



Atlantic Shellfish Ltd.

Rossmore, Carrigtwohill, Co. Cork, Ireland

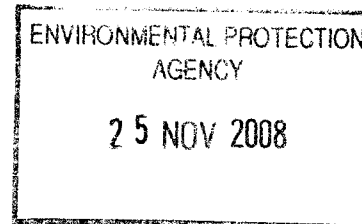
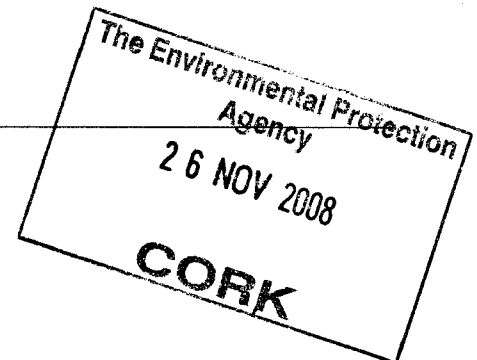
Tel: + 353 21 4883248

Fax: + 353 21 4883702

Email: farm@oysters.co.uk

Environmental Licensing Programme,
Office of Climate, Licensing and Resource Use,
Environmental Protection Agency,
P.O.Box 3000,
Johnstown Castle Estate,
Co. Wexford,
Ireland.

21st November 2008



Dear Sirs,

Application by Cork County Council for a Waste Water Discharge Licence for Midleton WWTP, Co. Cork : D0056-01.

Further to my letter of 4th November, and thank you for your acknowledgement, I thought it might be helpful to add a few pages from September's Operational Report for Midleton WWTP, restricting myself to comments on the hydraulic and organic loading.

In the order in which they were reported, you will see that an average hydraulic load of 7,589 m³/day was received at the plant in the month of September. The design DWF, which we were given by the plant designers, M.C.O'Sullivan's, and which was later accepted for the Tender Contract Documents in 2006, was 2,256 m³/day. Thus this flow for September, above, was 3.36 times the design DWF. Are you happy that the plant can work when the retention time is, therefore, 3.36 times less than design every day of the month, and when the upward flow of clearly poorly settling sludge (at the highest level 6 on the scale of filamentous bacteria for the last 6 months) is, again, for every day of the month, 3.36 times as fast as was calculated necessary in the sizing of the settling tanks?

I enclose the daily rainfall for Cloyne (the closest weather station to Midleton now and showing a very good correlation with the old Ballinacurra records in the past) and you will see that there was only 0.5mm rainfall between the 15th and 29th of the month. On the eleven days between the 19th and 29th there was no rainfall at all. This did not prevent there being storm overflows on every day except one from Bailick 1 storm tank (details enclosed). A prolonged dry spell like this normally gives one a chance to assess the actual dry weather flow in the sewerage system, according to standard accepted methodology and used by the Environment Agency in the UK. Allowing the first 7 days without rain, we can assess the flow of sewage from the data given on page 13 of the Monthly Report for the 4 day period from 26th -29th as 28,817 m³, to which we must add the storm overflows for the same period totalling 3,425 m³.

ENVIRONMENTAL PROTECTION
AGENCY

This gives a total flow of 32,242 m³, or 8,061 m³/day. This is 3.7 times the DWF that was used to size this plant. This would seem to show that the real hydraulic load in Midleton, especially after €2m was spent on infiltration remediation, has grown by over 3 times, which supports the figure I gave you in my last letter, obtained by extrapolating the first 4 years' growth in organic-load, before it fell off.

The Plant Operator records the average BOD load received by the plant in September as only 484 kg/day (pp. 9, 14 & 15) – which is less than the original 1993 design load of 600kg/day. Calculating the BOD load from the site laboratory COD determinations in the ratios found the previous week by the external laboratory, the system on which the Plant Operator charges for his work in the new contract, you will see that the plant is receiving **less than half of the 16-year old design load** on the 8th, 10th, 29th and 30th September. In the letter that I enclosed 2 weeks ago, we were told by the consulting engineers, M.C. O'Sullivan, that the PE for Midleton was already over design by 1999 (11,141 PE). If the town has grown 2-3 times since then and thus also the organic load – where did it all go each day, if as little as 484kg/day, on average, was getting to the plant throughout this month?

On the 24th and 25th September, in contrast, COD loads of 6,821 kg and 8,053 kg were recorded as coming in to the plant by the 24-hour recorders (p.9 Influent Results). We were not given COD : BOD ratios for the external laboratory analyses for the previous 2 weeks (why?), but we are told that the ratio was 4 : 1 on the 26th. We note that these ratios have been creeping up progressively this last year. I am advised that the ratio for domestic sewage is more like 1.65 : 1, which is why it is normally taken as 2 : 1, as done by the Plant Operator for the early years of these Midleton monthly records. It is surely unlikely that a high chemical content would be allowed into the plant, when all other inputs such as leachate have been carefully excluded for so long? However, even taking the ratio COD : BOD at this high 4 : 1 level, the two loads, above, translate into 3,718kg BOD (62,000 PE) in a single 48-hour period.

Surely no plant can suddenly take 10 times (or even 5 times over 2 days) the daily design load of BOD without completely running out of oxygen and turning anoxic, with the death of the activated sludge bacteria? This, of course, is not allowed to happen in Midleton, and you will see on p.17, Aeration Tank Checklist, that dissolved oxygen levels are actually 3 times HIGHER than design at the end of the aeration stream in tank 4 (design is 0.8 mg/l) on the 25th (the second day of these big loads) and in tank 7 on the 27th they even rise to 6 mg/l. There can surely be very little BOD of this enormous load being broken down in this tank? The avoidance of plant closure on this occasion can only be explained by most of this load by-passing the WWTP.

Support for this conclusion is also provided by looking at the SS loads recorded on these 2 days, which are given in the Influent Results (p.9) as 11,395 kg and 5,408 kg or 16.8 tons of suspended solids. This is greater than the total biomass already present in the aeration streams. The average MLSS of the 8 tanks on the 22nd (p.17) is 4,153 mg/l, thus the biomass in the 3,249 m³ of the 8 tanks is 13,493 kg. On the 26th, the average MLSS has risen to 5,142 mg/l, or a rise in the total biomass to 16,706 kg, but this is only an increase of 3,213 kg – less than a fifth of the loads received. Where has the rest gone? At least 60-70% of the SS load is normally thought of as being mineral – clays and silts – these cannot have been oxidised away and must appear in the sludge disposed figure? Even the remaining 30-40% of organic fibres etc. are unlikely to have been touched in this short stay in the tanks? But an amount, at least equivalent to the existing biomass of the tanks, has gone missing.

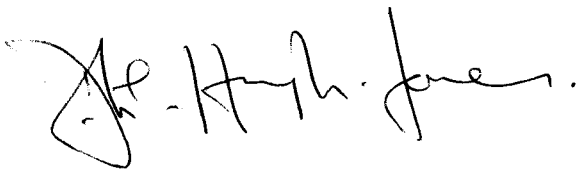
Average suspended solids coming into the plant for the month are given in the Influent Results and the Plant Process Parameters and Statistics on pp. 9, 14 & 15 as 2,284 kg/day, or 68.5 tons in the month. If we continue to take just 60% as mineral, there should be at least 41 tons of mineral matter alone coming out in the sludge from the plant – without even factoring in the growth in the activated sludge produced during the BOD oxidation process – and yet only 22.2 tons of dry solids came out of the plant in skips this month (p.14). Where did all the rest go? If you agree with me that this rudiment of a routine sludge balance shows such a shortfall in sludge produced and the only other discharge from the WWTP is by pipeline to Rathcoursey, then I again trust you will refuse to licence this primary (largely untreated) discharge to our shellfish water, with its associated danger to human health.

If you, too, cannot find a way of explaining these discrepancies and agree that the conclusion that material has by-passed the treatment process is inescapable, you may also feel that an offence under the Regulations may have been committed, in which case it must clearly have been by the actions of the Plant Operator (trying to save his plant), but we would look to you to prosecute the water services authority and any other persons you may hold responsible, under the powers that are available to you, for taking such action, together with allowing the huge daily loss of untreated sewage to the estuary via the daily storm overflows, because of the impact of these actions, in this particular case, on human health. Many people are still receiving oysters for consumption from these waters and it is important that we know the truth about the working of this treatment plant and its discharges to the environment and that these are not allowed to continue.

To restate the position, the losses from the treatment plant itself are on top of the 300,000 m³ p.a. losses of crude (sic) sewage to the river from the Bailick 1 & 2 storm tanks and the 1 million m³ p.a. discharged at Rathcoursey, whose origin is not stated, but which has not been through the WWTP. Discharges, such as those discussed above, to Rathcoursey by pipeline, will be the most damaging to the oyster fisheries, as they are delivered without any of the buffering effect of 5 km of Owenacurra estuary and arrive less than an hour on the tide from the nearest oysters.

This month's Plant Operator's Report (the most recent we have) would appear to exemplify and highlight the major problems we have with this treatment plant and its discharges, about which we have written to you at length in the past, and we hope it has been of value to bring these things to your notice once more, whilst these waste water discharges are still subject to your scrutiny and, in the hope that, as our regulatory body for protecting the environment, you will take some urgent action towards rectifying matters.

Yours faithfully,



D. Ll. Hugh-Jones

Copies : The Legal Unit, DG Environment, Brussels

The Minister for the Environment, DOEHLG, Dublin (together with my letter of Nov. 4th)

ENVIRONMENTAL PROTECTION
AGENCY

25 NOV 2008

Midleton
Waste Water Treatment Plant
Operational Report

E.P.S.

Period: September 2008

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Midleton WWTP
Operational Report – EPS

Introduction / Summary

September 2008

This report covers the period of September 2008 for the operation of Midleton Waste Water Treatment Plant by E.P.S. on behalf of Cork County Council.

Flow to Plant

The average flow to Midleton WWTP for September 2008 was approximately 7589 m³/d (\cong 3.0 DWF). These flows were recorded with weather records showing dry weather 66% of the time.

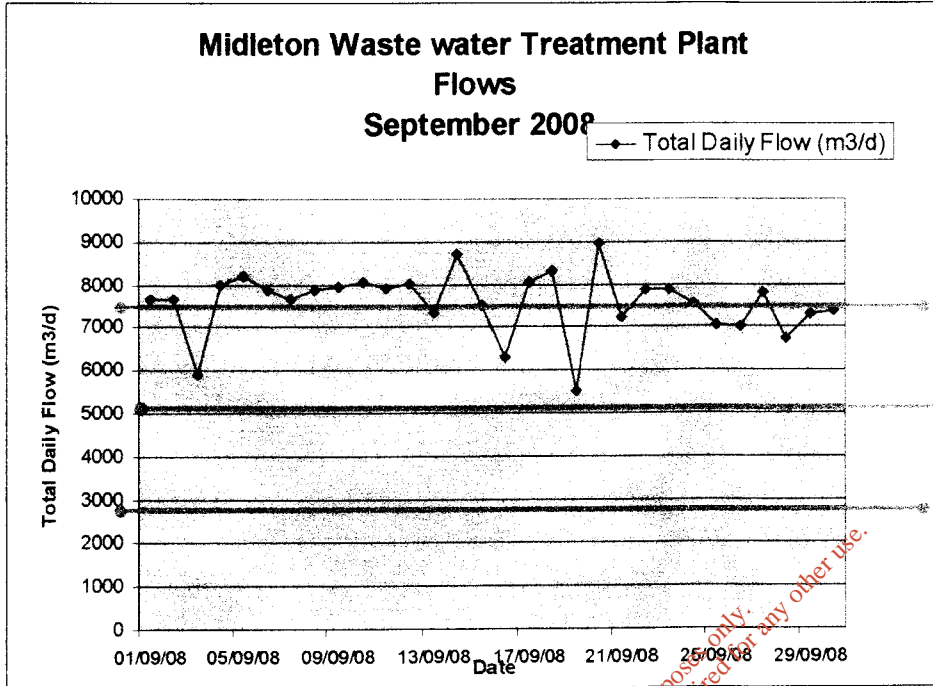
There were no additional discharges to Midleton WWTP during the month of September.

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$$\textcircled{a} \quad 1 \text{ DWF} = 2256 \text{ m}^3/\text{d} \quad (\text{MCOS} \approx \text{Tenducos})$$
$$\text{Hence} = 3.36 \text{ DWF} \text{ constantly for the month}$$

Flow Records

WWTP Flows –September 2008



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WWTP Flows - September 2008 -

| Date | Baillick 1 Total Flow | B 1 Daily Flow (m3/d) | Baillick 2 Total Flow | B 2 Daily Flow (m3/d) | Dwyer s road daily flow (m3/d) | Total Daily Flow (m3/d) |
|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------------------------|-------------------------|
| 01-Sep-08 | 3720529 | 6357 | 259907 | 919 | 392 | 7668 |
| 02-Sep-08 | 3726886 | 6394 | 260826 | 892 | 375 | 7661 |
| 03-Sep-08 | 3733280 | 4415 | 261718 | 910 | 583 | 5908 |
| 04-Sep-08 | 3737695 | 6482 | 262628 | 908 | 585 | 7975 |
| 05-Sep-08 | 3744177 | 6657 | 263536 | 925 | 615 | 8197 |
| 06-Sep-08 | 3750834 | 6375 | 264461 | 885 | 602 | 7862 |
| 07-Sep-08 | 3757209 | 6408 | 265346 | 859 | 412 | 7679 |
| 08-Sep-08 | 3763617 | 6511 | 266205 | 875 | 487 | 7873 |
| 09-Sep-08 | 3770128 | 6445 | 267080 | 877 | 626 | 7948 |
| 10-Sep-08 | 3776573 | 6559 | 267957 | 886 | 609 | 8054 |
| 11-Sep-08 | 3783132 | 6450 | 268843 | 879 | 576 | 7905 |
| 12-Sep-08 | 3789582 | 6706 | 269722 | 900 | 408 | 8014 |
| 13-Sep-08 | 3796288 | 6087 | 270622 | 826 | 419 | 7332 |
| 14-Sep-08 | 3802375 | 7095 | 271448 | 1023 | 602 | 8720 |
| 15-Sep-08 | 3809470 | 6199 | 272471 | 782 | 546 | 7527 |
| 16-Sep-08 | 3815669 | 4839 | 273253 | 988 | 452 | 6279 |
| 17-Sep-08 | 3820508 | 6582 | 274241 | 1023 | 438 | 8043 |
| 18-Sep-08 | 3827090 | 6604 | 275264 | 1272 | 416 | 8292 |
| 19-Sep-08 | 3833694 | 4300 | 276536 | 813 | 398 | 5511 |
| 20-Sep-08 | 3837994 | 7380 | 277349 | 1172 | 419 | 8971 |
| 21-Sep-08 | 3845374 | 6058 | 278521 | 793 | 369 | 7220 |
| 22-Sep-08 | 3851432 | 6662 | 279314 | 873 | 352 | 7887 |
| 23-Sep-08 | 3858094 | 6659 | 280187 | 863 | 346 | 7868 |
| 24-Sep-08 | 3864753 | 6301 | 281050 | 895 | 341 | 7537 |
| 25-Sep-08 | 3871054 | 5963 | 281945 | 749 | 328 | 7040 |
| 26-Sep-08 | 3877017 | 5853 | 282694 | 804 | 340 | 6997 |
| 27-Sep-08 | 3882870 | 6521 | 283498 | 938 | 347 | 7806 |
| 28-Sep-08 | 3889391 | 5553 | 284436 | 820 | 346 | 6719 |
| 29-Sep-08 | 3894944 | 6014 | 285256 | 964 | 317 | 7295 |
| 30-Sep-08 | 3900958 | 6052 | 286220 | 980 | 338 | 7370 |
| 01-Oct-08 | 3907010 | | 287200 | | | |
| Total Monthly Flow | | | | | | 219490 |
| Average | | 6216.0 | | 909.8 | 446.1 | 7571.9 |

Legend:

Weekends
Holidays

Midleton WWTP
Operational Report – EPS

Plant Process Parameters

September 2008

Process Calculations - Sept 2008 -

Period Covered: 1st - 30th Sept 2008

| | Value | Unit |
|--------------------------------------|---------|------------------|
| Plant Volume | 3249 | m ³ |
| MLSS | 4557 | mg/L |
| Total Biomass | 14805.7 | kg |
| Daily Sludge Wastage | 740.5 | kg/d |
| Sludge Age | 20 | days |
| Daily BOD Load | 484 | kg/d |
| Daily Sludge Wastage | 740.5 | kg/d |
| Sludge Yield | 1.5 | kg sludge/kg BOD |
| Daily BOD Load | 484.0 | kg/d |
| Total Biomass | 14805.7 | kg/d |
| F/M Ratio | 0.03 | |
| Average Sludge Cake | 15.59 | %dFy solids |
| Total Poly used | 250 | L |
| Active Poly used per tonne of sludge | 5.6 | L/ton |
| Skips Sludge Cake Removed | 25 | skips |
| Total Volume Sludge Removed | 142.5 | tonnes |
| Total TDS Sludge Removed | 22.2 | tds |

Midleton WWTP
Operational Report – EPS

Process Statistics

September 2008

| | Parameters | Units | WWTP Design | Minimum | Maximum | Average |
|----------|------------|-------|-------------|---------|---------|---------|
| Influent | Flow | L/s | 90 | 63 | 103 | 88 |
| | BOD | mg/L | | 59 | 81 | 67.3 |
| | COD | mg/L | | 107 | 1144 | 340 |
| | SS | mg/L | | 60 | 1512 | 304 |
| | TN | mg/L | | 8 | 24.9 | 13.6 |
| | TP | mg/L | | 1.35 | 4.3 | 2.7 |
| Effluent | BOD | mg/L | 25* | 2 | 4 | 3 |
| | COD | mg/L | 125* | 3.0 | 35.1 | 17 |
| | SS | mg/L | 35* | 2 | 22 | 9.9 |
| | TN | mg/L | 15* | 1.1 | 8.0 | 3.18 |
| | TP | mg/L | 2* | 0.34 | 0.42 | 0.38 |
| Loading | BOD Load | Kg/d | 600 | 325 | 567 | 484 |
| | COD Load | Kg/d | | 810 | 8053 | 2536 |
| | SS Load | Kg/d | | 472 | 11395 | 2284 |
| | TN Load | Kg/d | | 64 | 175 | 101 |
| | TP Load | Kg/d | | 1.35 | 19 | 15 |

Legend: (*) – S.I.No.419 of 1994 – “Urban Waste Water Treatment Regulations, 1994”, EPA Act 1992

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x 30 days
= 63.5 tons
SS/d

(c. 41 tons mineral)

That appear in sludge disposed?

Aeration Tank Checklist - September 2008 -

| Date | Time | Tank 1 | | | Tank 2 | | | Tank 3 | | | Tank 4 | | | Tank 5 | | | Tank 6 | | | Tank 7 | | | Tank 8 | |
|--------|------|---------|-----|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----|-----------|---------|-----------|---------|--------|-----------|---------|-----------|---------|-----------|---------|-----------|
| | | DO mg/L | SVI | MLSS mg/L | DO mg/L | MLSS mg/L | DO mg/L | MLSS mg/L | DO mg/L | MLSS mg/L | DO mg/L | SVI | MLSS mg/L | DO mg/L | MLSS mg/L | DO mg/L | SVI | MLSS mg/L | DO mg/L | MLSS mg/L | DO mg/L | MLSS mg/L | DO mg/L | MLSS mg/L |
| 01-Sep | | 0.00 | 144 | 5038 | 0.2 | 4504 | 0.18 | 4786 | 2.19 | 4814 | 0.00 | 195 | 4102 | 0.57 | 4246 | 3.17 | 4318 | 3.17 | 4318 | 0.19 | 4176 | | | |
| 02-Sep | | 0.00 | | | 0.15 | | 0.1 | | 3.11 | | 0.00 | | | 0.54 | | 2.75 | | 2.75 | 2.75 | 2.24 | | | | |
| 03-Sep | | 0.00 | | | 0.44 | | 1.56 | | 0.89 | | 0.00 | | | 1.01 | | 5.10 | | 5.10 | 1.54 | | | | | |
| 04-Sep | | 0.00 | | | 1.45 | | 2.97 | | 5.78 | | 0.00 | | | 1.58 | | 4.58 | | 4.58 | 3.95 | | | | | |
| 05-Sep | | 0.00 | 142 | 4934 | 0.93 | 4554 | 2.04 | 4688 | 2.12 | 4532 | 0.00 | 134 | 5990 | 2.20 | 4243 | 5.36 | 4052 | 5.36 | 4052 | 1.06 | 4008 | | | |
| 06-Sep | | 0.00 | | | 2.4 | | 3.32 | | 1.49 | | 0.00 | | | 3.10 | | 6.35 | | 6.35 | 1.72 | | | | | |
| 07-Sep | | 0.00 | | | 0.46 | | 3.09 | | 2.34 | | 0.00 | | | 2.37 | | 6.2 | | 6.2 | 1.28 | | | | | |
| 08-Sep | | 0.00 | 159 | 4702 | 0.66 | 4422 | 2.30 | 4458 | 0.25 | 4620 | 0.00 | 199 | 4248 | 0.79 | 4266 | 4.3 | 4246 | 4.3 | 4246 | 2.07 | 4270 | | | |
| 09-Sep | | 0.00 | | | 0.56 | | 2.89 | | 1.53 | | 0.00 | | | 2.1 | | 5.81 | | 5.81 | 1.41 | | | | | |
| 10-Sep | | 0.00 | | | 0.42 | | 0.96 | | 2.17 | | 0.00 | | | 0.32 | | 2.49 | | 2.49 | 2.03 | | | | | |
| 11-Sep | | 0.00 | | | 2.17 | | 0.86 | | 2.20 | | 0.00 | | | 1.95 | | 5.04 | | 5.04 | 0.80 | | | | | |
| 12-Sep | | 0.00 | | | 2.86 | | 3.12 | | 1.44 | | 0.00 | | | 3.25 | | 6.39 | | 6.39 | 1.4 | | | | | |
| 13-Sep | | 0.00 | | | 2.72 | | 3.41 | | 1.66 | | 0.00 | | | 3.97 | | 7.16 | | 7.16 | 1.35 | | | | | |
| 14-Sep | | 0.00 | | | 0.83 | | 2.53 | | 2.34 | | 0.00 | | | 2.26 | | 5.8 | | 5.8 | 1.83 | | | | | |
| 15-Sep | | 0.00 | | | 0.58 | | 1.78 | | 0.87 | | 0.00 | | | 2.20 | | 6.18 | | 6.18 | 1.55 | | | | | |
| 16-Sep | | 0.00 | | | 0.62 | | 1.23 | | 0.56 | | 0.00 | | | 2.33 | | 5.25 | | 5.25 | 1.23 | | | | | |
| 17-Sep | | 0.00 | | | 0.59 | | 1.36 | | 0.78 | | 0.00 | | | 2.63 | | 5.36 | | 5.36 | 1.42 | | | | | |
| 18-Sep | | 0.00 | | | 2.59 | | 4.02 | | 3.10 | | 0.00 | | | 3.35 | | 7.11 | | 7.11 | 1.60 | | | | | |
| 19-Sep | | 0.00 | | | 1.25 | | 0.26 | | 0.93 | | 0.00 | | | 0.33 | | 0.57 | | 0.57 | 0.26 | | | | | |
| 20-Sep | | 0.00 | | | 1.44 | | 3.53 | | 0.80 | | 0.00 | | | 3.12 | | 6.38 | | 6.38 | 1.34 | | | | | |
| 21-Sep | | 0.00 | | | 3.29 | | 1.59 | | 1.60 | | 0.00 | | | 0.54 | | 3.65 | | 3.65 | 1.3 | | | | | |
| 22-Sep | | 0.00 | 177 | 4392 | 0.54 | 4210 | 1.59 | 4216 | 1.24 | 4224 | 0.00 | 189 | 4274 | 0.31 | 3936 | 1.66 | 3964 | 1.66 | 3964 | 1.3 | 4008 | | | |
| 23-Sep | | 0.00 | | | 2.03 | | 1.77 | | 0.13 | | 0.00 | | | 0.88 | | 5.09 | | 5.09 | 0.91 | | | | | |
| 24-Sep | | 0.00 | | | 1.73 | | 0.78 | | 0.30 | | 0.00 | | | 0.24 | | 1.18 | | 1.18 | 0.19 | | | | | |
| 25-Sep | | 0.00 | | | 2.05 | | 0.81 | | 2.48 | | 0.00 | | | 0.33 | | 0.41 | | 0.41 | 0.8 | | | | | |
| 26-Sep | | 0.00 | | | 1.8 | | 0.81 | | 5118 | | 0.00 | | 5348 | 0.33 | 5138 | 0.42 | 5278 | 0.42 | 5278 | 0.85 | 5114 | | | |
| 27-Sep | | 0.00 | | | 3.55 | | 4.02 | | 2.14 | | 0.00 | | | 2.34 | | 6.08 | | 6.08 | 1.6 | | | | | |
| 28-Sep | | 0.00 | | | 1.58 | | 1.37 | | 3.35 | | 0.00 | | | 2.4 | | 5.93 | | 5.93 | 0.83 | | | | | |
| 29-Sep | | 0.00 | 208 | 3496 | 1.02 | 4490 | 0.53 | 4538 | 1.41 | 4704 | 0.00 | 186 | 4286 | 0.24 | 4372 | 2.24 | 4496 | 2.24 | 4496 | 2.25 | 4520 | | | |
| 30-Sep | | 0.00 | | | 2.62 | | 1.16 | | 0.52 | | 0.00 | | | 0.42 | | 2.8 | | 2.8 | 1.34 | | | | | |

Legend:

Weekend

Holiday

Midleton WWTP
Operational Report - EPS

Handwritten notes: Tank 7 - high, Tank 8 - low

Miss XSVI
200

300

500

800

200

400

Handwritten notes: 725, 500

100

700

Analysis Results for Microscopic Examination

Sample Date: 09/09/08

Analyst: A. Murphy

Sample Ref. no: AT 1,2,3,4, 5, 6, 7& 8

| Activated Sludge Characteristics | Comments |
|---|--|
| Flock Shape: (Round, Irregular, Cylindrical) | Irregular |
| Floc Size | Large |
| Floc Form & Strength: (Open, Closed, Weak, Strong) | Strong |
| Colonies: | - |
| Dispersed Bacteria: | - |
| Filamentous Bacteria (on a scale 1-6): | 6 |
| Effect of Filaments (Bridged, Attached Material, Disrupting Floc): | Affecting settlement of flocs, growth on branching filaments evident |
| Fungi: | No |
| Protozoa: | Yes |
| Ciliates: | Yes |
| Flagella: | Yes |
| Amoeboid: | No |
| Higher Organisms: | Yes |
| Rotifers: | Yes |
| Nematodes: | Yes |

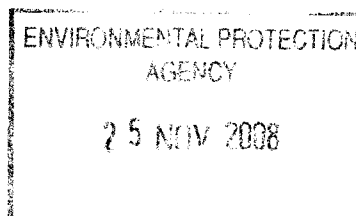
Operation and Maintenance Issues

| Date | Process Reporting |
|---------|--|
| 24/9/08 | Large amounts of solids entering plant. Large amount of grit and rags in macerator |
| 25/9/08 | High solids entering plant |

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DAILY RAINFALL (mm) AT CLOYNE, CO. CORK

| Day | Sep-08 |
|--------------|-------------|
| 1 | 0.6 |
| 2 | 1.4 |
| 3 | 6.6 |
| 4 | 13.7 |
| 5 | 11.3 |
| 6 | 0.0 |
| 7 | 0.0 |
| 8 | 30.0 |
| 9 | 0.2 |
| 10 | 9.6 |
| 11 | 1.6 |
| 12 | 0.0 |
| 13 | 6.5 |
| 14 | 6.4 |
| 15 | 0.0 |
| 16 | 0.0 |
| 17 | 0.0 |
| 18 | 0.5 |
| 19 | 0.0 |
| 20 | 0.0 |
| 21 | 0.0 |
| 22 | 0.0 |
| 23 | 0.0 |
| 24 | 0.0 |
| 25 | 0.0 |
| 26 | Tr |
| 27 | 0.0 |
| 28 | Tr |
| 29 | Tr |
| 30 | 2.9 |
| Total | 91.3 |



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| Date | Volume pumped to river from Bailick No. 1 pumphouse m3 | Volume pumped to river from Bailick No. 2 pumphouse m3 | Volume pumped to river from Bailick No. 2 pumphouse m3 | Total volume of storm effluent pumped to river m3 | Volume pumped to treatment plant m3 | Total volume arising in scheme; storm + treated effluent m3 | Storm discharge as percent of total volume % | Bailick No.1: storm pump No.1: hours run |
|---------------|--|--|--|---|-------------------------------------|---|--|--|
| 01-Sep-08 | 1009.80 | 238 | 0 | 1,247 | 6,811 | 8,058 | 16 | 0.17 |
| 02-Sep-08 | 1425.60 | 302 | 0 | 1,728 | 7,276 | 9,004 | 20 | 0.23 |
| 03-Sep-08 | 1148.40 | 223 | 0 | 1,372 | 7,286 | 8,658 | 16 | 0.20 |
| 04-Sep-08 | 3742.20 | 590 | 0 | 4,333 | 5,325 | 9,658 | 48 | 0.62 |
| 05-Sep-08 | 2910.60 | 554 | 0 | 3,465 | 7,390 | 10,855 | 34 | 0.48 |
| 06-Sep-08 | 4692.60 | 734 | 0 | 5,427 | 7,582 | 13,009 | 44 | 0.81 |
| 07-Sep-08 | 1504.80 | 65 | 0 | 1,570 | 7,260 | 8,830 | 18 | 0.25 |
| 08-Sep-08 | 1108.80 | 0 | 0 | 1,109 | 7,267 | 8,376 | 13 | 0.18 |
| 09-Sep-08 | 4573.80 | 770 | 0 | 5,344 | 7,386 | 12,730 | 45 | 0.77 |
| 10-Sep-08 | 5781.60 | 151 | 0 | 5,933 | 7,322 | 13,255 | 45 | 0.98 |
| 11-Sep-08 | 5524.20 | 274 | 0 | 5,798 | 7,445 | 13,243 | 45 | 0.91 |
| 12-Sep-08 | 3286.80 | 0 | 0 | 3,287 | 7,329 | 10,616 | 31 | 0.55 |
| 13-Sep-08 | 2593.80 | 0 | 0 | 2,594 | 7,606 | 10,200 | 25 | 0.43 |
| 14-Sep-08 | 2435.40 | 209 | 0 | 2,644 | 6,913 | 9,557 | 28 | 0.42 |
| 15-Sep-08 | 4554.00 | 511 | 0 | 5,065 | 8,058 | 13,123 | 40 | 0.76 |
| 16-Sep-08 | 2277.00 | 101 | 0 | 2,378 | 7,041 | 9,419 | 26 | 0.37 |
| 17-Sep-08 | 4019.40 | 403 | 0 | 4,423 | 5,827 | 10,250 | 45 | 0.69 |
| 18-Sep-08 | 1782.00 | 209 | 0 | 1,991 | 7,605 | 9,596 | 21 | 0.30 |
| 19-Sep-08 | 1366.20 | 144 | 0 | 1,510 | 7,876 | 9,386 | 16 | 0.23 |
| 20-Sep-08 | 3207.60 | 72 | 0 | 3,280 | 5,113 | 8,393 | 39 | 0.54 |
| 21-Sep-08 | 1445.40 | 22 | 0 | 1,467 | 8,552 | 10,019 | 15 | 0.24 |
| 22-Sep-08 | 811.80 | 14 | 0 | 826 | 6,851 | 7,677 | 11 | 0.13 |
| 23-Sep-08 | 693.00 | 0 | 0 | 693 | 7,535 | 8,228 | 8 | 0.12 |
| 24-Sep-08 | 712.80 | 0 | 0 | 713 | 7,522 | 8,235 | 9 | 0.11 |
| 25-Sep-08 | 0.00 | 0 | 0 | 0 | 7,196 | 7,196 | 0 | 0.00 |
| 26-Sep-08 | 930.60 | 0 | 0 | 931 | 6,712 | 7,643 | 12 | 0.16 |
| 27-Sep-08 | 772.20 | 0 | 0 | 772 | 6,657 | 7,429 | 10 | 0.13 |
| 28-Sep-08 | 1069.20 | 0 | 0 | 1,069 | 7,459 | 8,528 | 13 | 0.18 |
| 29-Sep-08 | 653.40 | 7 | 0 | 661 | 6,373 | 7,034 | 9 | 0.11 |
| 30-Sep-08 | 712.80 | 101 | 0 | 814 | 6,978 | 7,792 | 11 | 0.12 |
| Totals | 66745.80 | 5695.20 | 0.00 | 72441.00 | 213553.00 | 285994.00 | 26 | 11.19 |

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