

**Subject:** S0024-02 Dublin Port Company

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**From:** Margot Cronin [REDACTED]  
**Sent:** 30 July 2021 11:58  
**To:** Karen Creed [REDACTED] Alison McCarthy [REDACTED]  
**Subject:** FW: S0024-02 Dublin Port Company

Karen, Alison,

Attached is the Sampling and Analysis Plan recommended for Dublin Port Company.  
If you need clarification on it, please let me know.

All the best, Margot

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**From:** Licensing Staff [<mailto:licensing@epa.ie>]  
**Sent:** Tuesday 22 June 2021 09:57  
**To:** Margot Cronin [REDACTED]  
**Subject:** S0024-02 Dublin Port Company

Dear Margot,

Re: Application for a Dumping at Sea Permit from Dublin Port Company, Permit Register No S0024-02

With regard to the above referenced Dumping at Sea permit application from Dublin Port Company, we note that the sediment sampling was carried out in August 2018. In accordance with the OSPAR Guidelines for the Management of Dredged Material at Sea (OSPAR-2014-06) the sediment sampling programme should be repeated every three years. To this end could you please advise the Agency of the requirement for a revised sampling plan in this instance.

Regards

Environmental Licensing Programme  
Office of Environmental Sustainability, Wexford  
An Clár um Cheadúnú Comhshaoil  
An Oifig um Inmharthanacht Comhshaoil, Loch Garman



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**Rinville  
Oranmore  
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Mr Eamon McElroy  
Dublin Port Company  
Alexander Road  
Dublin

15 July, 2021

**Re: Sampling and Analysis Plan – MP2 project**

Dear Eamon,

Included below is an updated sampling and analysis plan for the MP2 project, as your existing chemistry will be classed as outdated later this year.

Twenty four surface samples are recommended for chemical analysis. You should give your sampling contractor a copy of this plan. They will need to draw the testing laboratory's attention especially to **Section 3 and Section 4** and confirm that the selected lab is capable of meeting the quality assurance standards required.

Please select a laboratory well experienced in testing of marine sediment and participating in relevant marine sediment inter laboratory proficiency testing schemes such as QUASIMEME, and please ensure that they can meet the limits of detection required.

Please also submit results using the EPA material analysis spreadsheet, which can be found at this link - <https://www.epa.ie/pubs/forms/lic/das/materialanalysisreportingform.html>

Best regards,

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Margot Cronin  
Marine Environment Chemist

*Dublin Port Company*

*July 2021*

## 1.0 Sample location and analyses required:

The following surface samples, as listed in Table 1 below) should be taken<sup>1</sup>. Sample locations are shown on the chart in Figure 1 at the end of this document.

**Table 1.** Locations and details of proposed samples

Sample No.	Longitude	Latitude	Parameters for analysis
1	-6.1764	53.34209	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
2	-6.17815	53.34282	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
3	-6.17836	53.34159	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
4	-6.17946	53.34247	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
5	-6.17993	53.34138	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
6	-6.18093	53.34185	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
7	-6.18226	53.34253	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
8	-6.18278	53.342	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
9	-6.18365	53.34257	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
10	-6.18512	53.34249	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
11	-6.18245	53.34469	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
12	-6.18324	53.34497	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
13	-6.18436	53.34474	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
14	-6.18552	53.34478	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
15	-6.18668	53.34452	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
16	-6.20013	53.34505	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
17	-6.20015	53.34454	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
18	-6.20095	53.34491	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
19	-6.20203	53.34464	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
20	-6.20273	53.34483	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
21	-6.20405	53.34505	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
22	-6.20475	53.34652	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
23	-6.205	53.34716	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g
24	-6.20557	53.34518	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 4g

\* Positions given in decimal degrees, WGS84S

## 2.0 Parameter Code:

1. Visual inspection, to include colour, texture, odour, presence of animals etc
2. Water content, density (taking into account sample collection and handling)

<sup>1</sup> Further sampling and analysis, at depth if necessary, may be required in the event that problem areas of heavy contamination are identified as a result of the initial testing.

3. Granulometry including % gravel (> 2mm fraction), % sand (< 2mm fraction) and % mud (< 63µm fraction).
4. The following determinants in the sand-mud (< 2mm) fraction \* :
  - a) total organic carbon
  - b) carbonate
  - c) mercury, arsenic, cadmium, copper, lead, zinc, chromium, nickel, lithium, aluminium.
  - d) organochlorines HCH and  $\gamma$ -HCH (Lindane), DDT & metabolites, and PCBs (to be reported as the 7 individual CB congeners: 28, 52, 101, 118, 138, 153, 180).
  - e) total extractable hydrocarbons.
  - f) tributyltin (TBT) and dibutyltin (DBT)
  - g) Polycyclic aromatic hydrocarbons (PAH) - Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (ghi) perylene, Benzo (k) fluoranthene, Chrysene, Dibenz (a,h) anthracene, Fluorene, Fluoranthene, Indeno 1,2,3 – cd pyrene, Naphthalene, Phenanthrene, Pyrene.
  - h) Microtox and whole sediment bioassay tests using appropriate representative aquatic species. *\*where the gravel fraction (> 2mm) constitutes a significant part of the total sediment, this should be taken into account in the calculation of the concentrations.*

### 3.0 Important notes:

- 3.1 Details of the methodologies used must be furnished with the results. This should include sampling, sub sampling and analytical methods used for each determinant
- 3.2 Appropriate marine CRM are to be analysed during each batch of analyses and the results to be reported along with sample results.
- 3.3 The required detection limits for the various determinants are given in Table 2. below.

**Table 2.** Maximum limits of detection required

Contaminant	Concentration n	Units (dry wt)
Mercury	0.05	mg kg <sup>-1</sup>
Arsenic	1.0	mg kg <sup>-1</sup>
Cadmium	0.1	mg kg <sup>-1</sup>
Copper	5.0	mg kg <sup>-1</sup>
Lead	5.0	mg kg <sup>-1</sup>
Zinc	10	mg kg <sup>-1</sup>
Chromium	5.0	mg kg <sup>-1</sup>
Nickel	15	mg kg <sup>-1</sup>

Total extractable hydrocarbons	10.0	mg kg <sup>-1</sup>
TBT and DBT (not organotin)	0.01	mg kg <sup>-1</sup>
PCB – individual congener	1.0	µg kg <sup>-1</sup>
OCP – individual compound	1.0	µg kg <sup>-1</sup>
PAH – individual compound	20	µg kg <sup>-1</sup>

#### 4.0 Reporting requirements

Reports should include the following information

4.1 Results of testing should be reported in EPA spreadsheet format, which can be found [here](#).

4.2 Spreadsheet results to include:

- Tabulated geophysical/chemical test results
- Clear expression of units
- Indication of wet weight or dry weight basis
- Location of samples in decimal degrees WGS84 (latitude/longitude).
- Date of sampling
- Treatment of samples and indication of sub sampling, compositing etc.
- Summary method details
- CRM results
- QA /QC
- Other quality assurance information (e.g. accreditation status)
- Project details.

4.3 If determinant is not detected, report less than values, and indicate LoD/ LoQ used.

Testing laboratories may be asked to provide additional details of method performance including limit of detection, precision, bias.



Figure 1: Sampling stations, MP2 follow up testing, Dublin Port. (Positions given in Table 1.)