Marine Management Organisation

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John McNicholas
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Stockton on Tees
TS17 6QY

Our reference: SAM/2020/00026

By email only

28 May 2020

Dear Mr McNicholas,

SAMPLE PLAN ADVICE FOR SOUTH BANK WHARF.

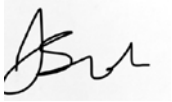
Thank you for your request to the Marine Management Organisation (MMO) for a sample plan to inform a sediment quality and benthic ecology survey in the Tees estuary which will inform both the engineering design and environmental assessment of a proposed new port facility at South Bank Wharf. Please see our response below and any attachments, which has been compiled following consultation with our technical advisors The Centre for Environment, Fisheries and Aquaculture Science (Cefas).

Your feedback

We are committed to providing excellent customer service and continually improving our standards and we would be delighted to know what you thought of the service you have received from us. Please help us by taking a few minutes to complete the following short survey (https://www.surveymonkey.com/r/MMOMLcustomer).

If you require any further information please do not hesitate to contact me using the details provided below.

Yours Sincerely,



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Appendix 1 – MMO Sampling Plan

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1. Description of the project

1.1. The advice relates to sampling to inform a sediment quality and benthic ecology survey which will inform both the engineering design and environmental assessment of a proposed new port facility at South Bank Wharf.

1.2. Capital dredging is anticipated to be required within part of the Tees Dock turning circle within the existing navigational channel and within the proposed berth pocket. The total dredge volume is predicted to be 1,960,000m3.

1.3. Two active disposal sites were identified that could potentially accept dredged material: Tees Bay A (TY160) and Tees Bay C (TY150). It is anticipated that the dredged material would be disposed of at Tees bay C (TY150) disposal site.

1.4. It is noted that a significant proportion of the proposed dredge volume is anticipated to contain mudstone. As the depth of the mudstone across the area is unknown and likely to vary, guidance regarding the requirement to sample mudstone was requested. This is covered in point 2.4.

2. Sampling required

2.1. In accordance with the recommendations of the OSPAR Guidelines for the Management of Dredged Material, 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. The MMO also uses 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.

2.2. In consideration of the volume details of the proposed dredge, the MMO advises that 25 sample sites will be required from across the dredge area to provide adequate spatial coverage. This is in line with the minimum guidelines set by OSPAR, which recommends between 16 and 30 sample station locations for volumes between

500,000m^3 and 2,000,000m^3. Further details are provided on the attached sample plan form in Appendix 1.

2.3. Samples should be taken at the surface (0 metres depth) and at 1 metre intervals to a maximum dredge depth as indicated on the sample plan form attached in Appendix 1.

2.4. If the maximum dredge depth exceeds the depth at which mudstone is located, samples need only be taken to the depth at which mudstone begins.

2.5. Sample locations should be evenly spaced across the proposed areas to be dredged and samples must be representative of the material to be dredged (see attached sample plan in Appendix 1).

2.6. 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
- Details of the method of sampling;
- A map/chart detailing the sample locations.

2.7. 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.

3. Analysis Required

3.1. Details of recent sampling from within the dredge area were provided. This included samples collected in 2018 for the Hartlepool Approach Channel Project (SAM/2018/00050), the Northern Gateway Container Terminal (NGCT) project (SAM/2018/00069), and the Teeside Gasport project (SAM/2018/00005), which were used in support of mid-licence sampling for Teesport's (PDT) current maintenance dredge and disposal licence (L/2015/00427/4). 10 surface samples were also discussed that were collected from upstream of the proposed NGCT footprint in support of this mid licence sampling, although no reference is provided for this sampling.

3.2. Of particular relevance to this sampling plan request is the data recovered from the 10 samples located upstream of the proposed NGCT footprint (some of which fall within and immediately adjacent to the proposed survey area for South Bank). The results of these samples showed one exceedance of Cefas Action Level 2 (AL2) for polychlorinated biphenyls (PCBs). This exceedance was located in the Billingham Reach area, which is more than 5km upstream of the proposed survey area for the present consultation. No other exceedances of AL2 were observed, but minor exceedances of AL1 were recorded at all locations for metals and polyaromatic hydrocarbons (PAHs). With the exception of the Billingham Reach sample, material was deemed suitable for disposal at sea. However, it is noted that the

polybrominated diphenyl ethers (PBDEs) analysis showed elevated levels of BDE209.

3.3. Results were also discussed form a sediment quality survey that was undertaken in 2017, comprising of 37 surface samples within and adjacent to the proposed dredge footprint for the NGCT. The proposed dredge footprint for NGCT marginally overlaps with that for South Bank wharf (at the Tees Dock turning circle), however, the vast majority of the NGCT dredge footprint is located downstream of the proposed survey area for the South Bank wharf scheme. The sampling regime included analysis of trace metals, organotins, PAHs, PCBs, organochlorines, and PBDEs. No exceedances of AL2 were observed, but several exceedances of AL1 were observed for metals, PAHs, PCBs, and organochlorines. There are no formal OSPAR assessment values developed with which to assess status of PBDEs, however the observed levels were deemed to be acceptable for the area and suitable for disposal at sea.

3.4. In light of the information provided, knowledge of the past industrial land usage of this site and given the levels of contaminants previously observed in the vicinity, analysis is, on this occasion, required for:

- Trace Metals;
- Organotins;
- Total Hydrocarbons (THC)
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Polychlorinated Biphenyls (PCBs);
- Polybrominated diphenyl ethers (PBDEs); and
- Particle size analysis (PSA).

3.5. Further details can be found on the attached sample plan form in Appendix 1.

3.6. 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. Where Cefas are analysing the samples appropriate containers will be provided.

4. Laboratories

4.1. You have now obtained an approved sample plan from the MMO. Should you now require sample analysis for chemical, physical and biological determinands in support of a regulatory approval such as a marine licence, you have a choice between using a provider of your choice listed at the link below:

https://www.gov.uk/guidance/marine-licensing-sediment-analysis-and-sample-plans

This list indicates the laboratories which have been validated to undertake sediment analysis, as well as the specific determinands which they are validated to analyse. The MMO will not accept results from laboratories which have not been validated.

4.2. Irrespective of which validated laboratory is used to undertake sediment analysis, results accompanying a marine licence application must be submitted to the MMO on the correct results template (approved templates are available via the link in 4.1 above).

4.3. If the analysis is to be undertaken by a laboratory other than those validated by the MMO, that laboratory must meet the qualifying criteria as set out in the MMO guidance and become a validated laboratory (https://www.gov.uk/guidance/marine-licensing-sediment-analysis-and-sample-plans).

4.4. It is your responsibility to ensure that appropriate analysis is commissioned and supplied in support of a regulatory approval. However, if you have any queries about the process or would like clarity on this, please do not hesitate to contact the MMO by emailing: marineconsents@marinemanagement.org.uk

5. Conclusion

5.1. This advice is based solely on the information provided in the sample plan request, and the sampling and analysis described will be adequate to inform a licence application that mirrors the information in this pre-application request, providing that no further issues come to light and an application is submitted in a suitable time-frame.

5.2. The MMO will take a pragmatic approach to the requirement of repeat samples in relation to projects where works have not commenced. Samples taken at depth will remain a valid consideration for decision-making from the time they are taken. However, due to the dynamic nature of the marine environment and the potential for changes in the quantity and quality of sediments, there may be a need for surface sediments to be re-sampled and analysed if the project has not commenced within two years of the time of sampling.

5.3. Where long term licences for maintenance dredging will be applied for, additional sampling and analysis will need to be undertaken throughout the duration of the proposed longer licence term in order to comply with the OSPAR guidelines.

5.4. MMO reserves the right to request further sampling/analysis should any submitted Marine Licence application differ from that information submitted in this pre-application request. Any future application or return must clearly state this pre-application reference number.

Appendix 1

Sample Plan

Sample	Station	Metals	Organotins	THC	PAHs	PCBs	PDBEs	OCs	PSA
1-3	Site A: Turning Circle - 0m, 1m, and 2.2m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
4-6	Site B: Turning Circle - 0m, 1m, and 2.2m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
7-9	Site C: Turning Circle - 0m, 1m, and 2.2m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
10 - 12	Site D: Turning Circle - 0m, 1m, and 2.2m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
13-15	Site E: Turning Circle - 0m, 1m, and 2.2m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
16-18	Site F: Downstream Approach - 0m, 1m, 2.5m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
19-21	Site G: Downstream Approach - 0m, 1m, 2.5m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
22-24	Site H: Downstream Approach - 0m, 1m, 2.5m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
25-27	Site I: Downstream Approach - 0m, 1m, 2.5m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
28-30	Site J: Downstream Approach - 0m, 1m, 2.5m (max depth)	☒	☒	☒	☒	☒	☒	☐	☒
31-35	Site K: Middle Approach - 0m, 1m, 2m, 3m, 3.8m (max)	☒	☒	☒	☒	☒	☒	☐	☒
36-40	Site L: Middle Approach - 0m, 1m, 2m, 3m, 3.8m (max)	☒	☒	☒	☒	☒	☒	☐	☒
41- 45	Site M: Middle Approach - 0m, 1m, 2m, 3m, 3.8m (max)	☒	☒	☒	☒	☒	☒	☐	☒

Sample	Station	Metals	Organotins	THC	PAHs	PCBs	PDBEs	OCs	PSA
46-50	Site N: Middle Approach - 0m, 1m, 2m, 3m, 3.8m (max)	☒	☒	☒	☒	☒	☒	☐	☒
51-55	Site O: Middle Approach - 0m, 1m, 2m, 3m, 3.8m (max)	☒	☒	☒	☒	☒	☒	☐	☒
56-61	Site P: Upstream Approach - 0m, 1m, 2m, 3m, 4m, 5.3m (max)	☒	☒	☒	☒	☒	☒	☐	☒
62-67	Site Q: Upstream Approach - 0m, 1m, 2m, 3m, 4m, 5.3m (max)	☒	☒	☒	☒	☒	☒	☐	☒
68 -73	Site R: Upstream Approach - 0m, 1m, 2m, 3m, 4m, 5.3m (max)	☒	☒	☒	☒	☒	☒	☐	☒
74 – 79	Site S: Upstream Approach - 0m, 1m, 2m, 3m, 4m, 5.3m (max)	☒	☒	☒	☒	☒	☒	☐	☒
80 - 85	Site T: Upstream Approach - 0m, 1m, 2m, 3m, 4m, 5.3m (max)	☒	☒	☒	☒	☒	☒	☐	☒
86 – 99	Site U: Berth Pocket – 0m, 1m, 2m, 3m, 4m, 5m, 6m, 7m, 8m, 9m, 10m, 11m, 12m, 13.6m (max)	☒	☒	☒	☒	☒	☒	☐	☒
100 – 113	Site V: Berth Pocket – 0m, 1m, 2m, 3m, 4m, 5m, 6m, 7m, 8m, 9m, 10m, 11m, 12m, 13.6m (max)	☒	☒	☒	☒	☒	☒	☐	☒
114 – 127	Site W: Berth Pocket – 0m, 1m, 2m, 3m, 4m, 5m, 6m, 7m, 8m, 9m, 10m, 11m, 12m, 13.6m (max)	☒	☒	☒	☒	☒	☒	☐	☒
128 – 141 0	Site X: Berth Pocket – 0m, 1m, 2m, 3m, 4m, 5m, 6m, 7m, 8m, 9m, 10m, 11m, 12m, 13.6m (max)	☒	☒	☒	☒	☒	☒	☐	☒

Sample	Station	Metals	Organotins	THC	PAHs	PCBs	PDBEs	OCs	PSA
142 – 155	**Site Y: Berth Pocket – 0m, 1m, 2m, 3m, 4m, 5m, 6m, 7m, 8m, 9m, 10m, 11m, 12m, 13.6m (max)**	☒	☒	☒	☒	☒	☒	☐	☒

Comments:

Stations should be evenly distributed across the dredge area