

# **Corrib Gas Development**

Report for PMC Meeting Dated 3rd April 2007

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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.
- 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 or on the water quality of Carrowmore Lake.
- The results also show that the discharge of surface water from the Terminal Site has had no impact on the quality of drinking water produced at the Erris Regional Water Supply Scheme at Barnatra. An isolated exceedance of Aluminium in the Erris drinking water supply recorded by the HSE on Jan 23<sup>rd</sup> 2007 was a result of a minor operational difficulty at the Erris Regional Water Treatment Plant. It is not linked to natural background Aluminium levels in Carrowmore Lake. The operational difficulty was dealt with within a matter of hours on the day.

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

- The levels of suspended solids, turbidity and aluminium in surface waters discharging from the site have exceeded agreed trigger levels on a number of occasions in the last month. These exceedances have had no significant impact on water quality in the Bellanaboy River or Carrowmore Lake. The developer has put in place mitigation measures to deal with the exceedances.
- A diesel spill, which occurred on Saturday 24<sup>th</sup> March near the settlement ponds, was reported to Mayo County Council on Monday 26<sup>th</sup> March. An immediate investigation by Mayo County Council was carried out. It appears that this spill was contained onsite and did not enter the watercourses. Following complaints from the public on Monday 26<sup>th</sup> about diesel in the stream off site near the location of the abovementioned spill the matter was further investigated by Mayo County Council. A small trace of diesel/oil was found in the stream outside the site, which flows into the Bellanaboy River. Mayo County Council carried out cleanup works on this stream last week and will continue to monitor the stream for any further diesel/oil residues.

## **Roads and Transportation**

- Mayo County Council have completed repair / rehabilitation works on the R314 and L1204 haul road.
- Transportation of peat is scheduled to resume this month. The developer has submitted an updated Transportation Plan to Mayo County Council.

**CARROWMORE LAKE**

**Results from 01/02/2007 to 08/03/2007 (11 samples taken)  
Analysis by Bord na Mona Laboratory Newbridge, Co. Kildare**

<b>Parameter</b>	<b>Units</b>	<b>Average</b>	<b>Max</b>	<b>Min</b>
<b>Suspended Solids</b>	<b>mg/l</b>	19	47	<5
<b>Turbidity</b>	<b>N.T.U</b>	11	20	3
<b>pH</b>	<b>pH units</b>	7.7	7.9	7.4
<b>Conductivity</b>	<b>uS/cm</b>	148	167	140
<b>Phosphate Total</b>	<b>mg/l P</b>	0.021	0.04	<0.02
<b>Phosphorous</b>	<b>mg/l P</b>	0.068	0.11	<0.05
<b>Ammonia</b>	<b>mg/l NH<sub>3</sub>-N</b>	0.02	0.06	<0.02
<b>Nitrate</b>	<b>mg/l NO<sub>3</sub>-N</b>	<0.2	<0.2	<0.2
<b>Nitrite</b>	<b>mg/l NO<sub>2</sub>-N</b>	<0.02	<0.02	<0.02
<b>Total Aluminium</b>	<b>ug/l Al</b>	332	734	67

**ERRIS REGIONAL WATERWORKS (Final Treated Water)**

**Results from 18/02/2007 –29/03/2007 (39 samples)**

**Analysis carried out at Erris Regional Waterworks**

<b>Parameter</b>	<b>Units</b>	<b>Average</b>	<b>Max</b>	<b>Min</b>	<b>Drinking Water Limits</b>
<b>Colour</b>	<b>mg/l</b>	3.83	17	0	<10 Haz
<b>Turbidity</b>	<b>N.T.U</b>	0.47	0.63	0.33	<2.0 NTU
<b>pH</b>	<b>pH units</b>	7.35	8.51	6.27	6.5 – 8.5
<b>Free Chlo/Res</b>	<b>mg/l</b>	0.67	0.93	0.4	>0.3
<b>Total Chlo/Res</b>	<b>mg/l</b>	0.77	1	0.59	>0.3
<b>Flourine</b>	<b>ppm</b>	0.76	1.02	0.46	0.6-0.8
<b>Total Aluminium</b>	<b>ug/l</b>	29	130	8	200

*BELLANABOY RIVER*

**(Upstream and Downstream of discharge from Terminal site)**

**Results from 01/02/2007 to 08/03/2007 (11 samples taken)**

**Analysis by Bord na Mona Laboratory Newbridge, Co. Kildare**

Parameter	Units	BEL 1 (upstream)			BEL 2 (downstream)		
		Average	Max	Min	Average	Max	Min
<b>Temp.</b>	°C	5.7	9.7	2.1	5.6	9.6	2.2
<b>Dissolved Oxygen</b>	% Sat.	94.6	99.1	90.0	93.8	98.8	89.0
<b>Suspended Solids</b>	mg/l	14.7	88	<5	14.7	82	5
Turbidity	N.T.U	5.5	29	1	10.2	42	3
pH	pH units	7.5	7.8	7.3	7.5	7.6	7.3
Conductivity	uS/cm	168	205	97	178	219	105
Total Dissolved Solids	mg/l	112	182	50	137	174	106
Phosphate	mg/l P	0.03	0.06	<0.02	0.03	0.07	<0.02
Total Phosphorus	mg/l P	0.09	0.29	<0.05	0.11	0.41	<0.05
Ammonia	mg/l NH <sub>3</sub> -N	0.048	0.16	<0.02	0.05	0.17	<0.02
Nitrate	mg/l NO <sub>3</sub> -N	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrite	mg/l NO <sub>2</sub> -N	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Total Aluminium	ug/l Al	150	812	45	205	438	<2

*SPI (Discharge point from terminal site)*

**Results from 30/01/2007 to 08/03/2007 (7 samples)  
Analysis by Bord na Mona Laboratory Newbridge, Co. Kildare**

Parameter	Units	SP 1		
		Average	Max	Min
<b>Suspended Solids</b>	mg/l	58	107	12
Turbidity	N.T.U	62	103	24
pH	pH units	7.7	8.2	7.4
Conductivity	uS/cm	266	290	249
Total Dissolved Solids	mg/l	201	232	184
Phosphate	mg/l P	0.026	0.05	<0.02
Total Phosphorus	mg/l P	0.170	0.280	<0.05
Ammonia	mg/l NH <sub>3</sub> -N	0.03	0.07	<0.02
Nitrate	mg/l NO <sub>3</sub> -N	0.22	0.26	<0.2
Nitrite	mg/l NO <sub>2</sub> -N	<0.02	<0.02	<0.02
Total Aluminium	ug/l Al	1910	2658	878

*Axonics Water Treatment Units (Post-treatment Results)*  
**Results from 01/02/2007 to 08/03/2007 (6 samples)**

Analysis by Bord na Mona Laboratory Newbridge, Co. Kildare

Parameter	Units	Post-Treatment (6 Samples)		
		Average	Max	Min
<b>Suspended Solids</b>	mg/l	26	50	10
Turbidity	N.T.U	26	62	8
pH	pH units	6.9	7.8	4.5
Conductivity	uS/cm	318	372	279
Total Dissolved Solids	mg/l	173	219	50
Phosphate Total	mg/l P	<0.02	<0.02	<0.02
Phosphorus Total	mg/l P	0.067	0.11	<0.05
Ammonia	mg/l NH <sub>3</sub> -N	0.101	0.13	0.05
Nitrate	mg/l NO <sub>3</sub> -N	0.31	0.44	<0.2
Nitrite	mg/l NO <sub>2</sub> -N	<0.02	<0.02	<0.02
*Total Aluminium	ug/l Al	2331	4716	651

Srahmore Peat Repository  
 WL 0199-01

**Environmental Management System Up-Date No. 22 (03/04/07)**

Environmental Monitoring:

- The Srahmore site was fully compliant regarding emissions since the last meeting (21/02/2007)
- There were no complaints received at the site since the last meeting.
- There were no incidents recorded at the site since the last meeting.

Results:

Srahmore Waste Licence W199-1		Munhin River			
Month:	Date	Up/Stream		D/Stream	
		SS (mg/l)	Ammonia (mg/l)	SS (mg/l)	Ammonia (mg/l)
Jan	07/01/2007	<4	0.077	<4	0.057
Feb	05/02/2007	<4	<0.005	<4	<0.005
March	05/03/2007	29	0.017	35	0.066

Emission Points:

SW4            9 – 39 mg/l Suspended Solids (04/03/07) – Limit 42mg/l (1.2 x ELV)  
 SW100        5 mg/l SS (Quarterly)  
 SW101        <4 mg/l SS (Quarterly)

The Srahmore Environmental Monitoring Network has been brought back up to deposition levels.

- Dust levels are monitored at 5 locations around the site and close to Bangor-Erris.
- Surface water discharges are monitored at 3 emission points to the Munhin and Owenmore Rivers.
- Noise monitoring will take place during weeks 2, 6 and 12 of the peat deposition period.
- Groundwater will be monitored Bi-annually during the year.

Daily, weekly inspections of access road, silt ponds, grit traps and oil-interceptors.

**Srahmore Site Update:**

- 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.

The Annual Environmental Report was submitted to the EPA, on the 30/03/07.

**As of the 03/04/07, all emissions from the Srahmore Site are in Compliance with the conditions of the Waste Licence.**

# Bellanaboy Bridge Site

## Report to The Project Monitoring Committee

3<sup>rd</sup> April 2007

### Works Undertaken

The following works have been completed;

The following works have been completed;

- Export Gas Pipeline Road
- Laying of tarmacaddam on gate 2 East – West Road
- Integration of old Axonics plant within the new plant
- Service culvert near main gate
- Pallisade fencing

The following construction operations are ongoing;

- Operation of new Axonics plant.
- Geotechnical monitoring.
- Excavation of unsuitable material
- Stockpile area management
- Concrete works
- Construction contractors temporary facilities
- ESB substation and main entrance
- Tarmac works
- Installation of testing laboratory

### Outlook From April 2007 Onwards

- Continuation of monitoring and construction operations.
- Continuation of on going works.

### ENVIRONMENTAL REPORT

**Dust** – The results for the monitoring period February 2007 at the monitoring locations (D1, D2, D3 and D4) were 153, 224, 12 and 153 mg per m<sup>2</sup> per day.

The results for the monitoring period March 2007 at the monitoring locations (D1, D2, D3 and D4) were 133, 65, 216 and 331 mg per m<sup>2</sup> per day averaged over a 30 day period.

All values were below the 350 mg per m<sup>2</sup> per day limit.

**Fuel** – Approximately 240 m<sup>3</sup> of fuel was delivered to site in February and March.

**Noise** – All noise levels recorded were below the L<sub>Aeq</sub>65 dB(A) threshold .

**Vibration monitoring** – All vibration monitoring results were within guidance values.

**Traffic** – There were approximately 1,720 HGV movements during February and March.

**Waste** – Five skips of refuse (canteen waste, etc. ), 3 skips of metal and 13 skips of timber waste were removed off site during February and March. There were 9 shipments of hazardous waste ( oily materials ). The effluent holding tanks were emptied of approximately 249.3 m<sup>3</sup> during February and March. Approximately 6.3 m<sup>3</sup> were removed from the on site portaloos in the same period.

**Water Quality** – All monitoring and sampling locations were accessible for download, recalibration and reinstallation during the months of February and March.

A summary of the main surfacewater parameters measured for grab sampling during February and March 2007(available range of lowest to highest) at SP1 is presented below;

pH ( pH Units )

6.2 to 7.6

Suspended Solids ( mg/l)

11 to 33

Orthophosphate ( ug/l P )

<10 to 51

Conductivity ( uS/cm)

237 to 369

Turbidity ( NTU)

18.0 to 194.0

Nitrate ( mg/l NO<sub>3</sub> )

0.29 to 0.30

Groundwater samples were taken and borehole monitoring equipment was downloaded for the months of February and March. A summary of the main groundwater parameters measured (available range of lowest to highest) follows:

pH

4.8 – 7.7

Conductivity (uS/cm)

185 - 455

Nitrate (mg/l NO<sub>3</sub>)

0.35 to 0.46

Phosphate (mg/l P)

0.010 – 0.052

Total Dissolved Solids ( mg/l )

110 - 463

**Complaints** – There were no construction activity related complaints logged with either SEPIL or RBL during the months of February and March.

**Incidents** – There were one incident during the reporting period. A spillage occurred as a result of a rupture on a fuel hose line feeding a generator at Gate No.3. The spillage and ground around the area was cleaned up and the generator was permanently removed.

**Exceedances** – There was one additional exceedance at SP1 relating to Total Suspended Solids on the 15<sup>th</sup> February. The exceedance has since been closed out.

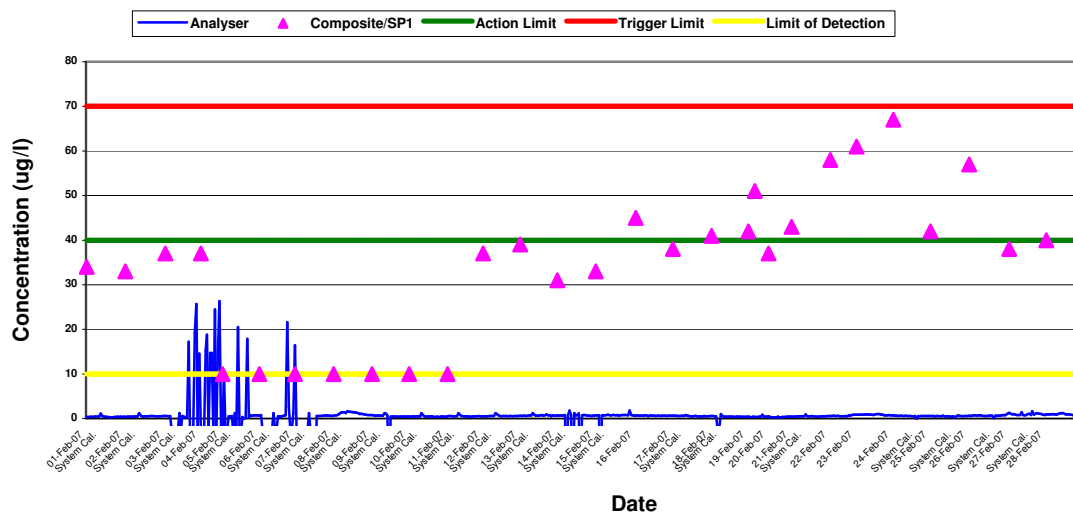
**Necessary Environmental Works**

- Expansion of Axonics unit.
- Continuous drainage maintenance.
- Continuous operation of on-site surface water treatment plant.
- Remove of all waste and effluent from site on an as needs basis.
- Inspect, repair (when required) and recalibrate all in situ monitoring equipment.
- Monitor/sample and download water (surface and ground) quality monitoring devices.

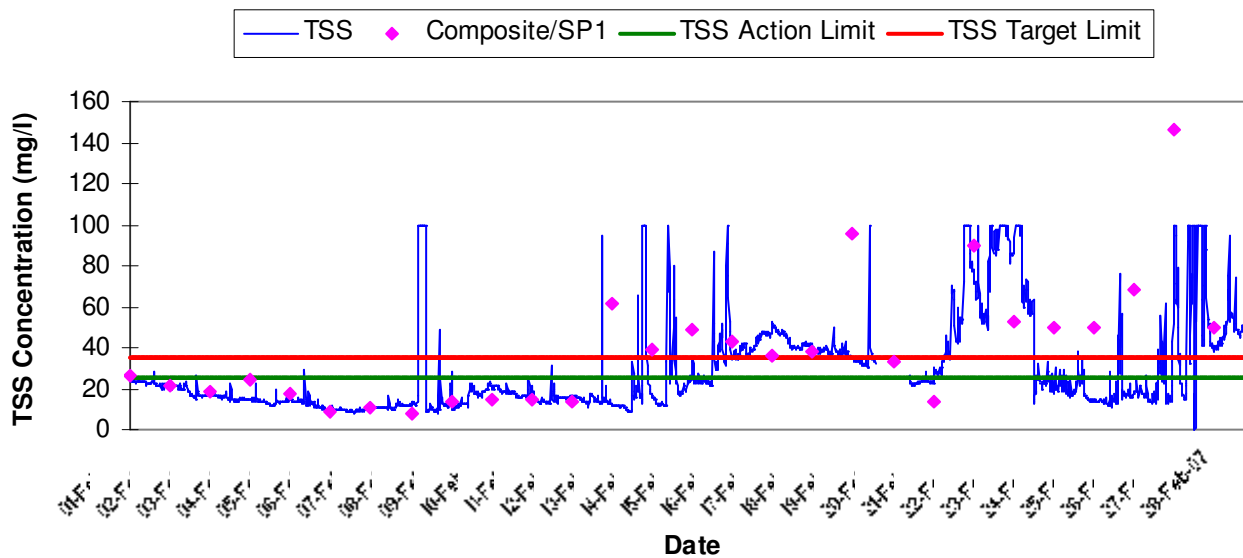
**Environmental Improvements**

- The two settlement ponds on site were cleaned out.
- In drain mitigation around the site was upgraded through the provision of new weirs, shingle, bank stabilisation and sand bagging measures.
- The drain at SP1 was lined in order to provide better drain conditions for the monitoring equipment.

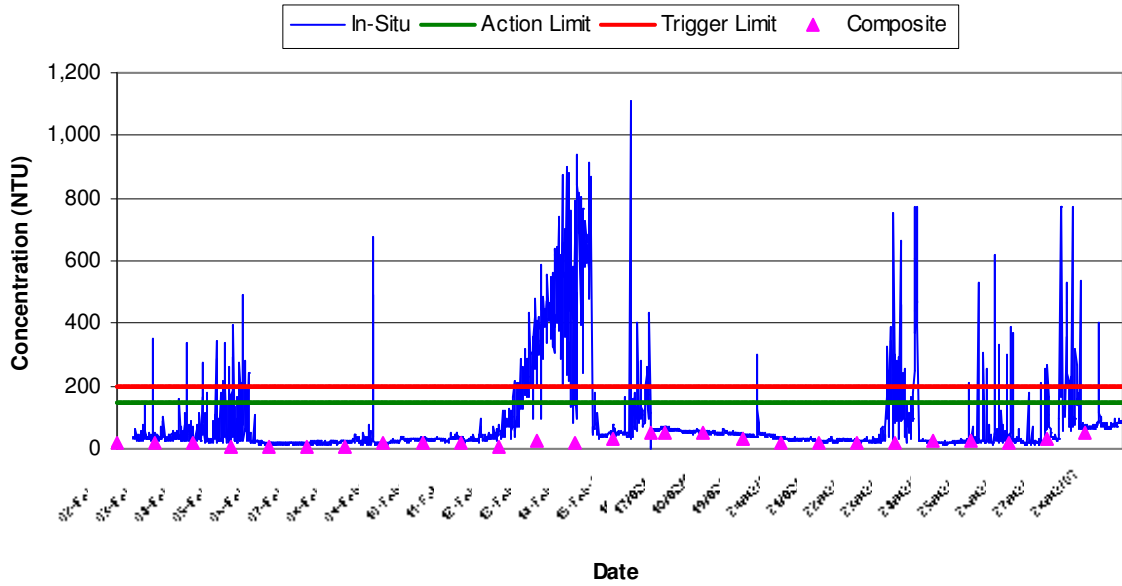
### Orthophosphate Results at SP1 February 2007



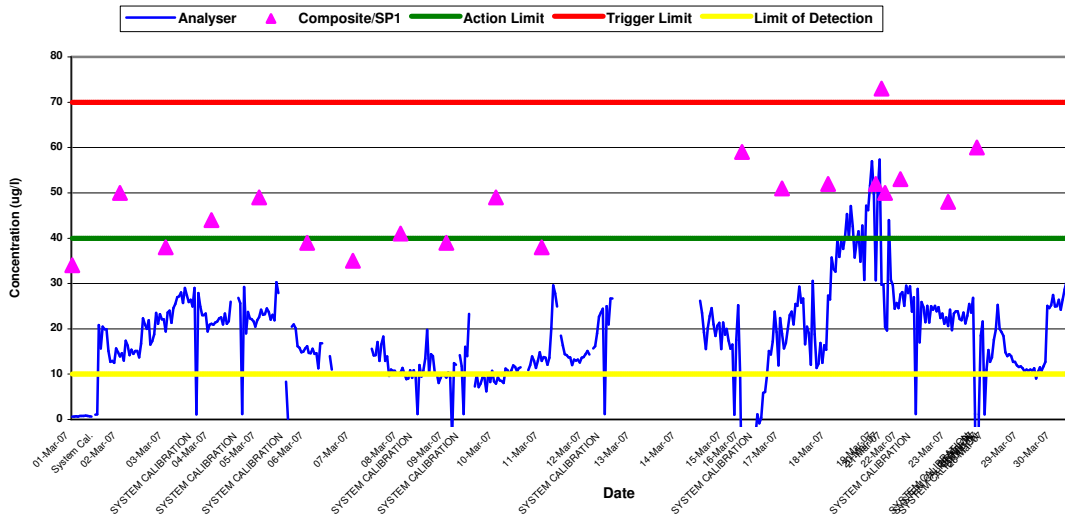
### Total Suspended Solids Results at SP1 February 2007



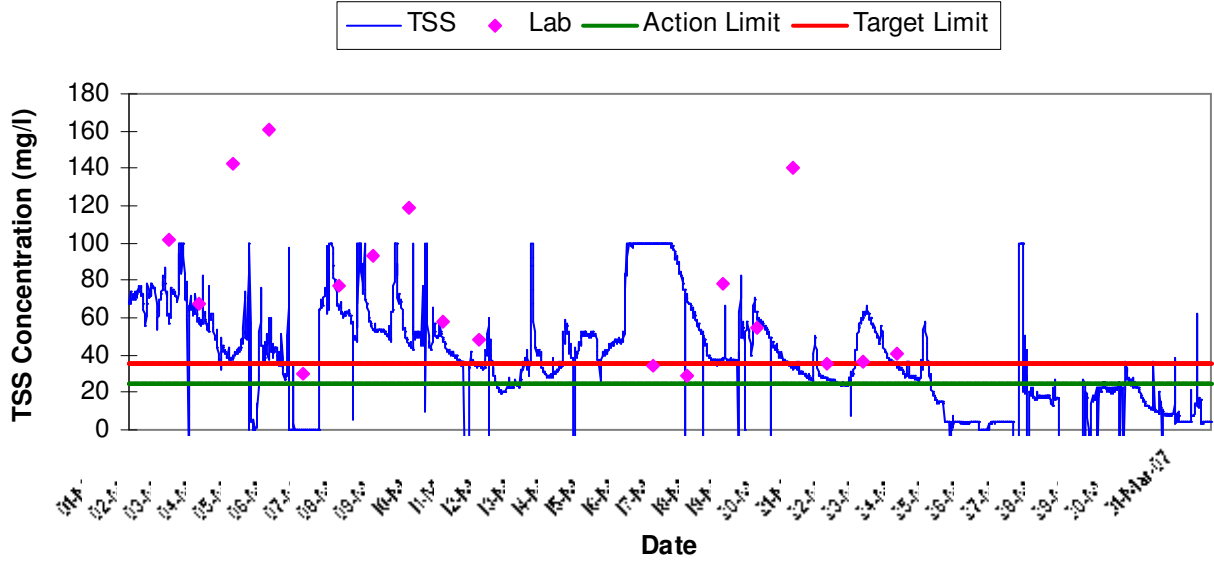
### Turbidity Results at SP1 February 2007



### Orthophosphate Results at SP1 March 2007



### Total Suspended Solids Results at SP1 March 2007



### Turbidity Results at SP1 March 2007

