

## **CORRIB GAS DEVELOPMENT**

**Report for PMC (Terminal) Meeting on 14<sup>th</sup> May 2014.**

**Prepared by Mr. Padraic Walsh, Senior Engineer,  
Project Manager for Mayo County Council.**

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### **Water Quality – Carrowmore Lake**

- Mayo County Council's Project Team has continued to monitor the surface waters in and around the Bellanaboy site. Summaries of the most recent verified results are attached, which are available on Mayo County Council Website [www.mayococo.ie](http://www.mayococo.ie).
- The results show that in the last monitoring period the discharge of surface water from the Terminal Site has had no significant impact on the water quality of the Bellanaboy River and Carrowmore Lake.
- The results also show that the discharge of surface water from the Terminal Site has had no adverse impact on the quality of drinking water produced at the Erris Regional Water Supply Scheme at Barnatra.

### **Environmental Issues at the Bellanaboy Site**

- Construction work at the terminal site is substantially complete and the facility is now in preservation mode. Work is ongoing on snagging and modification programmes. Works are about to commence on the final reinstatement of the site.
- Surface water runoff from the terminal footprint, the carrier drain road and other roads outside the terminal footprint, is treated by the axonics unit prior to discharge to the site drainage system.
- Surface water monitoring undertaken by the Developer has not identified any exceedances during this reporting period.

### **Community Fund**

- Works have been completed on all projects for which funding was allocated.

### **Transportation/Roads**

There are no roadworks underway at present and there have been no transportation issues since the last meeting.

**CARROWMORE LAKE**  
**Results for March and April 2014 (2 samples taken)**  
**Analysis by Environmental Laboratory Services, Cork**

Parameter	Units	Average	Max	Min
Suspended Solids	mg/l	9	12	<5
Turbidity	N.T.U	2.14	2.19	2.08
pH	pH units	7.3	7.4	7.2
Conductivity	uS/cm	118	118	118
Phosphate	mg/l P	<0.009	<0.009	<0.009
Ammonia	mg/l NH <sub>3</sub> -N	0.026	0.032	0.02
Nitrate	mg/l NO <sub>3</sub> -N	<0.12	<0.12	<0.12
Nitrite	mg/l NO <sub>2</sub> -N	<0.013	<0.013	<0.013
Total Aluminium	ug/l Al	49	57	40

**ERRIS REGIONAL WATERWORKS (Final Treated Water)**  
**Results from 01/03/2014 to 30/04/2014 (61 Samples)**  
**Analysis carried out at Erris Regional Waterworks**

Parameter	Units	Average	Max	Min	Drinking Water Limits
Colour	mg/l	0.9	5	0	<10 Haz
Turbidity	N.T.U	0.11	0.34	0.01	<2.0 NTU
pH	pH units	7.2	8.9	6.6	6.5 – 8.5
Free Chlo/Res	mg/l	1.3	1.6	0.5	>0.3
Total Chlo/Res	mg/l	1.4	1.8	0.7	>0.3
Flourine	ppm	0.72	0.8	0.6	0.6-0.8
Total Aluminium	ug/l	31	60	0	200

## **BELLANABOY TERMINAL DEVELOPMENT**

### **BELLANABOY RIVER**

**Upstream and Downstream of discharge from Terminal site – to be monitored on a quarterly basis for 2014. Results for March 2014.**

<b>Parameter</b>	<b>Units</b>	<b>BEL 1 (upstream)</b>	<b>BEL 2 (downstream)</b>
		<b>Result</b>	<b>Result</b>
<b>Suspended Solids</b>	<b>mg/l</b>	<5	<5
<b>Turbidity</b>	<b>N.T.U</b>	3.0	3.4
<b>pH</b>	<b>pH units</b>	7.0	6.9
<b>Conductivity</b>	<b>uS/cm</b>	131	140
<b>Phosphate</b>	<b>mg/l P</b>	0.013	0.014
<b>Ammonia</b>	<b>NH<sub>3</sub>-N</b>	0.07	0.06
<b>Nitrate</b>	<b>mg/l NO<sub>3</sub>-N</b>	<0.12	<0.12
<b>Nitrite</b>	<b>mg/l NO<sub>2</sub>-N</b>	<0.013	<0.013
<b>Total Aluminium</b>	<b>ug/l Al</b>	63	69

**SP1 (Discharge point from terminal site)**  
**Results for March and April 2014 (2 Samples)**  
**Analysis by Environmental Laboratory Services, Cork**

<b>SP 1</b>				
<b>Parameter</b>	<b>Units</b>	<b>Average</b>	<b>Max</b>	<b>Min</b>
Suspended Solids	mg/l	<5	<5	<5
Turbidity	N.T.U	3.7	3.7	3.7
pH	pH units	7.5	7.5	7.5
Conductivity	uS/cm	261	275	246
Phosphate	mg/l P	<0.009	<0.009	<0.009
Ammonia	mg/l NH <sub>3</sub> -N	0.078	0.141	0.015
Nitrate	mg/l NO <sub>3</sub> -N	0.17	0.21	<0.12
Nitrite	mg/l NO <sub>2</sub> -N	<0.013	<0.013	<0.013
Total Aluminium	ug/l Al	165	173	158

**Axonics Water Treatment Units (Post-treatment Results)**  
**Results from March and April 2014 (2 samples)**  
**Analysis by Environmental Laboratory Services, Cork**

<b>Post-Treatment (2 Samples)</b>				
<b>Parameter</b>	<b>Units</b>	<b>Result</b>	<b>Max</b>	<b>Min</b>
Suspended Solids	mg/l	<5	<5	<5
Turbidity	N.T.U	2.6	2.9	2.4
pH	pH units	7.5	7.5	7.4
Conductivity	uS/cm	259	290	228
Phosphate	mg/l P	<0.009	<0.009	<0.009
Ammonia	NH <sub>3</sub> -N	0.015	0.02	0.009
Nitrate	mg/l NO <sub>3</sub> -N	0.13	0.14	<0.12
Nitrite	mg/l NO <sub>2</sub> -N	<0.013	<0.013	<0.013
Total Aluminium	ug/l Al	182	187	177

# Bellanaboy Bridge Terminal Site

## Report to the Project Monitoring Committee

14<sup>th</sup> May 2014

### Works Undertaken

The following construction and related operations are ongoing:

- Operation of Axonics plant, environmental and geotechnical monitoring.
- Maintenance of Temporary Construction Facility (TCF).
- Construction work which mainly involves ongoing modifications of an electrical and mechanical nature.

### Outlook May 2014 Onwards:

- Continuation of environmental monitoring, geotechnical monitoring and Axonics plant operation.
- Continuation of construction work on both footprint and Temporary Construction Facility.
- Testing and verification of systems including leak testing.
- Use of rock breaking and sheet piling equipment during civil works on an intermittent frequency.
- Landscaping and supplementary reinstatement of temporary support areas to commence.

### ENVIRONMENTAL REPORT

#### Dust

Dust deposition results for February and March.

D1	D2
<b>February Dust Results</b>	
343	263
<b>March Dust Results</b>	
199	114

**Noise** – All construction related noise levels recorded were below the agreed noise limits and any unusual values were attributed to instrumentation or weather conditions.

**Traffic** – traffic movements are given in the below table.

<b>Traffic Movements</b>	
March	April
1,479	1,217

**Fuel** – Approximately 191.32m<sup>3</sup> of fuel was delivered to site during March and April.

**Waste** – The following non-hazardous waste quantities were removed from site during March and April: 4 skips of cardboard/plastics, 9 skips of timber, 2 skips of organic waste, 2 skips of metal and 2 skips of residual waste.

There were 4 collections for the removal of oily waste and chemical waste for the period. The effluent holding tanks were emptied of approximately 1,170m<sup>3</sup> of sewage during the same period.

**Water Quality** – A summary of the main surface water parameters measured for grab sampling g during March and April (available range of lowest to highest) at SP1 is presented below:

#### pH (pH Units)

6.7 – 7.1

#### Suspended Solids (mg/l)

<2 (detection limit)

#### Orthophosphate (µg/l P)

<10 (detection limit)

#### Nitrite (mg/l NO<sub>2</sub>)

<0.017 (detection limit)

#### Conductivity (µS/cm)

285 - 286

#### Turbidity (NTU)

2.0 – 2.3

Groundwater samples were taken and borehole monitoring data downloaded for the month of March. A summary of the main groundwater parameters measured (range of lowest to highest) follows:

pH (pH Units) 5.7 to 6.3

Conductivity (µS/cm) 236 to 445

Nitrate (mg/l NO<sub>3</sub>) <0.44 – 1.55

Total Dissolved Solids (mg/l) 136 to 243

**Complaints** – There were no written construction activity related environmental complaints logged with SEPIL during the reporting period.

**Incidents** – There were no environmental incidents during the reporting period.

**Exceedances** – There were no exceedances during the reporting period.

**Update on pH exceedance incident:**

Subsequent to the high pH elevations encountered at SP1 in November 2012 control measures were implemented to ensure that surface water discharged from the site remains within the permitted pH limits. Works has commenced this month to eliminate the potential of exceeding pH levels.

**Necessary Environmental Works**

- Continue operation of on-site surface water treatment plant.
- Removal of all waste and effluent from site as required.
- Inspect, repair (when required) and recalibrate all in situ monitoring equipment.
- Monitor/sample and download water (surface and ground) quality monitoring devices.

**Water Quality Monitoring Graphs**

Graphs are attached for monthly continuous monitoring data at SP1 for total suspended solids, turbidity, and orthophosphate. Please see commentary below for each graph.

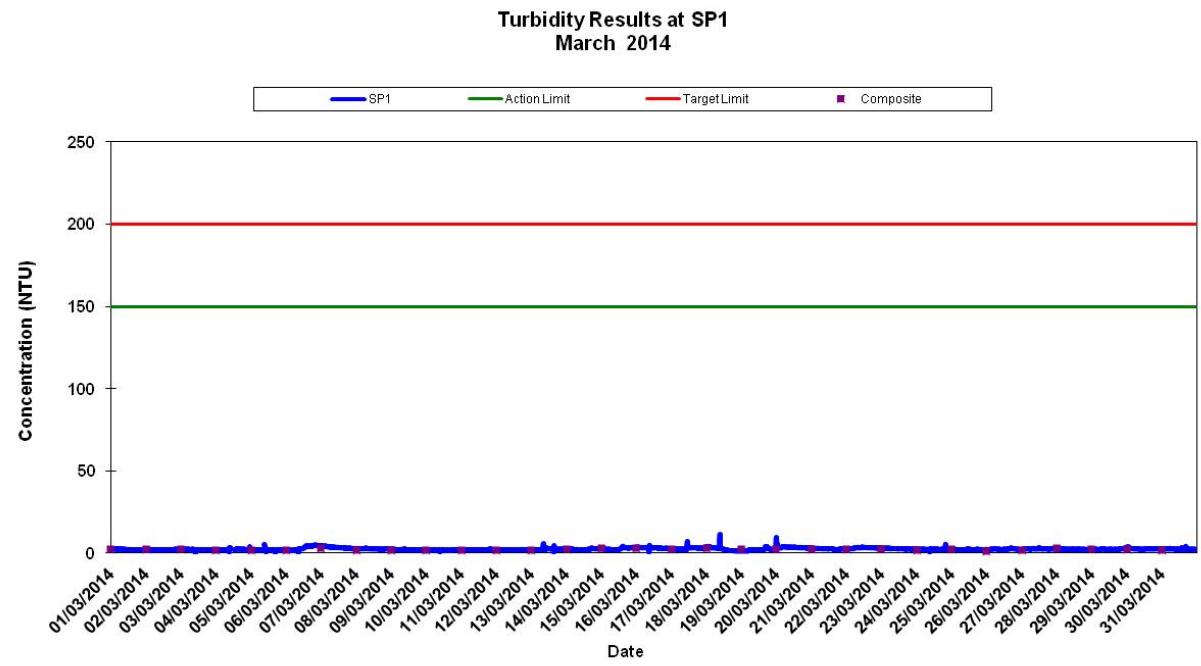
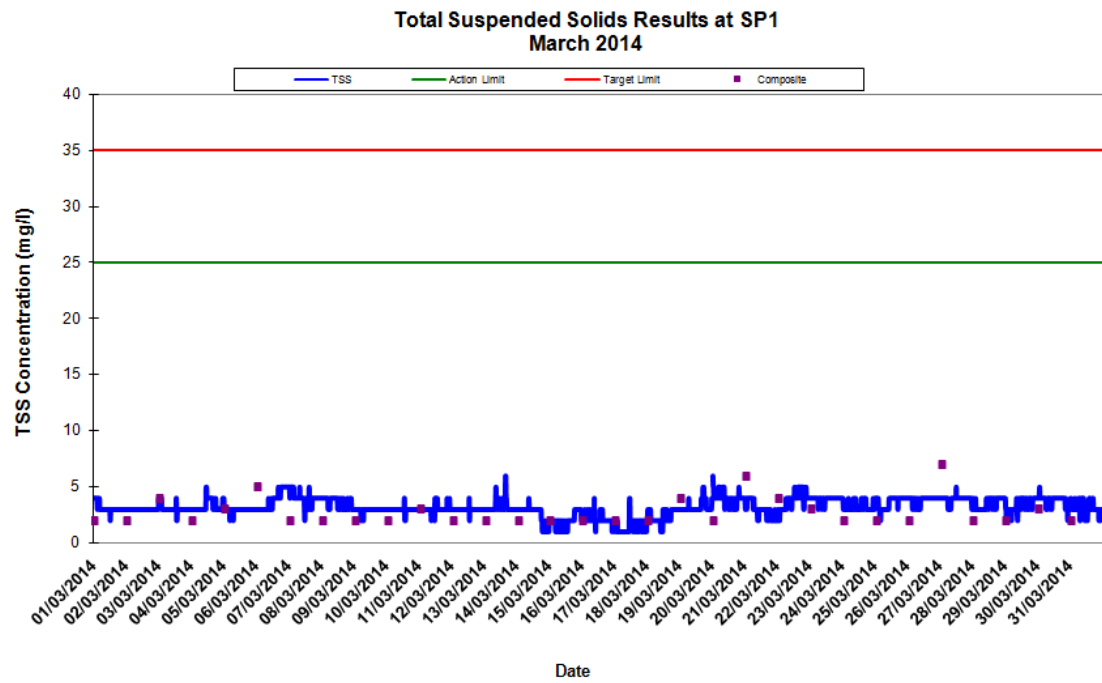
**Total Suspended Solids:** The TSS graphs for March and April all show levels lower than the action limit. Spikes in the chart are evident during periods of heavy rainfall.

**Turbidity:** All values for March and April are all lower than the action limit.

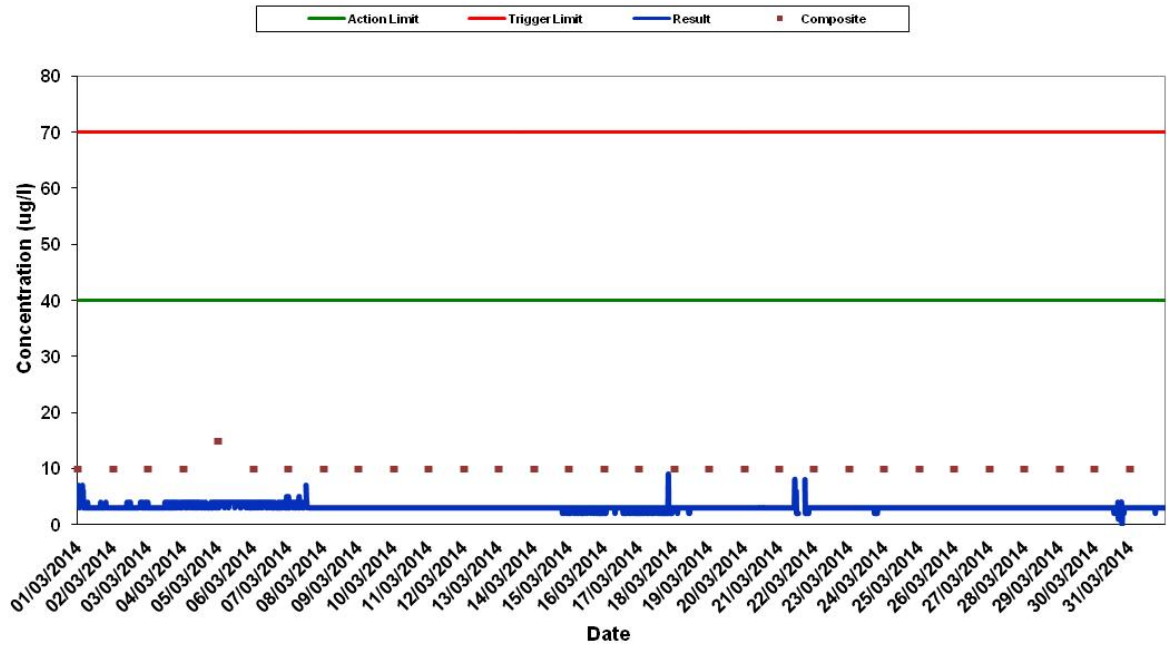
**Orthophosphate:** The results yielded for March and April were below the action limit.

Composite sample data is also presented on the graphs for reference.

March Graphs

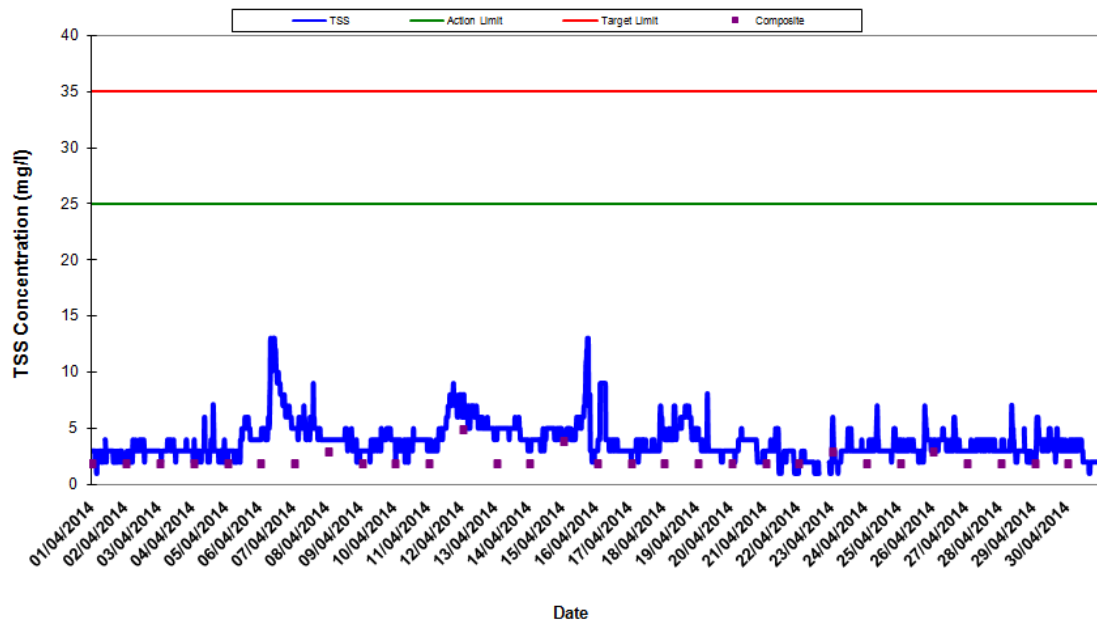


### Orthophosphate Results at SP1 March 2014



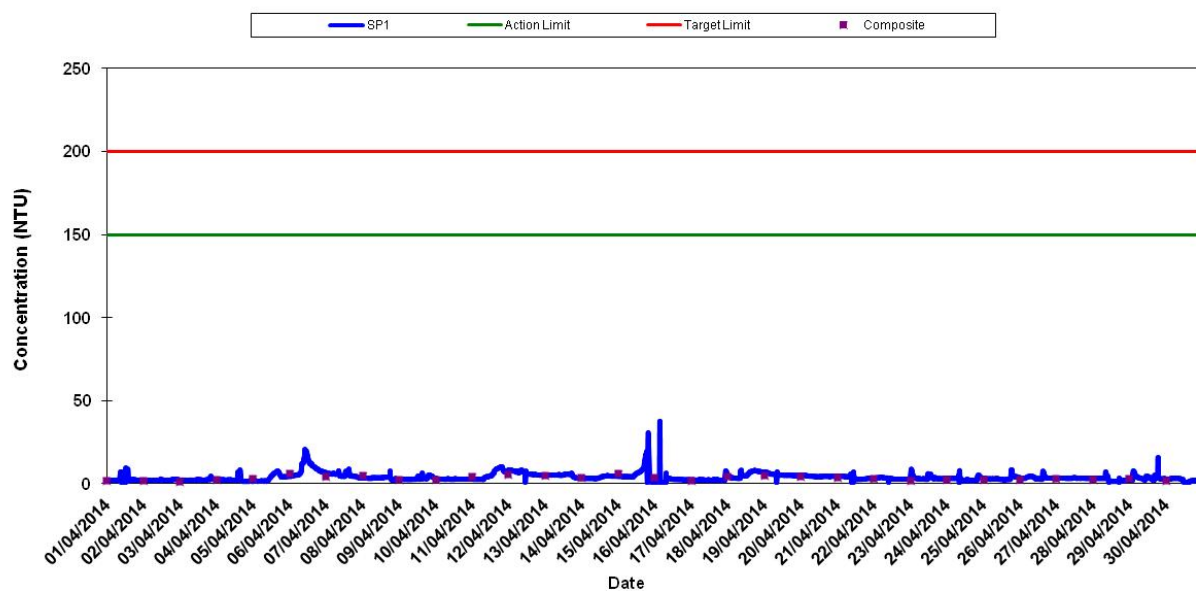
### April Graphs

#### Total Suspended Solids Results at SP1 April 2014

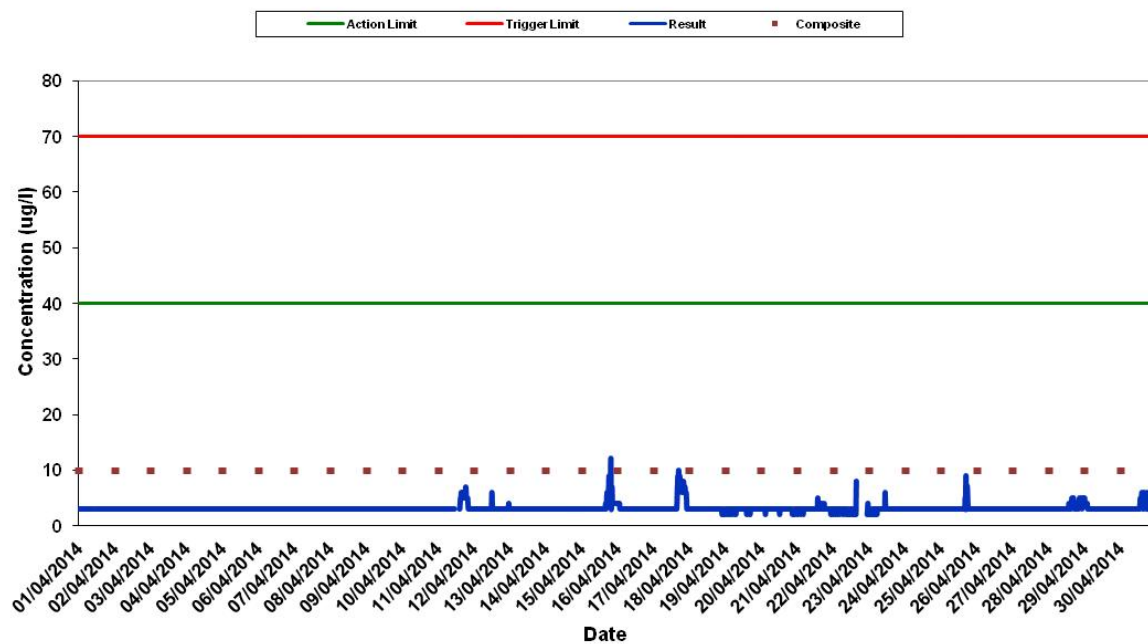




### Turbidity Results at SP1 April 2014



### Orthophosphate Results at SP1 April 2014



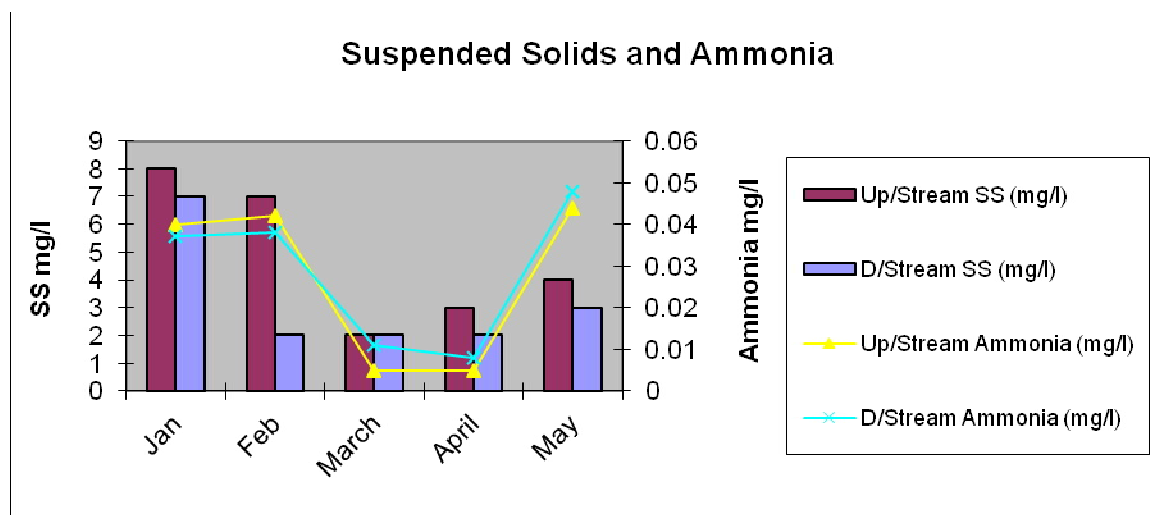
Srahmore Peat Repository  
WL 0199-02  
**Environmental Management System Up-Date No. 67 (12/05/14)**

**Environmental Monitoring:**

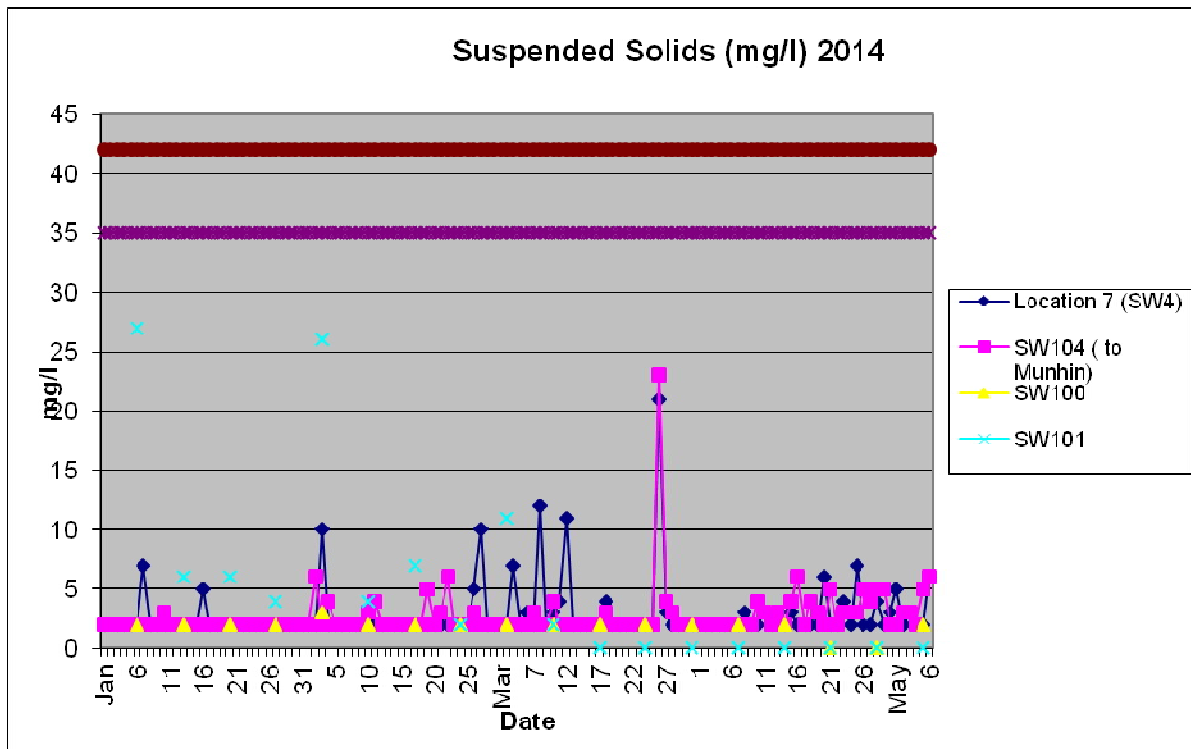
- There were no non-compliances since the last meeting in March 2014
- There were no complaints since the last meeting in March 2014.
- There were no incidents since the last meeting in March 2014.

**Monitoring Results:**

**Munhin River (2014)**



## SW4/104/100&101 to 06/05/2014



The average Suspended Solids for 2014 to date was 2.8 mg/l at SW 4 and 2.68 mg/l at the discharge from the site to the Munhin at SW104, and 1.83 and 5.27 mg/l at SW100 and 101.

## Srahmore Site Update:

### Personnel:

#### On Site

		Tractor & General Oper.	0	Environmental	0
BnM (Engineering)	0	Fitters	0	Archaeological	0
Site Admin & Mgt.	1	Electricians	0		
		Site Supervisors	2		
		Excavator & Shovel	0		
<b>TOTAL EMPLOYED</b>					<b>3</b>

#### Contractors

Security	0	Catering	0		
<b>TOTAL EMPLOYED</b>					<b>0</b>

#### Off Site

Head Offices Staff	3			BnM (Support)	0
Environmental Officer	1				
<b>TOTAL EMPLOYED</b>					<b>4</b>

<b>OVERALL TOTAL EMPLOYED</b>	<b>7</b>
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**Srahmore Site Operations:**

Peat deposition is now completed. The site has been demobilised and is currently being monitored as per the licence requirements for stabilisation.

The Annual Environmental Report for 2013 was submitted to the EPA in March 2014 and is available for viewing at <http://www.epa.ie/terminalfour/waste/index.jsp>.

**As of the 6<sup>th</sup> May 2014 the Srahmore site is compliant with Waste Licence W0199-02.**