.
A system of regular environmental audits will be put in place.
Bord Na Mona Energy Limited will continue research and development (R&D) into all aspects of its environmental impact.

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

1.5. Current Management Structure



2. Waste Management Report

2.1. Site Description

The site is situated approximately 1km northwest of the village Bangor-Erris and comprises cutover peatland in the Oweninny bog complex. This consists of eight separate areas of cutover peatland, numbered 1 – 8, each of which was assessed for suitability for the development. Area 5 was selected as the peat reception area. Area 6 was selected for the actual deposition of peat and a section of Area 7 is utilised as a "controlled overflow area" in the event of exceedance of the design rainfall. The peat reception area is utilised for off-loading of the peat is the closest area to the public road.

The site is a peat disposal area for the placement of c. 450,000m³ of peat waste excavated from the development of the Shell Corrib Gas Field Terminal at the nearby Bellanaboy Bridge site. The peat, which is from a 3000 to 5000 year old Atlantic Blanket Bog, is transported by road in trucks to the Srahmore deposit area. It was originally anticipated that peat transport and deposit would take place over a 6 month period, spread out over two seasons. However, peat transport and deposit ceased on the 4th July 2005, and as of that date, 112,937tonnes were transported to and deposited at the site.
Peat deposition at the site did not resume during 2006, so therefore no peat was deposited at the Srahmore site during 2006.

As of the preparation of this AER for 2006, the recommencement date of operations at the site is proposed for April 2007. Therefore it is not possible to estimate when the final capacity is to be reached.

As of the final delivery and deposition of peat to the site on 04/07/05, the remaining capacity was 337,063 tonnes. A map detailing the status of each bay is included in Appendix 1.

During the full operations at the site, up to 126 personnel were employed in the following areas:

BNM (support)	8	General Operatives	24	Security	4
BNM (Engineering)	2	Fitters	5	Environmental	1
Head Office Staff	2	Electricians	1	Archaeological	-
Site Office Staff	2	Site Supervisors	4	Canteen	3
Drivers	70	Contractors	-		
		Total			126

Plant on site during all operations is as follows:

Machine	Number	Operator
Excavators	20	BNM
Dozers	6	BNM
Tractors	28	BNM
Quads	4	BNM
Loading Shovels	3	BNM

3. Environmental Emissions of the Activity

3.1. Emissions to Atmosphere Summary

The only potential emissions to the atmosphere from the activities on site are dust. As required by Condition 8.8.1, locations for dust monitoring around the site were agreed with the Agency, and Bergerhoff Dust gauges were installed.

Due to the fact that there was no peat deposition or activity during 2006, dust monitoring was suspended, in agreement with the EPA. This monitoring will recommence prior to resumption of peat deposition.

Procedures regarding dust suppression and dust monitoring are in place on site.

3.2. Emissions to Water Summary

Emissions to water from the site takes place at 3 locations:

Licence Emission Ref. No	SW No
S5-1	SW100
S5-2	SW101
Location 7 (combined from Area 5/6)	SW4

As required by Schedule C (2.2) the following parameters were monitored during peat deposition, from February to October 2005. After this period, when peat deposition was suspended, a revised monitoring regime was agreed with the Agency, until peat deposition recommences.

Monitoring during peat deposition suspension (Jan – Dec 2006)

Monitoring during peat deposition suspension (October 2005 to December 2006)	Continuous	Daily	Weekly	Monthly	Quarterly
Flow	SW4				
pH			SW4		SW 100 & 101
Conductivity	SW4				SW 100 & 101
COD			SW4		SW 100 & 101
BOD					SW4
Suspended Solids			SW4		SW100 & 101

TDS			SW4		SW 100 & 101
Nitrite (as N)				SW4	
Nitrate (as N)				SW4	
Ammonia (as N)			SW4		
Total Phosphorus				SW4	
Oils, fats & greases					SW4

Emissions from SW4 are monitored using a flow proportional composite sampler, which operates on a continuous basis. Here a sample bottle is filled over a 24 hour period and sent to Complete Laboratory Services for analysis.
The compliance requirements at SW4 are as follows:

> *8/10 consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value*

Emissions from SW100 & 101 are sampled by grab sample on a Quarterly basis and sent to the lab for analysis. The compliance requirements at SW100 & 101 are as follows:

> *No grab sample value shall exceed 1.2 times the emission limit value.*

The emission limit value (ELV) attached to emissions to water from the site is 35mg/l suspended solids.

Results for the 3 emission points are in Appendix 2.

Non-compliances:

Monitoring Point	Emission (SS mg/l)	ELV (mg/l)	Corrective Action
None			

As can be observed from the results, specifically Suspended Solids at SW4, 100 & 101, the average SS is 8.6, 4 and 7 mg/l respectively. This compares with 20, 6 and 13 mg/l for 2005. As there was no activity at the site for 2006, this could be attributed to the significant reduction in SS.

Monitoring in 2005 included the latter part the construction phase of the facility, and this excavation and groundwork's activities would have contributed to the average SS. Given that the site has had an opportunity to stabilise during 2006, BNM are confident that the operation and management of the silt ponds and activities at the site during 2007 will not result in significant non-compliances.

3.3 Ambient Monitoring.

River-water Monitoring:

Schedule C (6) requires monthly monitoring for Suspended Solids and Ammonia at two locations on the Munhin River, upstream and down stream of the discharge from Location 7 (SW4). The average suspended solids upstream of the discharge from the site were 5.3 mg/l, while the downstream average was 7.2 mg/l over the 12 month monitoring period.

The average ammonia levels upstream of the discharge are .0117 mg/l to .0223 mg/l downstream. These results would be typical of levels found in peatland catchments and are well below the Maximum Allowable Concentration (0.23 mg/l)

These results would indicate that the Srahmore Peat Repository activities are having no negative effect on the suspended solids content of the river during peat suspension in 2006.

Results of the analysis are attached in Appendix 3.

In addition Biological Quality (Q) rating/Q index is required annually.
This was carried out, in agreement with the Agency, on the 17/09/05, by AMGC Environmental Agricultural Consultancy. Assessment was carried out upstream and downstream of the discharge from the site, to establish a Q index for both locations and identify any change in water quality.

Due to the cessation of peat deposition and activities at the site during 2006, and the environmental monitoring upstream and downstream of the site (see above), it was decide not to carry out another round of Biological Quality Rating. This will be carried out in June – September 2007, in accordance with Schedule C (6), when it is hoped peat deposition will have recommenced.

Groundwater Monitoring:

Condition 8.10 required the installation of a groundwater monitoring network at the site, in accordance with Agency guidelines. This required one up-hydraulic gradient, one down gradient of the peat reception area, and two down gradient of the peat deposition area.

Only one borehole survived from the initial site investigation, so this involved the installation of three addition boreholes, by Irish drilling Ltd between March 21st and 29th 2005
As per AER 2005, Groundwater monitoring was to take place once peat deposition recommenced. Again due to the fact that deposition has not started again to date, groundwater monitoring did not occur. If peat deposition starts again as planned in 2007, bi-annual monitoring will take place.

3.4 Noise Monitoring Report.

Condition 8.11 of the licence requires a noise survey to be carried out during weeks 2, 6 & 12 at the following locations:

NRA – At site entrance from the R313.
NRB – North/West of the site on the R313 at a dwelling.
NRC – West of the site, close to Bangor-Erris Village

Again this was suspended, in agreement with the EPA, until peat deposition starts again.

A map of the Waste Licence Emission & Monitoring Points is included in Appendix 6.

3.5 Resource & Energy Consumption

A Resource & Energy Consumption Summary is included in Appendix 4.

Actions planned for 2006 include:

1. A new road layout plan has been produced which aims to reduce the travel time of the tractor and trailer units. This, if successful will result in a reduction in diesel use/tonne of peat deposited.

2. Addition resources will be applied to the Maintenance Programme. This will allow for the efficient maintenance of the plant fleet, resulting in more fuel efficiency. All plant in operation at the facility are new, so the fuel efficiencies of the plant are optimised.

Due to the inactivity in the site during 2006, these projects are being undertaken in 2007.

4 Environmental Management System

4.1 Management & Reporting Structure

This is included in section 1.5 and details the current management & reporting structure.

4.2 Schedule of Environmental Objectives & Targets

This sets out the schedule of objectives as proposed by Condition 2.2.2.2.

Objective	Target
1. Minimisation of suspended solids	Assessment of suspended solids generation during peat deposition during the first two months and setting a programme for its reduction
2. Reduction of fugitive dust	Establish the levels of dust generation during peat deposition during the first two months and setting a programme for its reduction
3. Protection of dust sensitive areas	Establish the levels of dust nuisance at the three dust sensitive locations during the first two months of monitoring and setting a programme for the protection of these areas
4. Reuse of silt pond waste	Monitor the levels of silt pond waste cleanings at the 7 silt ponds and swale locations over the peat deposition period and establish a reuse option.
5. Effective spill leak management of Mobile fuelling units	Comply with all of the condition of the licence in relation to operation and maintenance of all mobile fuelling operations, and assess its effectiveness after 3 months operation.
6. Management of dangerous substances	Comply with the conditions of licence relating to oil and diesel storage, bunding and recycling and review after 2 months operation
7. Management of silt pond flow discharges	Comply with the conditions of the licence in relation to the management of silt pond flow discharges during high rainfall events and assess its effectiveness after two months operation.
8. Reuse of stone used in internal haul-road construction	Investigate any potential re-uses for the geotextile and stone used in the construction of the internal; haul-roads, either on site or in the locality.

4.3 Environmental Management Programme Report.

Minimisation of Suspended Solids (EMP1)

Activity/Emission	Objective	Target Date	Target	Persons Responsible
OT1 Emission of suspended Solids	Minimisation of suspended Solids	On-going programme during the life of the project and as part of aftercare & maintenance.	To comply with Conditions 8.9.1, 8.9.3 & 8.9.4. a programme of weekly inspections of all drainage and subsequent waste treatments systems, daily inspections of discharges to receiving waters and the regulation and monitoring of all silt generating activities will be put in-place. This will be used for establishing the cleaning roster. These systems will be assessed on an ongoing basis for the first two months of peat deposition, to assess the degree of suspended solids generation, and this along with the daily results for SS from the Composite Sampler will be used to establish targets for the reduction of Suspended Solids **Status: In agreement with the EPA, all inspections of silt ponds, emission points, oil interceptors, etc have been moved out to Monthly during peat suspension. These records are available for inspection at the site office.**	Site Manager & Environmental Manager

Reduction of fugitive dust (EMP2)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT2 Fugitive dust emissions	Reduction of fugitive dust emissions during all operations	On-going programme during the life of the project.	This programme will establish the degree of dust generation during the first two months of peat deposition. Peat delivery, tipping on the peat reception area, loading into the trailers and deposition into the bays will be examined along with any dust suppression methods employed and the appropriate Dust Handling Procedure. This will include the first two months of dust monitoring. The results of these assessments will be used to establish targets for reduction of fugitive dust emissions. **Status: This programme and condition 8.8.1. has resulted in the provision of dust gauges at dust sensitive locations (see section 3.1 Emissions to Atmosphere). The main potential sources of dust from the site are the access road and peat deposition roads. The operations in 2005 have resulted in exceedances in dust levels on three occasions, with an overall compliance rate of 92%. With all deposition and machine movement stopped for 2006, the same suppression measures will be in place for 2007, if deposition recommences. BNM are confident that the compliance levels will be maintained.**	Site Manager & Environmental Manager

Protection of dust sensitive areas. (EMP3)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT3 Fugitive dust emissions	Protection of Dust sensitive areas.	On-going programme during the life of the project.	Based of the results of the initial two months dust monitoring at the five dust sensitive locations, a programme of protection of dust sensitive locations will be examined. This will address any measures to be put in-place, such as the planting of trees, or any special measures to be put in place to protect any areas that exceed the ELV of 350 mg/m²/day. **Status: There have been no complaints regarding dust received at the site during 2006. This along with the high level of compliance indicate that dust from the site is not a significant nuisance to any neighbours of the operations, and protection of any potential dust sensitive location is not necessary. This programme will be kept under review for 2007 and will be base on the results of the 5 dust gauges and any complaint that may arise.**	Site Manager & Environmental Manager

Reuse of silt pond wastes (EMP4)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT4 Reuse of Silt Pond Waste	The reuse of all silt pond wastes.	On-going programme during the life of the project.	As the silt wastes generated form the cleaning and maintenance of silt ponds S5-1, S5-2, Area 5 & Area 6 silt ponds are directly as a result of peat deposition, they will either be used in the Bog & Peat Deposition Area rehabilitation & aftercare, or will be incorporated into the existing bays once deposition is complete. **Status: As all peat wastes accepted and generated at the site are for landfilling purposes, there is no further use for the silt pond cleanings. These will be incorporated into the peat deposited or if off benefit will be used in the final rehabilitation.**	Site Manager & Environmental Manager Site Manager & Environmental Manager

Management of mobile fuelling wagons (EMP5)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT5 Management of mobile Fuelling units	Effective spill/leak management of mobile fuelling units.	On-going programme during the life of the project.	To comply with conditions 3.17, 3.19 and 3.20, the two mobile fuelling units are stored in a bunded location, with an oil spill kit in-place. Fuelling nozzles will be fitted with overflow shut-off mechanisms and auto fill clips will be disabled. All personnel will be made aware through training, of the Oil/Diesel Loading Procedure & the Emergency Response Procedure. Shortened versions of the procedures are posted on the tanks and at the bunded storage location. All service wagons have been inspected before use and bi-annually there after. Leaks, flaws, necessary repair etc, will be reported to the Site Manager. All the above will be in-place before peat deposition re-commences, and will be re-assessed as to their effectiveness every 3 months. The out come of these assessments will determine any improvements to be made and target dates to achieve them. **Status: All of the above measures are in-place during suspension and will be maintained as per the licence for 2007.**	Site Manager & Environmental Manager

Management of dangerous substances (EMP6)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT6 Management of dangerous substances List I & List II	To manage of any dangerous substances as listed in I & II of the Dangerous Substances Directive 80/68/EEC	On-going programme during the life of the project.	The only substances from Lists I & II of the Dangerous Substances Directive (76/464/EEC and 80/68/EEC and amendments) are List I (7) Mineral Oils and Hydrocarbons. The management of these will include: (1). **Pollution Prevention** as required by Conditions 3.13 – 3.21. This includes the safe storage of diesels/oil/Filters and protection of ground and surface water during fuelling operations. (2). **Pollution Control**: Maintenance of diesel/oil interceptors as required by Conditions 8.9.1 & 8.9.2 All of these measures will be in-place before peat deposition commences. A review will be carried out after the first two months operation and every 3 months thereafter, to assess the effectiveness of programme OT6. A programme of improvement will be implemented once the operational performance	Site Manager & Environmental Manager

			of the management of diesels & oils has been assessed. **Status: The oil interceptors installed at the site include 3 Klargester units. These units are installed downstream of the grit trap and are operating successfully. They have also been fitted with alarms, which indicate when they require cleaning. The operation and maintenance of these units is on-going. During 2006, due to no activity at the site, the units did not require any maintenance. They were however inspected during this time and are on record. Sampling for COD at SW2 during the year showed an average of 27 mg/l.**	

Management of silt pond flow discharges (EMP7)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT7 Effective management of Silt pond flow discharges	Effective management of flow discharges during periods of high precipitation and flooding.	On-going programme during the life of the project.	As is required by Conditions 3.11 & 3.12, all silt ponds must achieve specific design criteria i.e. max flow velocity <10 cm^{-1} and min. 75m^3/nett ha of bog. Flow regulators must also be fitted to ensure the design flow capacity is not exceeded. The drainage system has been designed to a rainfall event of 31 mm, which equates to a 100 year storm event of 1 hours rainfall.	Site Manager & Environmental Manager

			As the preferred option for the drainage management was the controlled discharge of water from the drains to the swale to the silt ponds, appropriate flow regulators will be in-place to ensure the design flow of each of the silt ponds is not exceeded during heavy rainfall and that any excess runoff generated is discharged to the overflow area (Area 7). Condition 3.4 requires a construction quality assurance validation to be completed on the surface water drainage/control/treatment works. This will include an assessment of the performance of the silt ponds and will assess its compliance with the stated maximum flow velocity < 10 cms^{-1} The drainage system will be monitored over the first two months of operation to assess if it can be improved. **Status: As activities at the site ceased for 2006, the SS results are as expected, low. However rainfall during August to December was 810 mm measured at the Srahmore Site, which was nearly 200 mm above the equivalent 2005 levels. Because of this the overflow area (area 7). This was achieved by installing overflow pumps to pump this excess runoff from the swale to this overflow area.**	

Reuse of road building materials (EMP8)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT8 Road materials re-use	Reuse of stone used in internal haul-road construction.	As stated in the EIS, the decommissioning plan for the internal haul road network would envisage it occurring at the end of the stabilisation period (5 yrs after deposition has been completed). There may also be a requirement to leave these roads in-place as part of the after use of the deposition area.	All materials used in the internal haul road construction will be either recycled or reused. The Geotextile will be collected for reuse within BNM for under rail lines, or recycled through a licensed contractor. The 300mm of crushed stone will be recycled through one of the following: 1. As internal service roads to a Proposed Wind Farm Development at Oweninny. 2. As construction material on an alternative site. 3. Through an appropriate recycling contractor. 4. Placement at the base of the toe drains to assist in drainage. **Status: This project will commence once peat deposition is completed.**	Site Manager & Environmental Manager

4.4 Environmental Management Programme Proposal.

The proposal for 2007 is to continue with the existing EMP Objectives and Targets as set out in the 2005 AER for 2006, due to the short duration of the remaining peat deposition.

4.5 Silt Pond Inspection & Desilting Report.

Inspections of the silt ponds are carried out weekly. A full log of all inspections is maintained at the site office and this along with SS results obtained form the silt ponds form the basis for the cleaning roster. Due to the fact that peat deposition did not occur in 2006, the silt ponds did not require maintenance, based on inspections. The silt ponds have since been cleaned during February 2007.

5 Site Development Works.

5.1 Summary of main changes/developments/works & planned works for 2006.

Inactive Site 2006.

A sump pump was installed around the wheel wash tanks to lower the flooding in this area. During tank maintenance, the positive buoyancy caused the tanks to float. This pumping system now prevents this occurring.

Pre Deposition 2007

- Installation of bog mat road network
- Upgrade of road to workshop to facilitate traffic movement.
- Installation of temporary haul road in bay 5.
- Cleaning and maintenance of site drainage network.
- Resurfacing of main access road and deposition haul link road.

6 Waste received and consigned from the Facility

6.1 Non-hazardous waste received by the facility.

		Non-Hazardous Waste Received			
Waste Description	EWC Code	On-site Disposal		On-site Recovery	
		Method	Tonnes	Method	Tonnes
Grit Trap Waste	13 05 01	Deposit on Land	0.75	None	

6.2 Hazardous waste received by the facility.

		Hazardous Waste Received			
Waste Description	EWC Code	On-site Disposal		On-site Recovery	
		Method	Tonnes	Method	Tonnes
None					

6.3 Non-hazardous waste sent off-site for Recovery/Disposal.

Waste Description	EWC Code	Tonnes	Details of Haulage Contractor	Recovery /Disposal	Name & Address of recovery/Disposal Site
Canteen Waste	20 01 08	3.5	Mayo County Council	Disposal	Rathroeen, Killala Rd, Ballina, Co. Mayo
Septic Tank	20 03 04	20	Asethetic Services	Disposal	Ballina Wastewater Treatment Works, Belleek, Ballina, Co. Mayo

6.4 Hazardous waste sent off-site for Recovery/Disposal

Consignment Note/TFS Note Number	Date of Dispatch	Description of Waste	EWC Code	Tonnes	Details of Haulage Contractor	Disposal/ Recovery	Name & Address of Recovery/ Disposal site
200865	04/10/2006	Oil Interceptor Waste	15 03 06	12.00	Enva Ireland Ltd	Recovery	Enva Ireland Ltd Portlaoise Co Laois
336862	04/10/2006	Oily Rag bin	15 02 02	0.60	Enva Ireland Ltd	Disposal	Enva Ireland Ltd Portlaoise Co Laois

7 Environmental Incidents & Complaints.

7.1 Reported Incidents Summary.

Date	Nature of Incident	Cause	Corrective Action
	NONE		

7.2 Reported Complaints Summary

Date	Nature of Complaint	Cause	Corrective Action
	NONE		

8 Review of Nuisance Controls.

The nuisance controls at the site only include dust suppression and pest control.

Pest control is provided by Pestguard Environmental Services, and involves the installation of bait boxes at various locations around the site office and canteen facilities. As the only waste accepted at the facility is peat, there is no other requirements regarding the control of pests e.g. bird control.

Dust suppression is carried out at the site as inspections and observations dictate. The Dust Handling Procedure (DHP) is used to establish when and where dust suppression is required. This operation will continue once peat deposition re-commences in 2006.

9 Review of Rehabilitation Plan.

Rehabilitation at the Srahmore site is outlined in the Rehabilitation Plan for the Srahmore Peat Deposition Area and Associated Facilities (Feb 2005). The main criteria[1] defining successful rehabilitation of the Srahmore PDA and associated facility are:

(i) Stabilisation of the deposited peat[2]
(ii) Mitigation of silt run-off

Natural revegetation processes are outlined as the BAT for rehabilitation of the Srahmore site. Results so far indicate that vegetation establishes rapidly on the deposited peat. It is anticipated that the plant roots will bind the introduced peat layer, altering the peat structure to create a homogeneous peat mass thereby stabilising the peat.

[1] These are the basic criteria as identified in the consultation process for development of *The Rehabilitation Plan* for the entire Oweninny Works.
[2] Stabilisation of these areas infers revegetation. Once stabilised there will be no potential peat run-off from the site, which will cover the second criterion for successful rehabilitation.

9.1 Vegetation assessment

Deposition Area

The deposition area comprises access routes on high fields, peat deposition area and drainage channels. To date, approximately 20% of the deposition area has been covered with peat. The peat was deposited and levelled between high fields using long-reach excavators. The final shaping allows for run-off into drainage channels with the peat remaining undisturbed to facilitate natural revegetation processes.

Within weeks the deposited peat was colonised by a flush of soft rush *Juncus effusus* seedlings. Other plants colonising included bulbous rush *Juncus bulbosus* and sorrel *Rumex acetosella*. The soft rush tussocks form the dominant character of the vegetation with inter-tussock spaces of patchy plant cover. The cover of this pioneer vegetation is continuous over the entire area of deposited peat.

The establishment of other species between the tussocks of soft rush will further bind the peat together and eventually lead to a complete cover and stabilisation of the introduced peat.

Vegetation cover in the remaining uncovered area is low and comprises patchy growth of bog cotton *Eriophorum angustifolium* and soft rush *Juncus effusus*.

A walkover survey of the Srahmore PDA in August 2006 indicates that the vegetation that had established on the deposited peat is developing further. Inter-tussock spaces of the soft rush are becoming further colonised by herbs, grasses and mosses with intermittent pools. The initial pioneer vegetation is maturing a developing a denser growth pattern.

The vegetation will continue to develop over time and Bord na Móna will continue to monitor the changes in structure and composition.

A Photo inspection of the deposited peat area in Appendix 6 shows how well the natural revegetation has occurred.

10 Review of Environmental Liabilities Insurance Cover.

In Accordance with the requirements of Schedule D, Annual Environmental Report Content, a review of the Environmental Liabilities Insurance Cover is required. The initial Environmental Liabilities Risk Assessment (ELRA) was carried out in March 2005. This assessment examined 8 Potential Hazards, including, peat combustion, dust blow, sediment laden run-off, fire etc.

Of the critical potential hazards identified, mobilisation of peat off site and sediment laden run-off have not been highlighted as a potential problem during the operation of the site in 2005. The number of non-compliances occurring has shown a compliance level of 97% for all emissions to water from

the site in 2005, and 100% compliance in 2006. The risk of peat mobilisation from the site was identified as low in the ELRA, and during peat deposition in 2005, there were no indications that the status of this risk had increased.

The Licence requires the completion of a stability assessment of each bay, once it has been filled. No bays were filled during 2005, so a stability assessment will be carried out once peat deposition recommences in 2006, after each bay is filled.

To date, the natural re-vegetation as specified in the EIS has progressed better than expected (see photo in previous section and Appendix 5). The continuous cover of soft rush (*Juncus effusus)* is already well established on the deposited peat, and has progressed its stabilisation.

Based on the experiences of peat deposition during 2005 and the results of environmental monitoring, performance and compliance as reported in the 2005 and 2006 AER, the Environmental Liabilities Insurance Cover is considered to be adequate.

11 Landfill Costs

Condition 12.2.1 requires the licence holder to submit a statement on the determination of charge for the disposal of waste in accordance with the requirements of S.I. No. 337 of 2002 European Communities Regulation 2002.

Following the consultation of this regulation, it is determined that as Srahmore Peat Deposition Site is only accepting waste peat from one permitted contractor, and that this charge has been agreed with the contractor prior to the commencement of the peat deposition and is applicable for the duration of the contract, the provision of this statement does not apply. The price agreed with the contractor is commercially sensitive.

12 Other Reports.

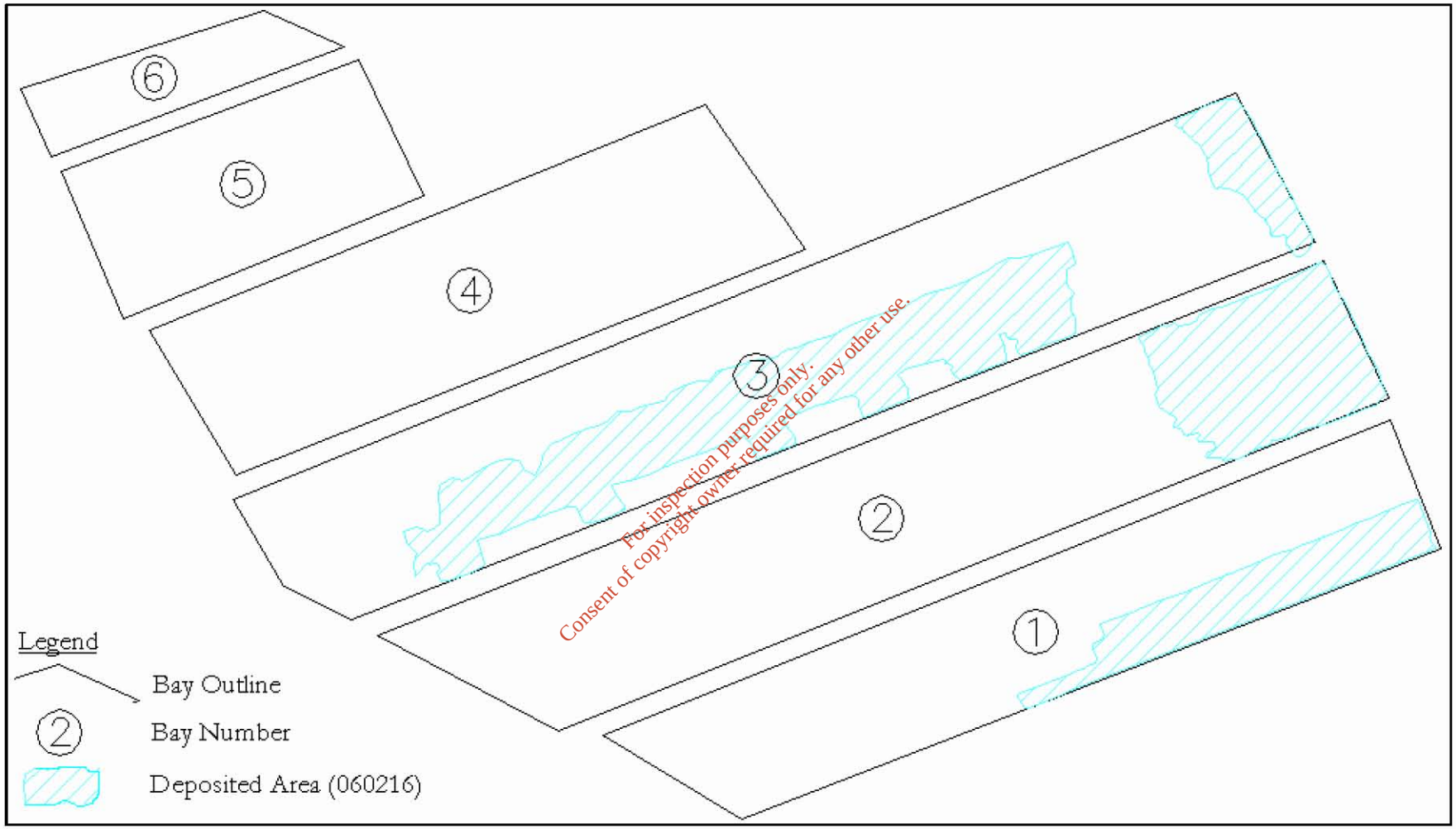
12.1 Fuel Bowser Testing.

Both fuel bowers were supplied by Cashes Engineering Ltd. Both of these bowers were certified and tested by the manufacturer. A copy of the conformity certificates are kept on file in Srahmore.

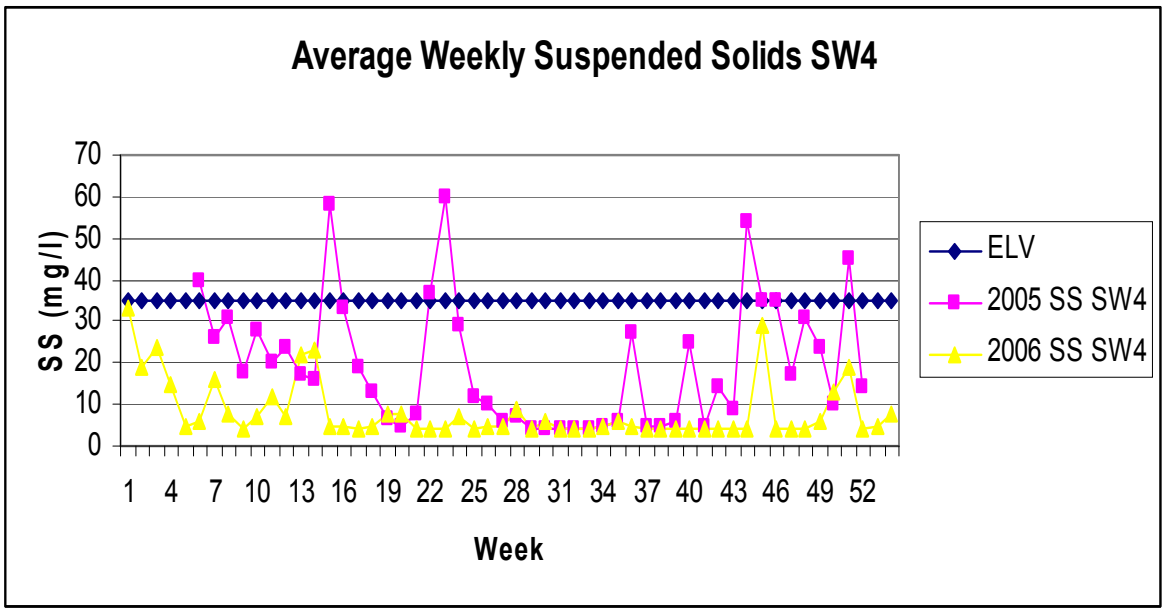
12.2 Placed Peat Stability Assessment.

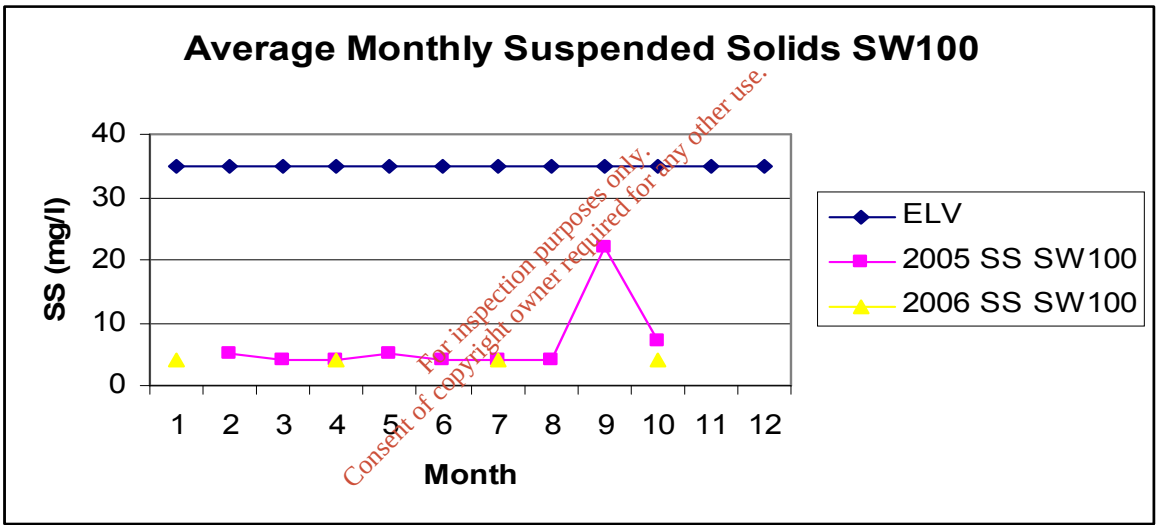
Condition 8.7 requires a stability assessment of each bay once filled. As no bays were filled during 2006, the stability assessments will be carried out once each bay is filled, when peat deposition recommences.

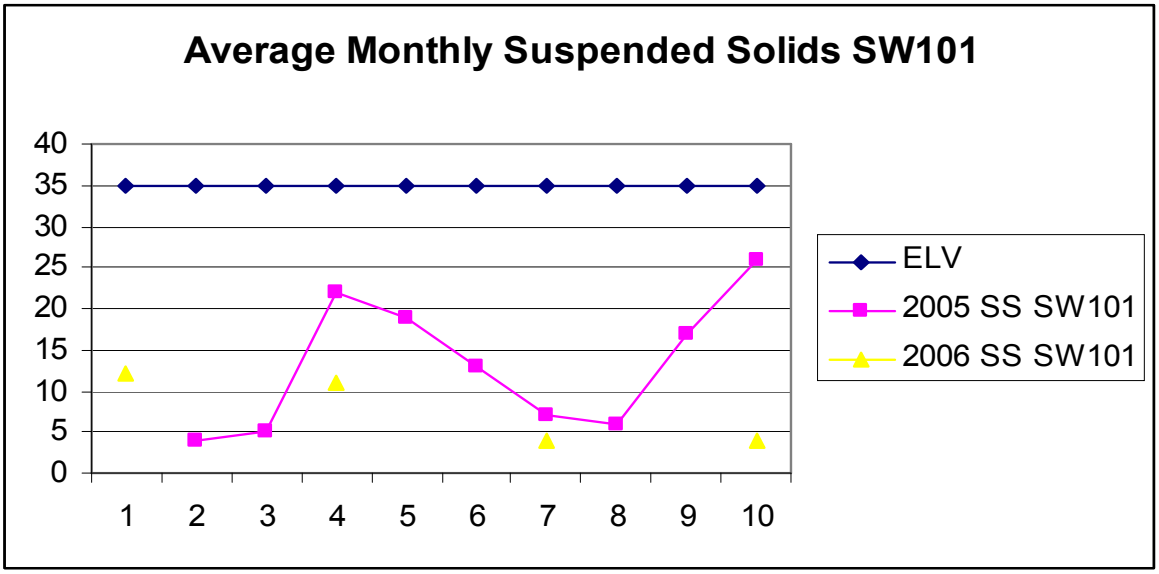
Appendix 1

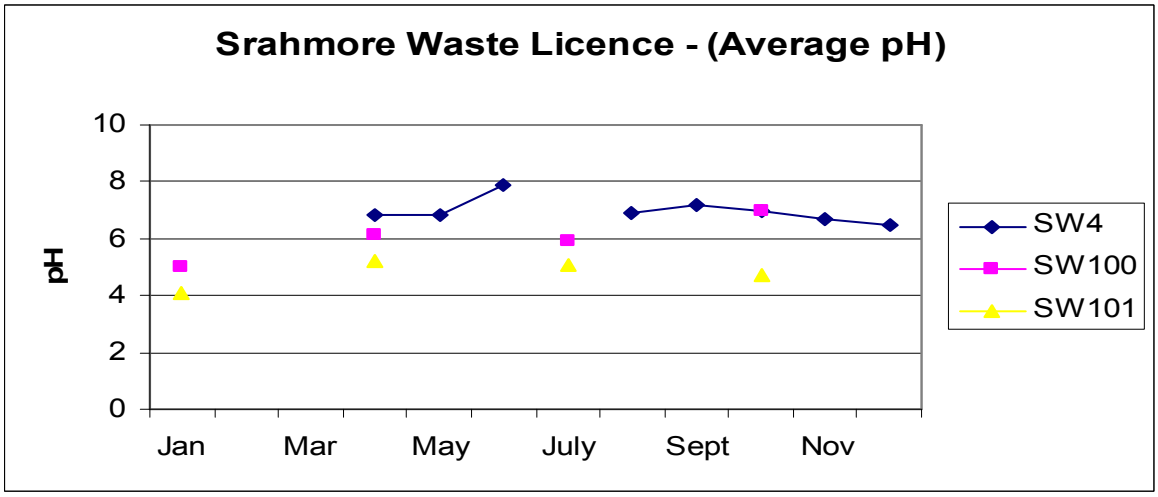


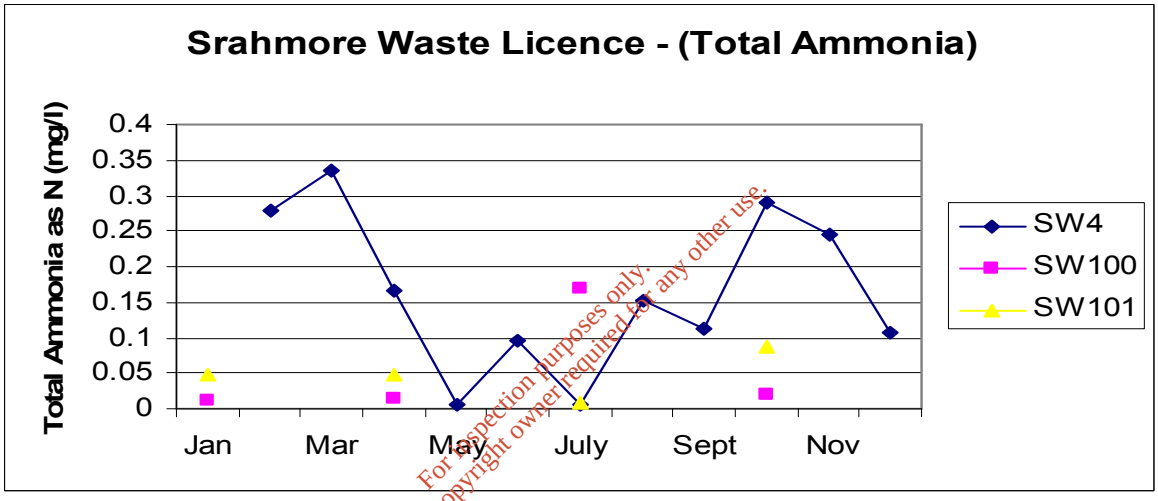
Appendix 2

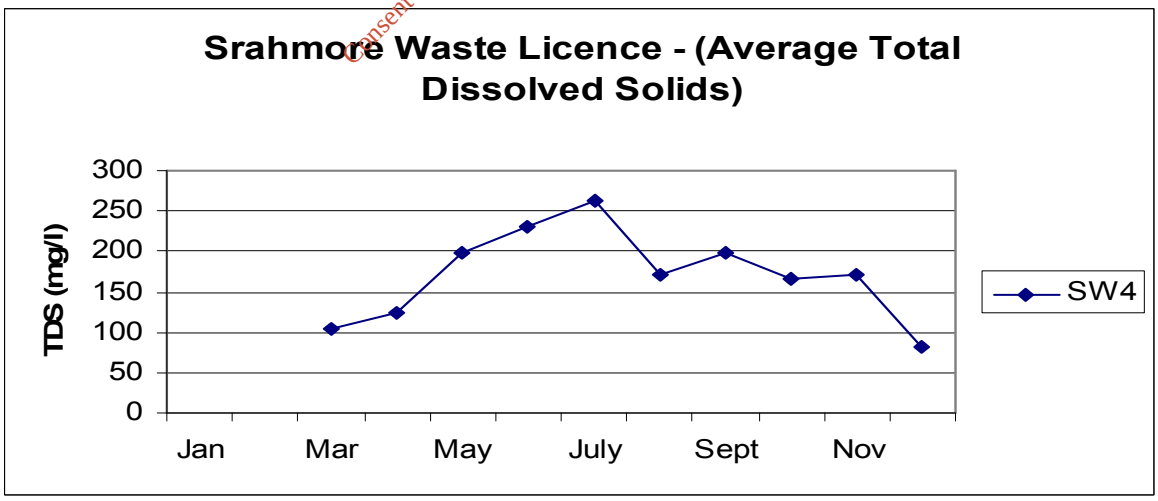


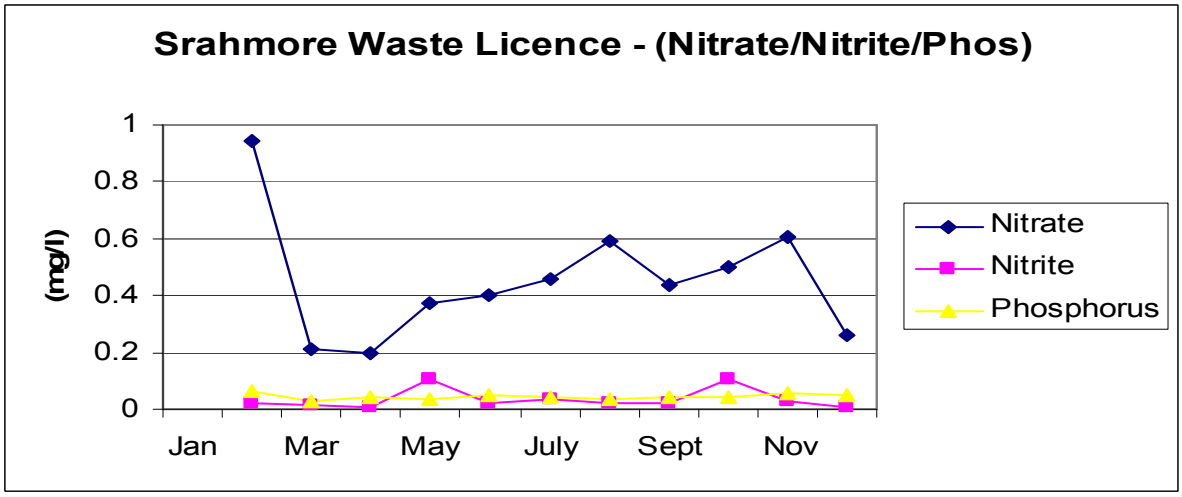


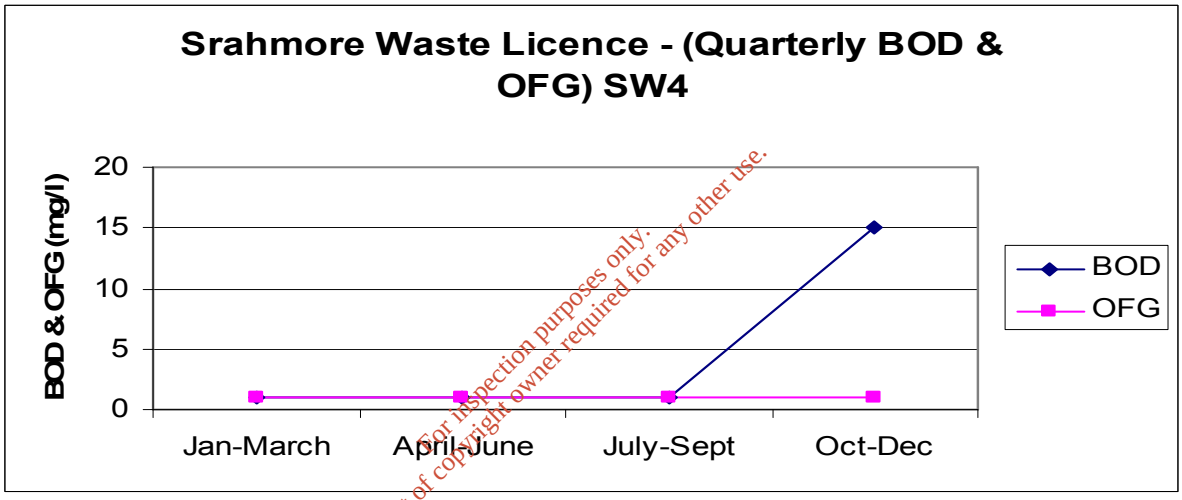


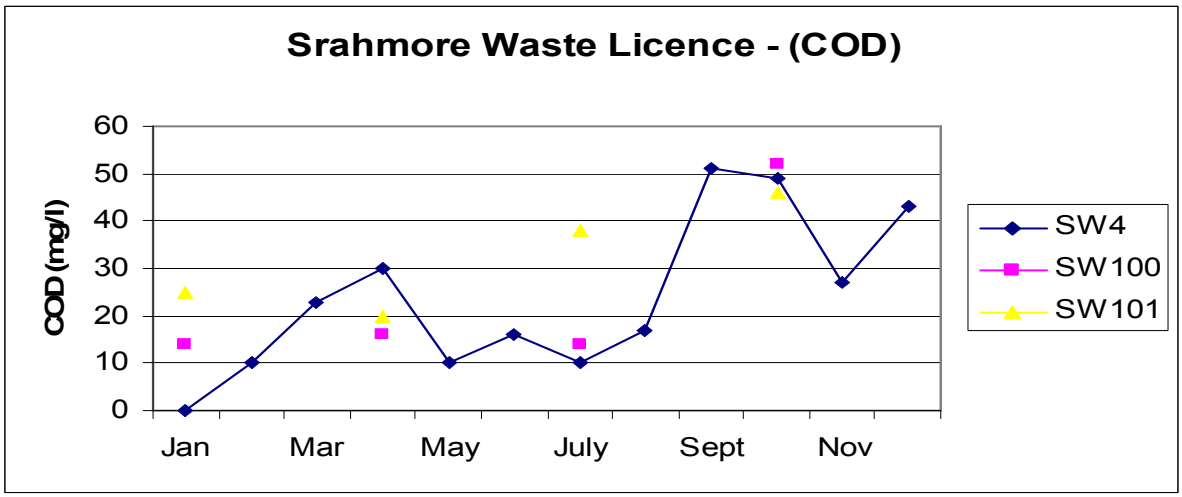


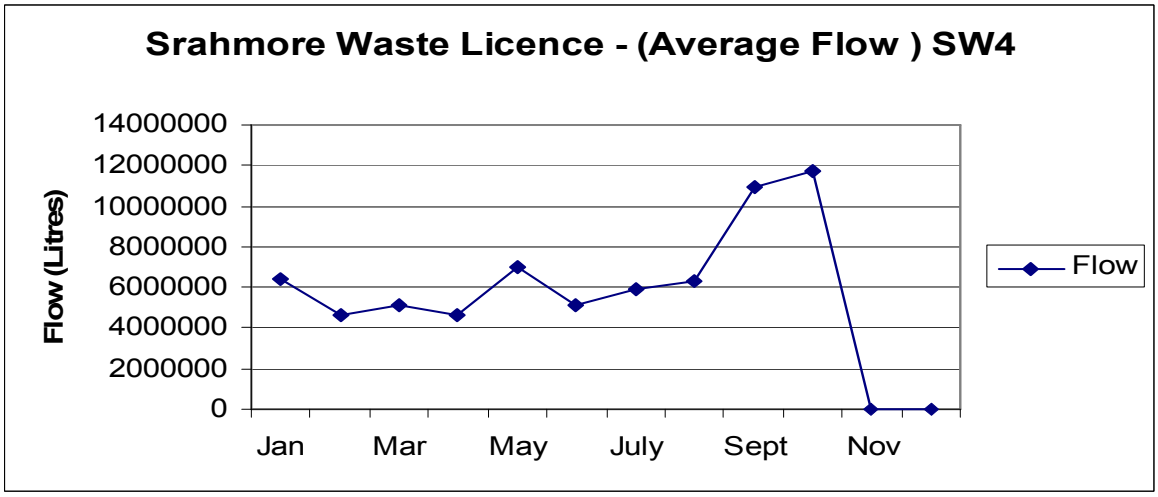




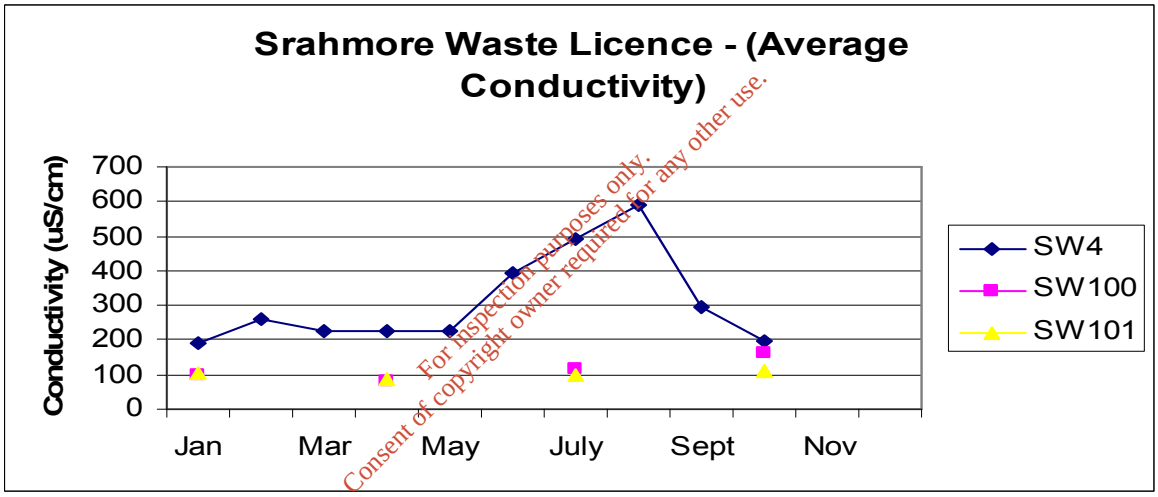






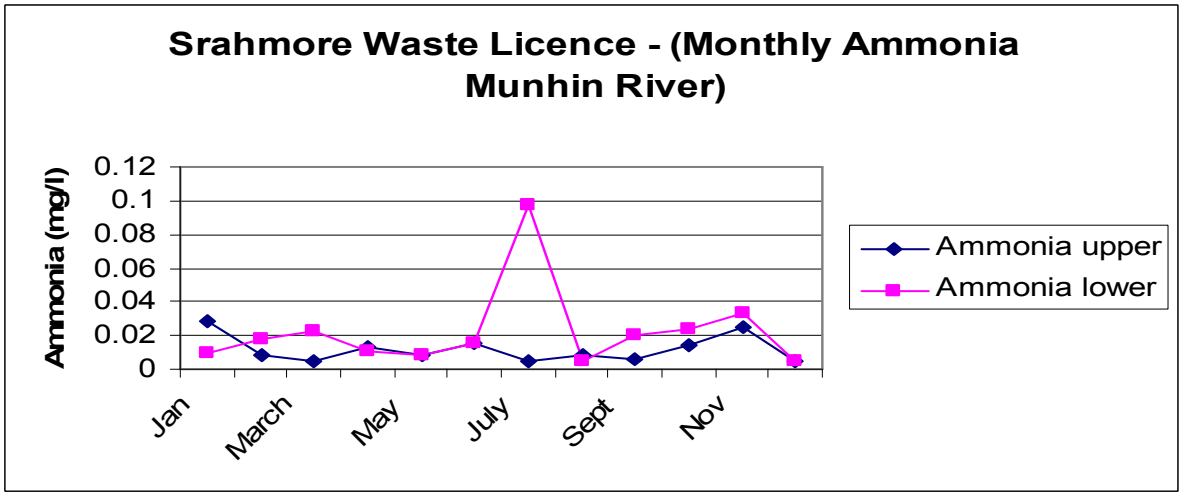


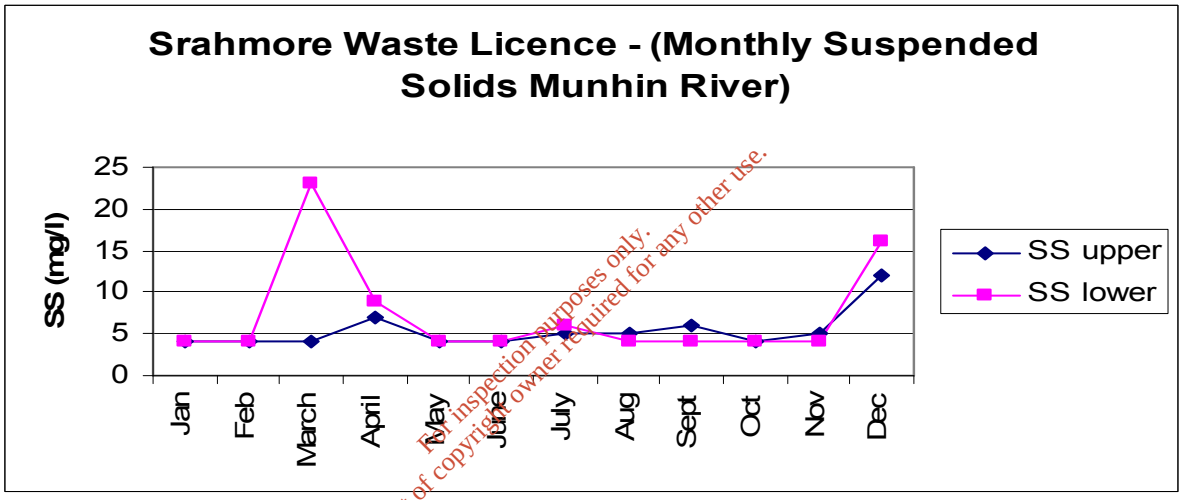
A malfunction in flow measurement recording occurred in November and December 2006 at SW 4, however the sampler did continue sample daily.



A malfunction in Conductivity measurement recording also occurred in November and December 2006 at SW 4.

Appendix 3





Appendix 4

PEAT DEPOSITION SITE

Energy Usage

Litres	Period	Litres	Date Delivered	Litres	Date Delivered
9,627	06 March 2006				
3,426	26 May 2006				
3,667	21 June 2006				
3,876	20 September 2006				
20,596		**0**		**0**	

Electrial

Litres	Period		Kw Hrs	Period	
0	01 January 2006	31 December 2006	19,544	01 January 2006	31 December 2006
Total Litres:			**Total Units:**		**19,544**

Resource	Units	Total	Mw/Hrs
Marked Gas Oil	Litres	20,596	
Petrol	Litres	0	
Electrical	Kw/Hrs	19,544	

Appendix 5

Srahmore Revegetation Photo Inspection

Bord na Móna Energy Ltd
Peat Deposition Site
Srahmore
Bangor Erris,
Co. Mayo

Date: 24th August 2006

Prepared by: Brendan Moyles (Bord na Móna)

Bay 4 Road 25

(April 2005)

(March 2006)

(June 2006)

(August 2006)

Bay 4 Deposited Peat

(July 2005)

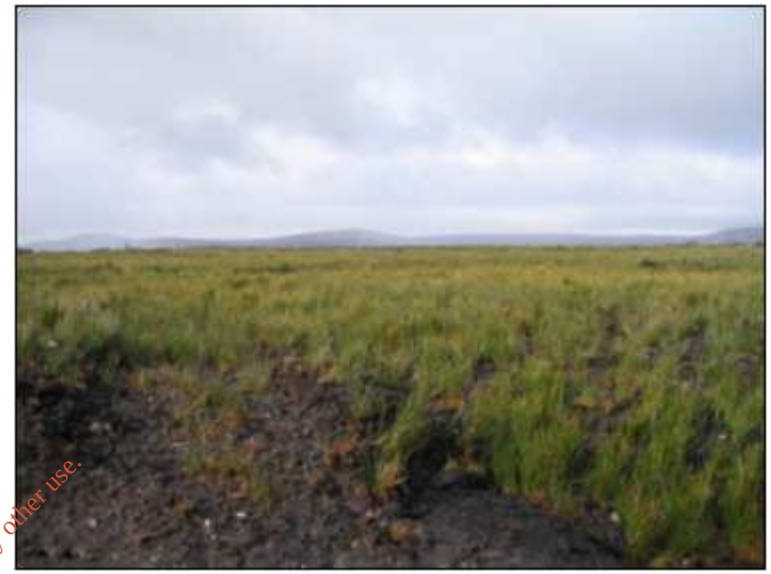
(March 2006)

(June 2006)

(August 2006)

Bay 4 Deposited Peat

(July 2005)



(March 2006)

(June 2006)

(August 2006)

Bay 4 Deposited Peat

(July 2005)

(March 2006)

(June 2006)

(August 2006)

Bay 4 Mat Road

(July 2005)

(March 2006)

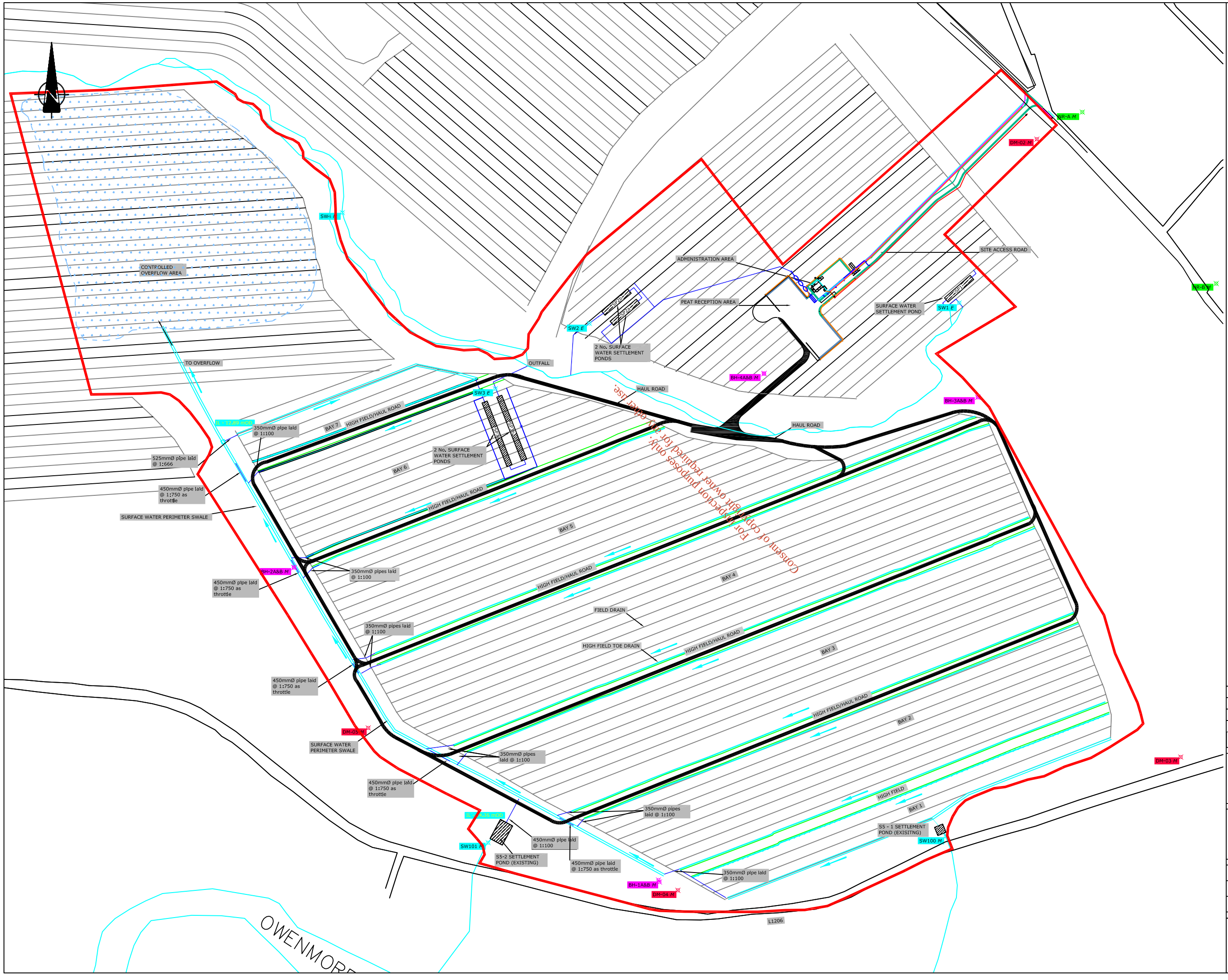
(June 2006)

(August 2006)

Srahmore Site View

August 2006

Appendix 6



LEGEND

- REDLINE BOUNDARY
- PIPED DRAIN/OUTFALL
- HAUL ROAD
- HIGH FIELD
- FIELD DRAIN
- HIGH FIELD TOE DRAIN
- SURFACE WATER FLOW DIRECTION
- PERIMETER SWALE
- DM-01 M — DUST MONITORING POINT
- NR-A M — NOISE MONITORING POINT
- SW1 E — SURFACE WATER EMISSION POINT
- BH-1A&B M — BOREHOLES

E = EMISSION POINT;
M = MONITORING/SAMPLING POINT

NOTES

DUST MONITORING POINTS: DM-01 to DM-05

NOISE MONITORING POINTS: NR-A to NR-C

SURFACE WATER POINTS: SW1-4 & SW100-101

BOREHOLES: BH1 to BH4 (A & B)

DUST MONITORING POINT DM-01 and NOISE MONITORING POINT NR-C NOT VISIBLE IN A1 (1:2500) LAYOUT.

No.	Issue	Date
2	Revision 1	06/03/06
1	Orfglnal	23/08/05

Project:

Srahmore Peat Deposition Site

Title:

Waste Licence
Emission&MonitoringPoints

Drawn by: MO'S	**Scale:** 1:2500
Checked by:	**Drawing No.:** CW-SR-EPA
Date: 23/08/05	**Sheet No.:** 1 of 1

BORD NA MÓNA
PEAT ENERGY DIVISION
LEABEG, TULLAMORE CO. OFFALY

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED
Leabeg, Tullamore, Co Offaly

Srahmore Waste Licence W199-1

Annual Environmental Report

2007

29th March 2008

Contents:

1. Introduction

1.1. Report Period

This Annual Environmental Report covers the period of 01/01/07 to 31/12/07 for the Srahmore Peat Repository at Attavally, Bangor-Erris, Co Mayo.

This is the third Annual Environmental Report for Bord na Mona's Peat Repository at Srahmore, Attavally, Bangor-Erris, Co Mayo. The structure and contents of this report are based on the requirements of Schedule D Reports & AER Content.

1.2. Waste Licence Register Number - W199-1

1.3. Operator & Address of Facility.

Bord na Mona Energy Ltd
Srahmore,
Attavally
Bangor-Erris
Co Mayo

1.4. Environmental Policy (attached on next page)

BORD NA MÓNA

BORD NA MÓNA ENERGY LIMITED

Environmental Policy Statement

Bord Na Mona Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

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

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

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

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

Bord Na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts:

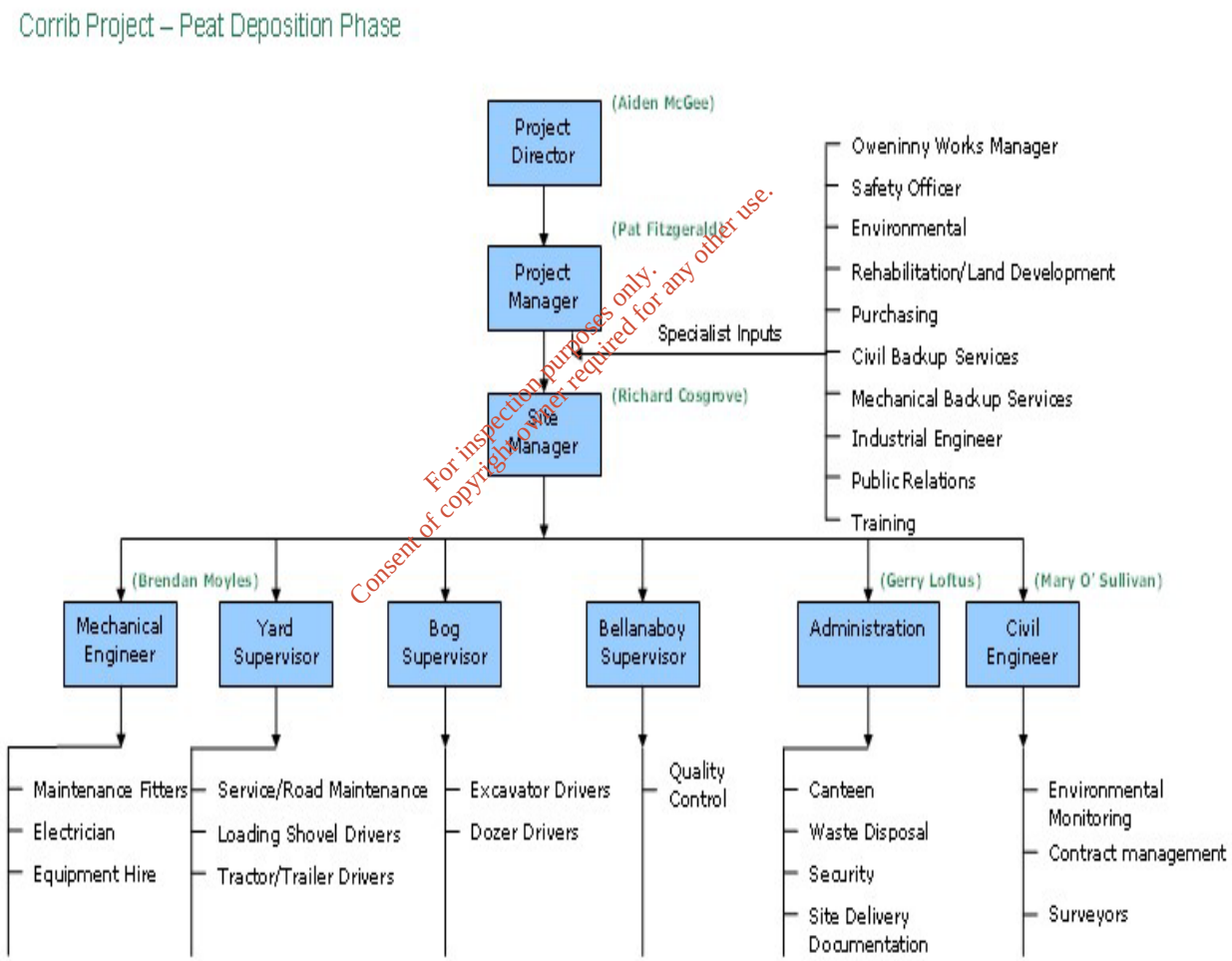
- Discharges to water
- Emissions to atmosphere
- Waste disposal
- Use of natural resources
- Noise, vibration, odour, dust and visual effects
- Natural environmental and eco-system

The environmental management system will be monitored, maintained and continually improved.
A system of regular environmental audits will be put in place.

Bord Na Mona Energy Limited will continue research and development (R&D) into all aspects of its environmental impact.

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

1.5. Current Management Structure



2. Waste Management Report

2.1. Site Description

The site is situated approximately 1km northwest of the village Bangor-Erris and comprises cutover peatland in the Oweninny bog complex. This consists of eight separate areas of cutover peatland, numbered 1 – 8, each of which was assessed for suitability for the development. Area 5 was selected as the peat reception area. Area 6 was selected for the actual deposition of peat and a section of Area 7 is utilised as a "controlled overflow area" in the event of exceedance of the design rainfall. The peat reception area is utilised for off-loading of the peat is the closest area to the public road.

The site is a peat disposal area for the placement of c. 450,000m³ of peat waste excavated from the development of the Shell Corrib Gas Field Terminal at the nearby Bellanaboy Bridge site. The peat, which is from a 3000 to 5000 year old Atlantic Blanket Bog, is transported by road in trucks to the Srahmore deposit area. It was originally anticipated that peat transport and deposit would take place over a 6 month period, spread out over two seasons. However, peat transport and deposit ceased on the 4th July 2005, and as of that date, 112,937tonnes were transported to and deposited at the site.

Peat deposition at the site did not resume during 2006, so therefore no peat was deposited at the Srahmore site during 2006.

Peat deposition did recommence on the 2nd of April 2007 and completed the deposition of peat on the 29th June 2007.

A map detailing the final deposition is included in Appendix 1.

During the full operations at the site, up to 126 personnel were employed in the following areas:

BNM (support)	8	General Operatives	24	Security	4
BNM (Engineering)	2	Fitters	5	Environmental	1

Head Office Staff	2	Electricians	1	Archaeological	-
Site Office Staff	2	Site Supervisors	4	Canteen	3
Drivers	70	Contractors	-		
		Total			126

Plant on site during all operations is as follows:

Machine	Number	Operator
Excavators	20	BNM
Dozers	6	BNM
Tractors	28	BNM
Quads	4	BNM
Loading Shovels	3	BNM

3. Environmental Emissions of the Activity

3.1. Emissions to Atmosphere Summary

The only potential emissions to the atmosphere from the activities on site are dust. As required by Condition 8.8.1, locations for dust monitoring around the site were agreed with the Agency, and Bergerhoff Dust gauges were installed.

Dust monitoring for the period was at 5 locations around the site and commenced in April 2007 and are attached in Appendix 2.

Non-compliances:

Monitoring Point	Emission (mg/m²/day)	ELV (mg/m²/day)	Corrective Action
None	5 - 347	350	None required

This represents an overall compliance of 100%.

Procedures regarding dust suppression and dust monitoring are in place on site.

3.2. Emissions to Water Summary

Emissions to water from the site takes place at 3 locations:

Licence Emission Ref. No	SW No
S5-1	SW100
S5-2	SW101
Location 7 (combined from Area 5/6)	SW4

As required by Schedule C (2.2) the following parameters were monitored during peat deposition, from January to December 07

Monitoring during peat deposition suspension (October 2005 to December 2006)	Continuous	Daily	Weekly	Monthly	Quarterly
Flow	SW4				
pH			SW4		SW 100 & 101
Conductivity	SW4				SW 100 & 101
COD			SW4		SW 100 & 101
BOD					SW4
Suspended Solids			SW4		SW100 & 101
TDS			SW4		SW 100 & 101
Nitrite (as N)				SW4	
Nitrate (as N)				SW4	
Ammonia (as N)			SW4		
Total Phosphorus				SW4	
Oils, fats & greases					SW4

Emissions from SW4 are monitored using a flow proportional composite sampler, which operates on a continuous basis. Here a sample bottle is filled over a 24 hour period and sent to Complete Laboratory Services for analysis.
The compliance requirements at SW4 are as follows:

> [1]*8/10 consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value*

Emissions from SW100 & 101 are sampled by grab sample on a Quarterly basis and sent to the lab for analysis. The compliance requirements at SW100 & 101 are as follows:

> *No grab sample value shall exceed 1.2 times the emission limit value.*

The emission limit value (ELV) attached to emissions to water from the site is 35mg/l suspended solids.

Results for the 3 emission points are in Appendix 3.

Non-compliances:

Monitoring Point	Emission (SS mg/l)	ELV (mg/l)	Corrective Action
SW4 (Location 7)	10/17/19/25/29 May **52 – 125 mg/l** 19 & 22nd June **47 – 49 mg/l** 5th July **71 mg/l** 16th September **44 mg/l**	35mg/l[1]	Yes Yes Yes Yes

This represents an over compliance level of 97%

3.3 Ambient Monitoring.

River-water Monitoring:

Schedule C (6) requires monthly monitoring for Suspended Solids and Ammonia at two locations on the Munhin River, upstream and down stream of the discharge from Location 7 (SW4). The average suspended solids upstream and downstream of the discharge from the site were 7mg/l.

The average ammonia levels upstream of the discharge are .049 mg/l to .042 mg/l downstream. These results would be typical of levels found in peatland catchments and are well below the Maximum Allowable Concentration (0.23 mg/l)

These results would indicate that the Srahmore Peat Repository activities are having no negative effect on the suspended solids content of the river during peat suspension in 2007

Results of the analysis are attached in Appendix 4.

In addition Biological Quality (Q) rating/Q index is required annually.
This was carried out, in agreement with the Agency, on the 07/10/2007, by AMGC Environmental Agricultural Consultancy. Assessment was carried out upstream and

downstream of the discharge from the site, to establish a Q index for both locations and identify any change in water quality.

Biological Quality rating carried out upstream and downstream of the activity indicated that there was a slight improvement in water quality downstream of the main outlet from SW4 (Location 7). The rating went from Class C Moderately Polluted upstream to Class B Slightly Polluted downstream. A new hydrological station was installed at the outlet from Carraghmore Lake as it enters the Munhin River immediately upstream of the activity. This has resulted in a faster flow through this location which made sampling more difficult. However the results indicate that the quality of this stretch of the Munhin has not changed since 2005 when peat deposition last took place.

Groundwater Monitoring:

Condition 8.10 required the installation of a groundwater monitoring network at the site, in accordance with Agency guidelines. This required one up-hydraulic gradient, one down gradient of the peat reception area, and two down gradient of the peat deposition area.

Groundwater sampling was conducted on three occasions in 2007.

On the 25th April, all boreholes were monitored with BH's 3B, 4A & 4B all displaying elevated Diesel Range Organics (DRO's). Sampling was again carried out at the same locations on the 22nd May with the elevated boreholes getting duplicate sampling. The DRO's for the period had dropped significantly.

Sampling was again carried out on the 12th July at all boreholes and all results were below the limits of detection.

Investigations carried out on foot of the elevated results indicated that the elevated results may have been due to plant and equipment parking up adjacent to the boreholes. Investigation reports and corrective actions were submitted to the EPA during this period.

Results of all sampling during the period of investigation and the groundwater contour map are attached in appendix 5.

3.4 Noise Monitoring Report.

Condition 8.11 of the licence requires a noise survey to be carried out during weeks 2, 6 & 12 at the following locations:

NRA – At site entrance from the R313.
NRB – North/West of the site on the R313 at a dwelling.
NRC – West of the site, close to Bangor-Erris Village

Noise monitoring was carried out on the 24th April and 22nd May 2007. These covered weeks 2 and 6 of condition 8.11. Monitoring on week 12 of the operation did not take place as peat deposition was completed on the week prior to this period and all deposition operations had ceased on this date.

On both occasions the monitoring and subsequent reporting concluded that noise from the site did not have any significant impact on the existing noise environment. No complaints regarding noise from the operation were received at the site during the year reported.

A map of the Waste Licence Emission & Monitoring Points is included in Appendix 8.

3.5 Resource & Energy Consumption

Resource and Energy Consumption for the Facility was as follows:

Marked gas oil for all machine operations	-	270103 litres
Electricity usage	-	88.779 MW/hrs

Action plans carried out in 2007 were

1. A new road layout plan was produced which reduced the travel time of the tractor and trailer units.

2. Addition resources were applied to the Maintenance Programme. This allowed for the efficient maintenance of the plant fleet, resulting in more fuel efficiency. All plant in operation at the facility are new, so the fuel efficiencies of the plant are optimised.

Due to the completion of deposition at the site during 2007, there will be minimal energy and resource consumption at the site during 2008.

4 Environmental Management System

4.1 Management & Reporting Structure

This is included in section 1.5 and details the current management & reporting structure.

4.2 Schedule of Environmental Objectives & Targets

This sets out the schedule of objectives as proposed by Condition 2.2.2.2.

Objective	Target
1. Minimisation of suspended solids	Assessment of suspended solids generation during peat deposition during the first two months and setting a programme for its reduction
2. Reduction of fugitive dust	Establish the levels of dust generation during peat deposition during the first two months and setting a programme for its reduction.
3. Protection of dust sensitive areas	Establish the levels of dust nuisance at the three dust sensitive locations during the first two months of monitoring and setting a programme for the protection of these areas
4. Reuse of silt pond waste	Monitor the levels of silt pond waste cleanings at the 7 silt ponds and swale locations over the peat deposition period and establish a reuse option.
5. Effective spill leak management of Mobile fuelling units	Comply with all of the condition of the licence in relation to operation and maintenance of all mobile fuelling operations, and assess its effectiveness after 3 months operation.
6. Management of dangerous substances	Comply with the conditions of licence relating to oil and diesel storage, bunding and recycling and review after 2 months operation
7. Management of silt pond flow	Comply with the conditions of the licence

discharges	in relation to the management of silt pond flow discharges during high rainfall events and assess its effectiveness after two months operation.
8. Reuse of stone used in internal haul-road construction	Investigate any potential re-uses for the geotextile and stone used in the construction of the internal; haul-roads, either on site or in the locality.

4.3 Environmental Management Programme Report.

Minimisation of Suspended Solids (EMP1)

Activity/Emission	Objective	Target Date	Target	Persons Responsible
OT1 Emission of suspended Solids	Minimisation of suspended Solids	On-going programme during the life of the project and as part of aftercare & maintenance.	To comply with Conditions 8.9.1, 8.9.3 & 8.9.4. a programme of weekly inspections of all drainage and subsequent waste treatments systems, daily inspections of discharges to receiving waters and the regulation and monitoring of all silt generating activities will be put in-place. This will be used for establishing the cleaning roster. These systems will be assessed on an ongoing basis for the first two months of peat deposition, to assess the degree of suspended solids generation, and this along with the daily results for SS from the Composite Sampler will be used to establish targets for the reduction of Suspended Solids **Status: This project was on-going during peat deposition in 2007. All inspections of drainage and silt treatment systems was carried out and logged on the EMS system.**	Site Manager & Environmental Manager

Reduction of fugitive dust (EMP2)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT2 Fugitive dust emissions	Reduction of fugitive dust emissions during all operations	On-going programme during the life of the project.	This programme will establish the degree of dust generation during the first two months of peat deposition. Peat delivery, tipping on the peat reception area, loading into the trailers and deposition into the bays will be examined along with any dust suppression methods employed and the appropriate Dust Handling Procedure. This will include the first two months of dust monitoring. The results of these assessments will be used to establish targets for reduction of fugitive dust emissions. **Status: This programme and condition 8.8.1. has resulted in the provision of dust gauges at dust sensitive locations (see section 3.1 Emissions to Atmosphere). The main potential sources of dust from the site are the access road and peat deposition roads. The operations in 2007 were completed over 13 weeks starting on the 2nd April. There were no non-compliances during this period.**	Site Manager & Environmental Manager

Protection of dust sensitive areas. (EMP3)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT3 Fugitive dust emissions	Protection of Dust sensitive areas.	On-going programme during the life of the project.	Based of the results of the initial two months dust monitoring at the five dust sensitive locations, a programme of protection of dust sensitive locations will be examined. This will address any measures to be put in-place, such as the planting of trees, or any special measures to be put in place to protect any areas that exceed the ELV of 350 mg/m²/day. **Status: There have been no complaints regarding dust received at the site during 2007. This along with the high level of compliance indicate that dust from the site is not a significant nuisance to any neighbours of the operations, and protection of any potential dust sensitive location is not necessary.**	Site Manager & Environmental Manager

Reuse of silt pond wastes (EMP4)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT4 Reuse of Silt Pond Waste	The reuse of all silt pond wastes.	On-going programme during the life of the project.	As the silt wastes generated form the cleaning and maintenance of silt ponds S5-1, S5-2, Area 5 & Area 6 silt ponds are directly as a result of peat deposition, they will either be used in the Bog & Peat Deposition Area rehabilitation & aftercare, or will be incorporated into the existing bays once deposition is complete. **Status: As all peat wastes accepted and generated at the site are for landfilling purposes, there is no further use for the silt pond cleanings. These will be incorporated into the peat deposited or if of benefit will be used in the final rehabilitation.**	Site Manager & Environmental Manager Site Manager & Environmental Manager

Management of mobile fuelling wagons (EMP5)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT5 Management of mobile Fuelling units	Effective spill/leak management of mobile fuelling units.	On-going programme during the life of the project.	To comply with conditions 3.17, 3.19 and 3.20, the two mobile fuelling units are stored in a bunded location, with an oil spill kit in-place. Fuelling nozzles will be fitted with overflow shut-off mechanisms and auto fill clips will be disabled. All personnel will be made aware through training, of the Oil/Diesel Loading Procedure & the Emergency Response Procedure. Shortened versions of the procedures are posted on the tanks and at the bunded storage location. All service wagons have been inspected before use and bi-annually there after. Leaks, flaws, necessary repair etc, will be reported to the Site Manager. All the above will be in-place before peat deposition re-commences, and will be re-assessed as to their effectiveness every 3 months. The out come of these assessments will determine any improvements to be made and target dates to achieve them. **Status: All of the above measures were in-place for 2007. Groundwater monitoring at one of the boreholes adjacent to the peat haulage road indicated high Diesel Range Organics, which was reported to the Agency. (see 3.3 Groundwater Monitoring)**	Site Manager & Environmental Manager

Management of dangerous substances (EMP6)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT6 Management of dangerous substances List I & List II	To manage of any dangerous substances as listed in I & II of the Dangerous Substances Directive 80/68/EEC	On-going programme during the life of the project.	The only substances from Lists I & II of the Dangerous Substances Directive (76/464/EEC and 80/68/EEC and amendments) are List I (7) Mineral Oils and Hydrocarbons. The management of these will include: (1). **Pollution Prevention** as required by Conditions 3.13 – 3.21. This includes the safe storage of diesels/oil/Filters and protection of ground and surface water during fuelling operations. (2). **Pollution Control**: Maintenance of diesel/oil interceptors as required by Conditions 8.9.1 & 8.9.2 All of these measures will be in-place before peat deposition commences. A review will be carried out after the first two months operation and every 3 months thereafter, to assess the effectiveness of programme OT6. A programme of improvement will be implemented once the operational performance of the management of diesels & oils has been assessed.	Site Manager & Environmental Manager

			Status: The oil interceptors installed at the site include 3 Klargester units. These units are installed downstream of the grit trap and are operating successfully. They have also been fitted with alarms, which indicate when they require cleaning. The operation and maintenance of these units is on-going. They were inspected during this time and are on record. Sampling for COD at SW2 during the year showed an average of 59 mg/l.	

Management of silt pond flow discharges (EMP7)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT7 Effective management of Silt pond flow discharges	Effective management of flow discharges during periods of high precipitation and flooding.	On-going programme during the life of the project.	As is required by Conditions 3.11 & 3.12, all silt ponds must achieve specific design criteria i.e. max flow velocity <10 cm^{-1} and min. 75m^3/nett ha of bog. Flow regulators must also be fitted to ensure the design flow capacity is not exceeded. The drainage system has been designed to a rainfall event of 31 mm, which equates to a 100 year storm event of 1 hours rainfall. As the preferred option for the drainage management was the controlled discharge of water from the drains to the swale to the silt ponds, appropriate flow regulators will be in-place to ensure the design flow of each of the	Site Manager & Environmental Manager

			silt ponds is not exceeded during heavy rainfall and that any excess runoff generated is discharged to the overflow area (Area 7). Condition 3.4 requires a construction quality assurance validation to be completed on the surface water drainage/control/treatment works. This will include an assessment of the performance of the silt ponds and will assess its compliance with the stated maximum flow velocity < 10 cms^{-1} **Status.** **This was achieved by installing overflow pumps to pump this excess runoff from the swale to this overflow area. It was further improved by the installation of an automatic gravity overflow to areas 7 which removed the requirement for operator intervention during heavy rainfall and subsequent high discharge rates. This has been set to provide adequate drainage levels to the lowest deposition bay but also to allow overflow into area 7 during periods of high rainfall.**	

Reuse of road building materials (EMP8)

Activity/Emission	Objective	Target Date	Target	Person Responsible
OT8 Road materials re-use	Reuse of stone used in internal haul-road construction.	As stated in the EIS, the decommissioning plan for the internal haul road network would envisage it occurring at the end of the stabilisation period (5 yrs after deposition has been completed). There may also be a requirement to leave these roads in-place as part of the after use of the deposition area.	All materials used in the internal haul road construction will be either recycled or reused. The Geotextile will be collected for reuse within BNM for under rail lines, or recycled through a licensed contractor. The 300mm of crushed stone will be recycled through one of the following: 1. As internal service roads to a Proposed Wind Farm Development at Oweninny. 2. As construction material on an alternative site. 3. Through an appropriate recycling contractor. 4. Placement at the base of the toe drains to assist in drainage. **Status: As peat deposition has been completed, on site decommissioning and rehabilitation has also taken place. The stone peat haulage roads will have to be retained on site for 3 – 5 years so that access can be maintained to the bays for maintenance of drainage, monitoring and assessment.** **Given the current condition of the roads, it is not envisaged that recycling of the road material will be possible due to**	Site Manager & Environmental Manager

			encroachment of the deposited peat, flooding and degradation of the road surface and weed growth. Excavation and cleaning/screening of the road materials for reuse would be time and energy intensive and the energy and material offset for another site reuse would be negative.	

4.4 Environmental Management Programme Proposal.

The proposal for 2008 is to continue with projects EMP 1, 4, 7 & 8 as these are the only applicable projects due to the completion of the peat deposition in June 2007

4.5 Silt Pond Inspection & Desilting Report.

Inspections of the silt ponds are carried out weekly. A full log of all inspections is maintained at the site office and this along with SS results obtained form the silt ponds form the basis for the cleaning roster.

The silt ponds servicing the Srahmore site were all cleaned in February and July 2007

5 Site Development Works.

5.1 Summary of main changes/developments/works & planned works for 2007

Pre Deposition 2007

- Installation of bog mat road network
- Upgrade of road to workshop to facilitate traffic movement.
- Installation of temporary haul road in bay 5.
- Cleaning and maintenance of site drainage network.
- Resurfacing of main access road and deposition haul link road.
- Installation of automatic overflow to Area 7.

5.2 Summary of Planned Works for 2008

There is no development works planned for 2008 due to the completion of the project

6 Waste received and consigned from the Facility

6.1 Non-hazardous waste received by the facility.

		Non-Hazardous Waste Received			
Waste Description	EWC Code	On-site Disposal		On-site Recovery	
		Method	Tonnes	Method	Tonnes
Grit Trap Waste	19 11 06	Deposit on Land	1.5	None	
Deposited Peat	17 05 04	Deposit on Land	335113		

6.2 Hazardous waste received by the facility.

		Hazardous Waste Received			
Waste Description	EWC Code	On-site Disposal		On-site Recovery	
		Method	Tonnes	Method	Tonnes
None					

6.3 Non-hazardous waste sent off-site for Recovery/Disposal.

Waste Description	EWC Code	Tonnes	Details of Haulage Contractor	Recovery /Disposal	Name & Address of recovery/Disposal Site
Canteen Waste	20 01 08	8.01	Mayo County Council	Disposal	Rathroeen, Killala Rd, Ballina, Co. Mayo
Sewage Cleaning	20 03 06	200	Asethetic Services	Disposal	Ballina Wastewater Treatment Works, Belleek, Ballina, Co. Mayo

6.4 Hazardous waste sent off-site for Recovery/Disposal

Consignment Note/TFS Note Number	Date of Dispatch	Description of Waste	EWC Code	Tonnes	Details of Haulage Contractor	Disposal/ Recovery	Name & Address of Recovery/ Disposal site
46-155870	18/06/07	Oil Interceptor Waste	13 05 07	6	Enva Ireland Ltd	Recovery	Enva Ireland Ltd Portlaoise Co Laois
46-161849	28/11/07	Waste Oil	13 02 05	5.68	Enva Ireland Ltd	Recovery	Enva Ireland Ltd Portlaoise Co Laois

7 Environmental Incidents & Complaints.

7.1 Reported Incidents Summary.

Date	Nature of Incident	Cause	Corrective Action
	NONE		

7.2 Reported Complaints Summary

Date	Nature of Complaint	Cause	Corrective Action
	NONE		

8 Review of Nuisance Controls.

The nuisance controls at the site only include dust suppression and pest control.

Due to the completion of the project in 2007 all nuisance controls at the site have been removed.

9 Review of Rehabilitation Plan.

Rehabilitation at the Srahmore site is outlined in the Rehabilitation Plan for the Srahmore Peat Deposition Area and Associated Facilities (Feb 2005). The main criteria[1] defining successful rehabilitation of the Srahmore PDA and associated facility are:

(i) Stabilisation of the deposited peat[2]

(ii) Mitigation of silt run-off

Natural revegetation processes are outlined as the BAT for rehabilitation of the Srahmore site. Results so far indicate that vegetation establishes rapidly on the deposited peat. It is anticipated that the plant roots will bind the

[1] These are the basic criteria as identified in the consultation process for development of *The Rehabilitation Plan* for the entire Oweninny Works.

[2] Stabilisation of these areas infers revegetation. Once stabilised there will be no potential peat run-off from the site, which will cover the second criterion for successful rehabilitation.

introduced peat layer, altering the peat structure to create a homogeneous peat mass thereby stabilising the peat.

Vegetation assessment (see also attached Appendix 8: Photo Inspection from March 2006)

Deposition Area

The deposition area comprises access routes on high fields, peat deposition area and drainage channels. The greater part of the deposition area has been covered with peat. The peat was deposited and levelled between high fields using long-reach excavators. The final shaping allows for run-off into drainage channels with the peat remaining undisturbed to facilitate natural revegetation processes.

Within weeks the deposited peat was colonised by a flush of soft rush *Juncus effusus* seedlings. Other plants colonising included bulbous rush *Juncus bulbosus* and sorrel *Rumex acetosella*. The soft rush tussocks form the dominant character of the vegetation with inter-tussock spaces of patchy plant cover, with shrubs such as bramble *Rubus fruticosus* and some willow *Salix* spp. emerging. The cover of this pioneer vegetation is continuous over the entire area of deposited peat. The establishment of other species between the tussocks of soft rush will further bind the peat together and eventually lead to a complete cover and stabilisation of the introduced peat.

Vegetation cover in the remaining uncovered area is low and comprises patchy growth of bog cotton *Eriophorum angustifolium* and soft rush *Juncus effusus*.

Water over-spill area (Area 7)

This area was rehabilitated in line with the rehabilitation plan for the Oweninny Works, Cutaway Bog Rehabilitation (2003). This involved field drain blocking and it is anticipated that natural revegetation processes will proceed in this

area and over the duration of the peat deposition activity. The overflow facility will be maintained for the duration of the peat deposition and also for a number of years following the activity to ensure that there is no build-up of water on site. When the area is no longer required, the site will be re-surveyed to determine the vegetative condition and whether further rehabilitation work is required (unlikely to be more than superficial).

Off-loading facility (Area 5)

Construction work was completed in April 2005 and the final activity on-site was in Autumn 2007. To date, there has been extensive colonisation of the surrounding bare peat, predominantly soft rush *Juncus effusus.*

Srahmore Assessment March 2008

A walkover survey of the Srahmore PDA indicates that the vegetation that had established on the deposited peat is developing further. Inter-tussock spaces of the soft rush are becoming further colonised by herbs, grasses and mosses with intermittent pools. The initial pioneer vegetation is maturing a developing a denser growth pattern.

The vegetation will continue to develop over time and Bord na Móna will continue to monitor the changes in structure and composition. There is a slight difference between the peat deposited in 2005 and 2007, relating to the age of the rush tussock. It was noted also that the site is utilised by a number of bird species, particularly nesting Skylark (*Alauda arvensis*).

10 Review of Environmental Liabilities Insurance Cover.

In Accordance with the requirements of Schedule D, Annual Environmental Report Content, a review of the Environmental Liabilities Insurance Cover is required. The initial Environmental Liabilities Risk Assessment (ELRA) was

carried out in March 2005. This assessment examined 8 Potential Hazards, including, peat combustion, dust blow, sediment laden run-off, fire etc.

Of the critical potential hazards identified, mobilisation of peat off site and sediment laden run-off have not been highlighted as a potential problem during the operation of the site in 2005 and 2007. The number of non-compliances occurring during the period of operation from 2005 to 2007 is shown on table X below:

Compliance Levels	2005	2006	2007
Emissions to Water	97%	100%	97%
Emissions to Air	91.5%	No sampling due to suspension	100%

The risk of peat mobilisation from the site was identified as low in the ELRA, and during peat deposition in 2005 and 07 there were no indications that the status of this risk had increased.

The Licence requires the completion of a stability assessment of each bay, once it has been filled. No bays were filled during 2005, so a stability assessment was carried out in 2007, after each bay was completed.

To date, the natural re-vegetation as specified in the EIS has progressed better than expected . The continuous cover of soft rush (*Juncus effusus)* is already well established on the deposited peat, and has progressed its stabilisation.

Based on the experiences of peat deposition during the period of operation between 2005 and 2007, the experience of the success of the rehabilitation to date post deposition and the results of environmental monitoring, performance and compliance as reported in the 2005, 2006 & 2007 AER's, the Environmental Liabilities Insurance Cover is considered to be adequate.

11 Landfill Costs

Condition 12.2.1 requires the licence holder to submit a statement on the determination of charge for the disposal of waste in accordance with the requirements of S.I. No. 337 of 2002 European Communities Regulation 2002.
Following the consultation of this regulation, it is determined that as Srahmore Peat Deposition Site is only accepting waste peat from one permitted contractor, and that this charge has been agreed with the contractor prior to the commencement of the peat deposition and is applicable for the duration of the contract, the provision of this statement does not apply. The price agreed with the contractor is commercially sensitive.

12 Other Reports.

12.1 Fuel Bowser Testing.

Both fuel bowers were supplied by Cashes Engineering Ltd. Both of these bowers were certified and tested by the manufacturer. A copy of the conformity certificates are kept on file in Srahmore.

Both of these bowsers are designated for re-use elsewhere in Bord na Mona.

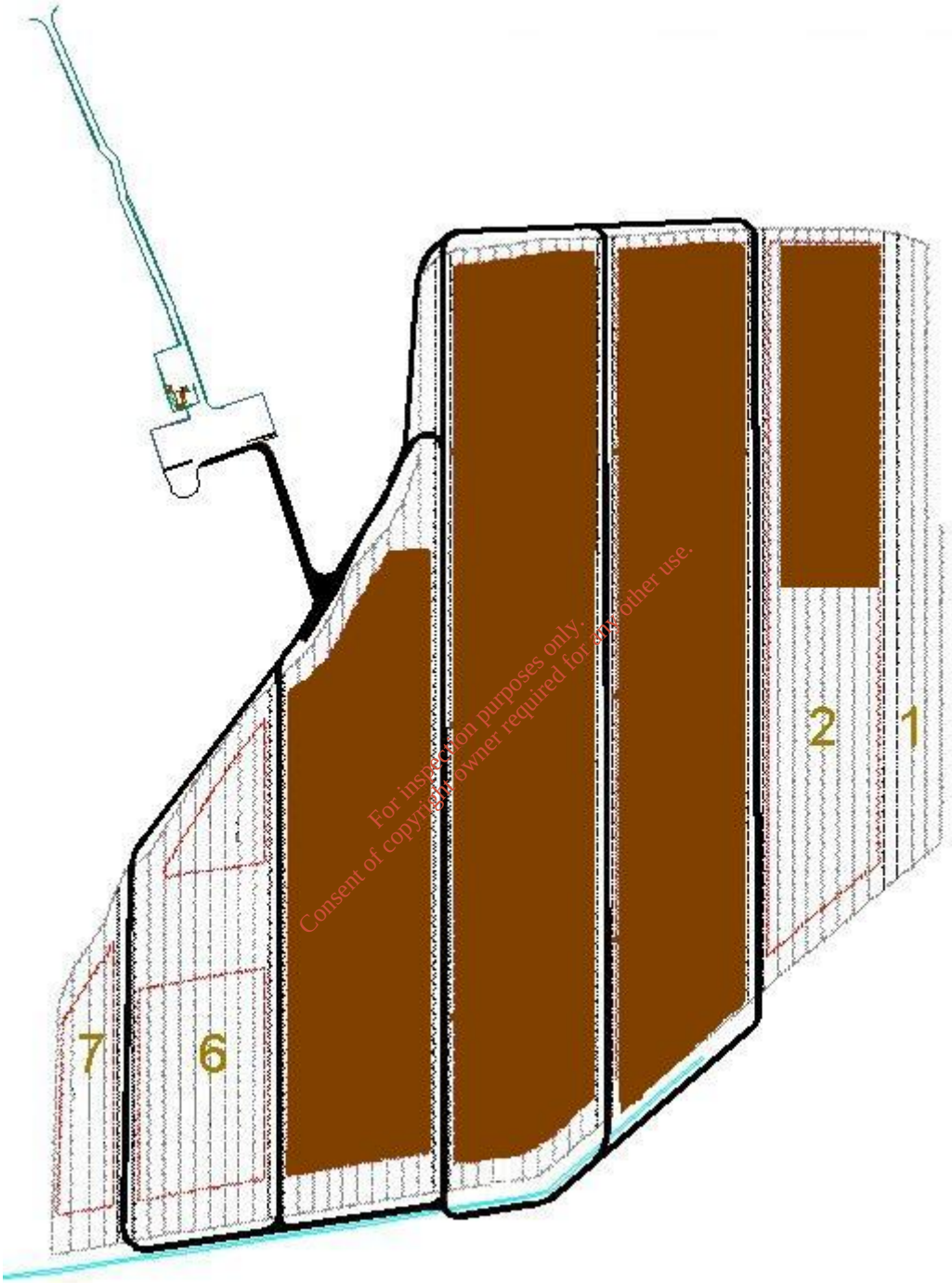
12.2 Placed Peat Stability Assessment.

Condition 8.7 requires a stability assessment of each bay once filled. This was carried out on the 1st of December 2007 by Tobin Consulting Engineers.
Based on the site walkover survey and previous assessments in 2003/2005/2006, all works were carried out in accordance with the rehabilitation plan.
There is No indication of instability in the internal high fields, perimeter high fields, deposited peat bays or drainage system.

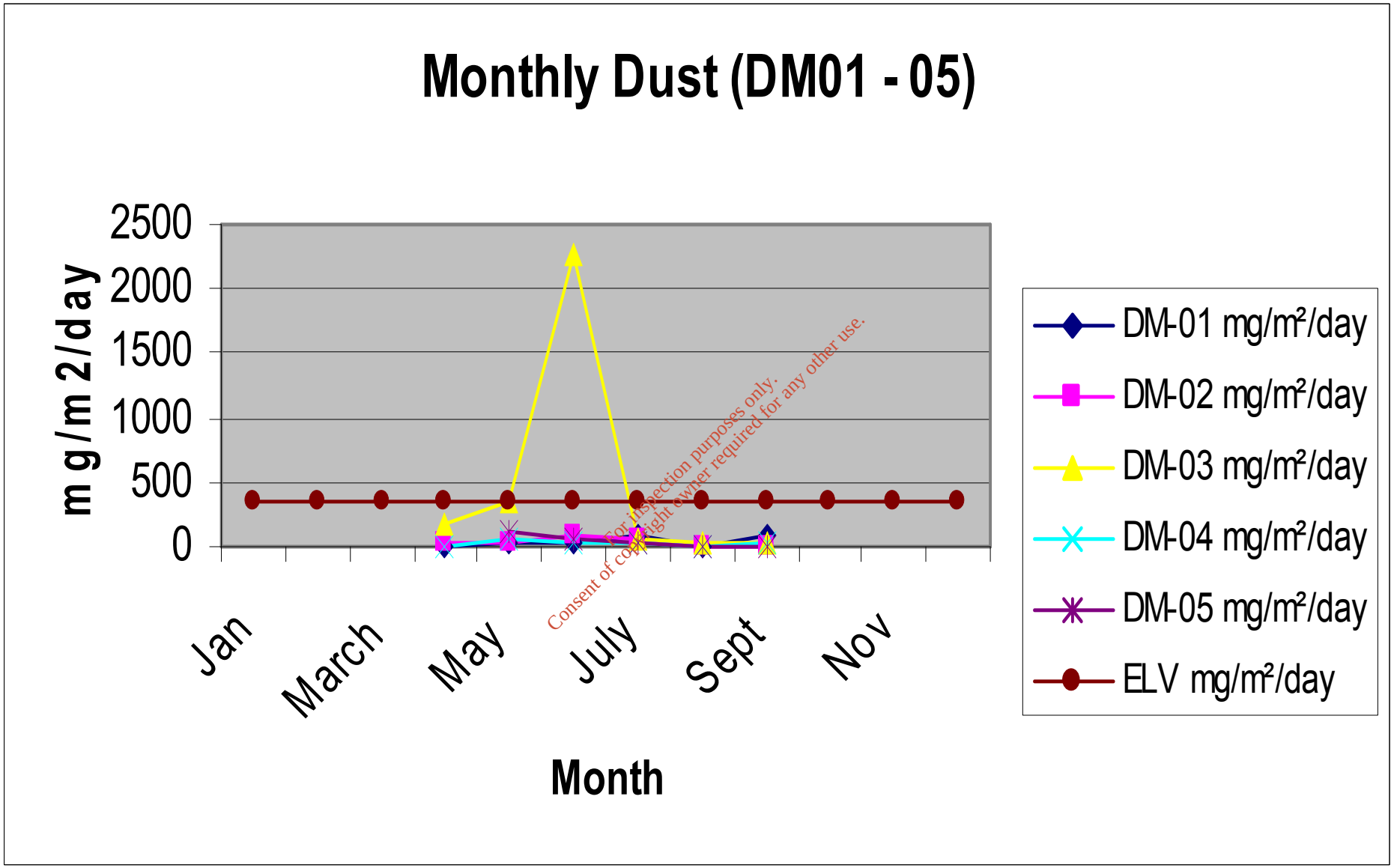
The deposited peat is contained within each bay. In its current condition the risk of a mass deposited peat flowing out of bays 2, 3, 4 & 5 and entering the surrounding watercourse is very low.

A copy of this Stability Assessment is retained on file at the site office.

Appendix 1



Appendix 2



Appendix 3