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Our ref: R/5683_16_Milford Haven Maintenance/JFO

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Via Email

27 October 2026

Formal request for a sediment sample plan for maintenance dredging in Milford Haven
REF: SP2612

Dear Vicky,

1. With reference to your request dated 9 October 2026, for advice regarding sediment sampling for a long-term licence (DML2166v2) for the disposal of dredge material from Milford Haven berths and channels, please find the advice below and a sample plan form attached.

2. ABPmer provides advice to Natural Resource Wales (NRW) on sampling plans to ensure that there is sufficient evidence on sediment quality to understand potential impacts on the marine environment associated with marine licence applications and existing long-term marine licences. This may include characterisation of dredged sediment for disposal at sea or of areas where other activities are likely to lead to the mobilisation of sediments. To enable ABPmer to provide that advice, and to fulfil the UK's obligations under International Conventions in respect of disposal at sea, and the requirements of the Marine and Coastal Access Act where applicable, sediment samples are required for analysis.

Description of the Project

3. The Milford Haven Port Authority have an existing long-term marine licence (DML2166v2) for the disposal of dredge material from berths and channels within the limits of Milford Haven Port Authority Pembrokeshire, to disposal sites LU168 (Milford Haven 2) and LU169 (Milford Haven 3). The licence start date is 9 April 2024 and the end date is 8 March 2032.

4. The marine licence allows 154,000 m^3 per annum of material to be dredged and disposed of unless otherwise approved by the Licensing Authority in accordance with condition 3.21.1. The dredge volumes must also remain within the following limits:

   - 60,000 m^3 of material with a particle size of >250 µm over a consecutive 5-year period disposed of at LU168 (Milford Haven 2); and
   - 400,000 m^3 of sand and silt over a consecutive 5-year period disposed of at LU169 (Milford Haven 3).

5. The dredge areas cover a total area of 2,735,270 m^3 (Table 1).

Table 1. Dredge areas included within DML2166v2

Dredge area	Area (m^2)
Mill Bay	456,514.5
Thorn Island	461,256
Valero	574,123.5
Milford Shelf	573,582
VPOT and Dragon LNG	492,223.5
Port of Pembroke	72,672.5
PDFT RoRo Berth	18,510
TOTAL	**2,735,370**

6. Additional sampling and analysis is required throughout the duration of the licence term in order to comply with the OSPAR guidelines. The required sampling is stipulated in the granted licence. Condition 3.19.5 of the licence states:

> *'The Licence Holder must request a sediment sampling plan from the Licensing Authority by 05 October 2026.'*

7. Condition 3.19.6 of the licence states:

> *'The Licence Holder must ensure that the sampling is undertaken in accordance with the sampling plan described in condition 3.19.5 and is analysed at an NRW approved laboratory.'*

8. Milford Haven Port Authority requested a sediment sampling plan on 5 October 2026. This document forms the sediment sampling plan.

Sampling Required

9. In accordance with the recommendations of the OSPAR Guidelines for the Management of Dredged Material[1], which were updated in 2024, samples should be taken to provide a good representation of the volume of material to be dredged. The distribution and depth of sampling should reflect the size and depth of the area to be dredged, the amount to be dredged and the expected variability in the horizontal and vertical distribution of contaminants. We also use the OSPAR guidelines to inform our advice on sampling requirements for other activities which are likely to lead to the mobilisation of sediments. Based on the information submitted (as described above), the following sampling and analysis is required.

10. ABPmer advises that 20 separate sampling stations (locations) will be required from across the dredge areas to provide adequate spatial coverage. The recommended number of sample sites is below the guidelines set by OSPAR[2], which recommend 9-10 stations for dredge areas measuring 50,000-100,000 m^2, then an extra 5 per 100,000 m^2 for dredge areas >100,000 m^2. However, 20 samples is more consistent with previous sampling undertaken for this licence, and it is considered to allow sufficient coverage of the areas that requires dredging. The distribution of sampling should be representative of the spatial extent of the areas to be dredged and evenly distributed. The recommended number of sampling stations in each area is set out in Annex 1.

11. OSPAR guidelines also recommend that samples at depth will be required where the projected depth of dredging is significant, and the volume of dredge material should be taken into consideration to determine the number of samples. On this occasion, given the limited volume

[1] https://www.ospar.org/documents?v=33037

[2] **OSPAR guidance on number of separate sampling stations (locations) required by dredge area** (dredge area (m^2) [number of stations (locations)]. <10,000 m^2 [1-3] | 10,000–50,000 m^2 [4–8] | 50,000 – 100,000 m^2 [9–10] | >100,000 m^2 [extra 5 per 100,000 m^2].

(relative to area) and depth of dredging, and the fact that the works consist of maintenance dredging, samples must be taken at the surface (0 metres depth) as indicated on the sample plan form attached.

12. The following information must be included with any samples (irrespective of the laboratory to be used for analysis):

    - Clearly labelled samples;
    - Completed sample position sheet, including the latitude and longitude (decimal degrees and the projection i.e., WGS84) of each location and if core samples are required the depth at which each sample is taken;
    - Details of the method of sampling; and
    - A map/chart detailing the sample locations.

13. Surface samples should be taken from the upper layer of *in-situ* sediment using a non-metallic / stainless steel scoop. To maintain the integrity of the samples please ensure that they are frozen and remain in the freezer until they can be dispatched. Please ensure the samples are dispatched in a cool box - the cool box should not be placed in any other packaging.

Analysis Required

14. Samples have previously been taken to support the application for marine licence DML2166. The most recent set of sampling was undertaken in December 2023. The sediment samples were tested for trace metals and polycyclic aromatic hydrocarbon (PAH) concentrations as well as particle size analysis (PSA).

15. The analysis results showed generally low concentrations of contaminants, with most samples being below Cefas Action Level 1 or marginally exceeding Cefas Action Level 1. No samples exceeded Cefas Action Level 2 (where relevant). In terms of particle size distribution, material from most dredge areas comprised silt. Within Mill Bay and Thorn Island, material predominantly comprised sand.

16. In light of the information provided and knowledge of the past industrial land usage of this site analysis is, on this occasion, required for (except for Mill Bay and Thorn Island – see paragraph 18 below):

    - Trace metals (Cd, Cr, Cu, Hg, Ni, Pb, Zn) + arsenic (As);
    - Organotins;
    - Polycyclic aromatic hydrocarbons (PAHs);
    - Total Organic Carbon (TOC); and
    - Particle Size Analysis (PSA).

17. Trace metals, organotins, PAHs and TOC are included on the 'Primary List' under Technical Annex I of the OSPAR guidelines (Analytical Requirements for Dredge Material Assessment) which '*should be determined all cases*'. Paragraph 5.6 of the guidance also recommends '*if the list of determinants is reduced, further analysis of the complete list of determinants is advisable every five years.*' Port operations and vessels present a potential source for these contaminants.

18. Paragraph 6.10b of the OSPAR guidelines states that material may be exempt from testing if it is composed almost exclusively of sand. Exemptions granted under 6.10b should be supported by particle size data. Therefore, within the Mill Bay and Thorn Island dredge areas, only PSA is required. Chemical analysis of the material in these locations is not considered necessary, as the material is likely to be coarse in nature and therefore generally less associated with contaminants. As such, it is not anticipated that the material would be significantly contaminated. This is supported by

previous chemical analysis in 2023/2024. If the dredge area is found to consist of higher quantities of fine sediment, additional analysis may be required to determine the level of contamination.

19. Further details can be found in Annex 1 (. Sample plan form).

20. It is recommended that the analysis is carried out following established specific dredge material testing methods. A list of laboratories which are approved for the suggested determinands is available at https://naturalresources.wales/permits-and-permissions/marine-licensing/request-a-sampling-plan-for-a-dredge-or-disposal-marine-licence-application/?lang=en. Any results following these methods would be acceptable to support a marine licence application or sampling required under an existing marine licence to NRW.

21. To ensure consistency between laboratories it is expected that all analysis required will be undertaken from the same sample container. It is the applicant's responsibility to ensure that sufficient sample is collected, in a single container, for all the analysis required.

Conclusion

22. This advice is based solely on the information provided in the sediment sampling plan request and existing marine licence DML2166v2, and the sampling and analysis described will be adequate to comply with relevant marine licence conditions, providing that no further issues come to light, and a return is submitted in a suitable timeframe.

23. ABPmer reserves the right to request further sampling/analysis should any information come to light that differs from that information submitted in this sediment sampling plan request. Any future request must clearly state this reference number.

Yours sincerely



Jamie Oaten
Principal Marine Environmental Consultant

Annex 1. Sample plan form

Sample	Station	Metals	Organotins	THC	PAHs	PCBs	PDBEs	OCs	TOC	PSA
1	Mill Bay - Site A (0 m)	☐	☐	☐	☐	☐	☐	☐	☐	☒
2	Mill Bay - Site B (0 m)	☐	☐	☐	☐	☐	☐	☐	☐	☒
3	Mill Bay - Site C (0 m)	☐	☐	☐	☐	☐	☐	☐	☐	☒
4	Thorn Island - Site A (0 m)	☐	☐	☐	☐	☐	☐	☐	☐	☒
5	Thorn Island - Site B (0 m)	☐	☐	☐	☐	☐	☐	☐	☐	☒
6	Thorn Island - Site C (0 m)	☐	☐	☐	☐	☐	☐	☐	☐	☒
7	Valero - Site A (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
8	Valero - Site B (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
9	Valero - Site C (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
10	Valero - Site D (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
11	Milford Shelf - Site A (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
12	Milford Shelf - Site B (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
13	Milford Shelf - Site C (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
14	Milford Shelf - Site D (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
15	VPOT and Dragon LNG - Site A (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
16	VPOT and Dragon LNG - Site B (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
17	VPOT and Dragon LNG - Site C (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
18	Port of Pembroke - Site A (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
19	PDFT RoRo Berth - Site A (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒
20	Pembroke Power Station intake and RoRo - Site A (0 m)	☒	☒	☐	☒	☐	☐	☐	☒	☒

Comments:
Stations should be spaced evenly and representative of the dredge areas. Samples must be taken at the surface (0 m depth).