

To: Ciara Maxwell, EPA
From: Margot Cronin, MI
RE: Dingle harbour Dumping at Sea Application, 2017
EPA Ref: S0029-01
Date: 28/09/2017

Background: This application is to dredge and dump at sea an estimated 53,000 m³ from the approaches to Dingle Harbour. DAFM have since confirmed that 8000 m³ of sand and silt from the inner harbour will be brought ashore for disposal. A further 24,000m³ of rock from the inner harbour will also be disposed of on shore.

Sediment sampling and analyses were carried out in 2016. Although there were several indications of contamination in the inner harbour, the results of the analyse were difficult to assess with confidence due to several quality issues. Repeat sampling and analysis of the approaches and outer harbour only were carried out in 2017. These results passed all quality requirements.

Assessment: Results of the second batch of samples to be analysed were assessed on the basis of results provided by the Applicant. Yields for CRM are acceptable. All samples can be classed as predominantly sand & silt with 100% of material below 2mm grainsize, and more than 80% silt in the inner 4 samples.

The test results indicate that in general, the material appears clean, apart from unexpected elevated levels of zinc. The highest results are a high category 3 elevated zinc concentration in the outermost sample and a category 3 zinc at the innermost sample (which is to be included with the inner harbour material and brought ashore).

There is also evidence of lower end category 2 zinc concentrations in the remaining samples and so the results of these analyses were compared with past analysis reports. Analysis of sediment from the outer approaches in 2008 (RPS, 2008) demonstrates comparable results, apart from the higher concentration of zinc. Results reported in 2007 (Aquafact, 2007) were also quite close, again apart from any elevated zinc concentrations. In addition, the 2016 analysis¹ also did not indicate elevated zinc levels. The results were considered again following adjustment for a whole sediment concentration, taking into account the proportion of fines; even then it is substantially higher than any previous corresponding sample results for the area.

Owing to the unusually high concentrations of zinc present, these samples were retested at time and the results confirmed. The results of the CRMs were well within acceptable limits. That would lead to the possible conclusion that zinc contamination may have arisen during sampling, storage or sample pre-treatment.

Recommendation: Although there seems little question over the validity of the measurement, the source of the zinc at the outer approaches cannot be attributed to any particular event, and seems out of line with any recent analysis from this particular area and is most likely to

¹ Although the 2016 report had several issues in term of an overall assessment, the zinc analysis met quality requirements.

be limited to the specific samples. Furthermore, this particular outer sample is displaying higher levels of zinc than most samples from acknowledged heavily contaminated areas such as the Alexander Basin in Dublin Port. Based on this, it is difficult to make a clear recommendation. There are a number of possible options:

1. Request further sampling and analysis along the approaches for heavy metals.
2. Allow the dumping at sea, as requested, given that the dumpsite has previously been used for sediment from the same area and the source of any recent contamination cannot be established.
3. Allow the dumping at sea, as requested for reason above, but with conditions applied such as dredging outer approaches first and capping with cleaner material, dumping outer material at slack water to limit spatial spread of material.
4. Do not grant the permit.

Based on best professional judgement and consistent with previous permit decisions where similar issues have arisen, I would not object to option 3 as a practical approach to dealing with the project and minimising potential impact on the marine environment.

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