



APPLICATION BY PD TEESPORT LIMITED FOR THE CONTINUED DISPOSAL OF DREDGE MATERIAL FROM TEES AND HARTLEPOOL TO TEES BAY A DISPOSAL SITE, NORTH SEA.
Reference Number: MLA/2025/00263

From: Sylvia Blake
Cefas, Lowestoft Laboratory
Date: 24th July 2025

To: Gregg Smith - MMO (via MCMS)

1. With reference to the above application for a licence renewal for the continued use of Tees Bay A disposal site in the North Sea for maintenance dredge material from Tees and Hartlepool by PD Teesport Limited and your request for comments dated 2nd July 2025 please find my comments below.
2. This minute is provided in response to your advisory request in relation to the above proposal in my capacity as scientific and technical advisor for sediment quality in relation to, and regulatory requirements for dredge and disposal operations. The response pertains to those areas of application that are of relevance to this field. This minute does not provide specialist advice regarding benthic ecology, marine processes, fish and fisheries, shellfisheries, or underwater noise as, whilst these are within Cefas' remit, they are outside my area of specialism.
3. In providing this advice I have spent 7.0 hours of the allocated 7.0 hours by the MMO. I have booked my time to MLA/2025/00263.
4. I have provided my comments based on the below category system:
 - Category 1: **Major Comment (Action)**- It is my advice that the application should not be granted a licence until this is resolved. There is high uncertainty or a large risk to the environment. MMO are strongly advised to request this further information then re-consult Cefas.
 - Category 2: **Minor Comment (Action)**- There is data/ information/ evidence missing that could affect the assessment. Provision of the data/information would allow for due diligence to ensure there is sufficient confidence in the applicant's and my own assessment but would not necessarily preclude the granting of a licence. MMO advised to request further information from applicant and then to re-consult Cefas, however MMO may be able to grant licence if this information is not submitted, provided MMO have clear rationale for their decision.
 - Category 3: **Minor Comment (No Action)**- These highlight those things that should be included as best practice but would not affect my overall conclusions. Should be taken forward by the developer for any future applications/ post consent requirements, or presentation issues. MMO case team could pass this on to applicant however this information is not required for consultation with Cefas.
 - Category 4: **Observation**- Statements regarding what is stated in the application, or areas of good practice are highlighted. No action for MMO case team but this could be passed on to applicant if MMO wish, to pass on areas of good practice.

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Documents reviewed

5. MMO_Results_Template - MAR02481 V2 with TOC.xlsm dated October 24
6. MMO Sample Plan Advice Letter to Andrew Ridley (PD Teesport) from Yvonne Golightly (MMO) SAM/2024/00054 30th July 2024.
7. MMO_Results_Template – MAR02499 V2-3 with TOC.xlsm dated October 24
8. MLA/2015/00088/6 L/2015/00427/7 Advice from Ryan Alexander (Cefas) to Brendan Malone (MMO): Assessment of mid-licence (year nine) sediment sampling and analysis for maintenance dredging at Tees and Hartlepool by PD Teesport limited dated 5th March 2025. (accessed from Cefas files July 2024).
9. MLA/2015/00088/6 L/2015/00427/7 Advice from Ryan Alexander (Cefas) to Brendan Malone (MMO): Assessment of mid-licence (year nine) sediment sampling and analysis for maintenance dredging at Tees and Hartlepool by PD Teesport limited dated 16th January 2025. (accessed from Cefas files July 2024).
10. MLA/2025/00263 Tees And Hartlepool Maintenance Dredge Disposal: APPLICATION FORM by PD Teesport May 2025.
11. MLA/2015/00086/6 L/2015/09427/7 Advice from Emma Storey (Cefas) to Lauren Thraves (MMO): Assessment of Mid-Licence Sediment Sampling and Analysis for Maintenance Dredging at Tees and Hartlepool by PD Teesport Middlesborough, 20th June 2024. (accessed from Cefas files July 2024).

Description of the proposed works

12. This application is to support a renewal for a ten-year licence the continued use of Tees Bay A (TY160) for maintenance dredgings from the Tees and Hartlepool by PD Teesport. The ten-year marine licence (L/2015/00427/7) which permits the disposal of material from Tees and Hartlepool to Tees Bay A (TY160) disposal site expires in December 2025.
13. The volume permitted for disposal in 2025 from the Tees is 1,507,770 wet tonnes of sand and 930,650 wet tonnes of silt (totalling 2,438,420 wet tonnes). The volume permitted for disposal in 2025 from Hartlepool is 322,800 wet tonnes of sand and 128,480 wet tonnes of silt (totalling 451,280 wet tonnes). In total this equates to the disposal of 2,889,700 wet tonnes in 2025 to Tees Bay A (TY160) disposal site.
14. The MMO results templates (documents cited at points 5 and 7) to support this licence renewal were previously submitted for review and comments provided (MLA/2015/00088/6 L/2015/00429/7) to discharge the licence condition 5.2.3 requiring sampling at year nine following updated total organic carbon data to determine whether normalisation of the data would change the requirement for additional PBDE analysis over the standard three-year cycle for the other contaminants. Levels of BDE 209 and BDE99 following the normalisation of the data were still shown to be of considerable concern (advice to MMO cited at point 8).

Responses to Questions posed by the MMO Case Officer. All responses are observations unless otherwise stated.

MMO Question 1. To the best of your knowledge is the description of the environment and potential impacts accurate?

15. Two templates are provided to support the application. These templates are not completed appropriately.
16. **Major Comment (Action):** The Applicant name application number dates and location as well

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as dredge area tonnages are omitted, these should also be provided in the MMO template for use with the Cefas Action Level Viewer and for use by the MMO in providing accurate annual disposal returns. In addition, this helps efficient assessment and interpretation of data without introduction of things like transcription error. The locations listed are in Eastings and Northings and should be converted to decimal degrees for WG S84 as required by the template. This should be rectified but should not necessarily prevent or delay a licensing decision being made.

MMO Question 2. Has the appropriate evidence base been used?

17. Yes. A sample plan was provided to support the continued disposal of maintenance dredged material from the Tees and Hartlepool river, berths and harbours (SAM/2024/00054). The plan suggested 31 sample sites to be tested for Particle Size Analysis (PSA), trace heavy metals, organotins, Polycyclic Aromatic Hydrocarbons (PAHs), Polybrominated Diphenyl Ethers (PBDEs), PolyChlorinated Biphenyls (PCBs) and Organochlorines (OCs). The provision of organic carbon was suggested for normalisation of data for PBDEs. A sample size of 31 sites was slightly less than the OSPAR guidelines which recommend 30 sites for dredges up to 2,000,000 m³ with an additional ten sites per million m³ thereof, but it was considered that this would provide adequate spatial coverage across the dredge locations. The applicant has provided analysis as required from the 31 sample sites which are representative of the area to be dredged (figure 1). Analyses of the samples were undertaken by Benthic Solutions Ltd and SOCOTEC, which are MMO-approved laboratories for the respective analysis undertaken.

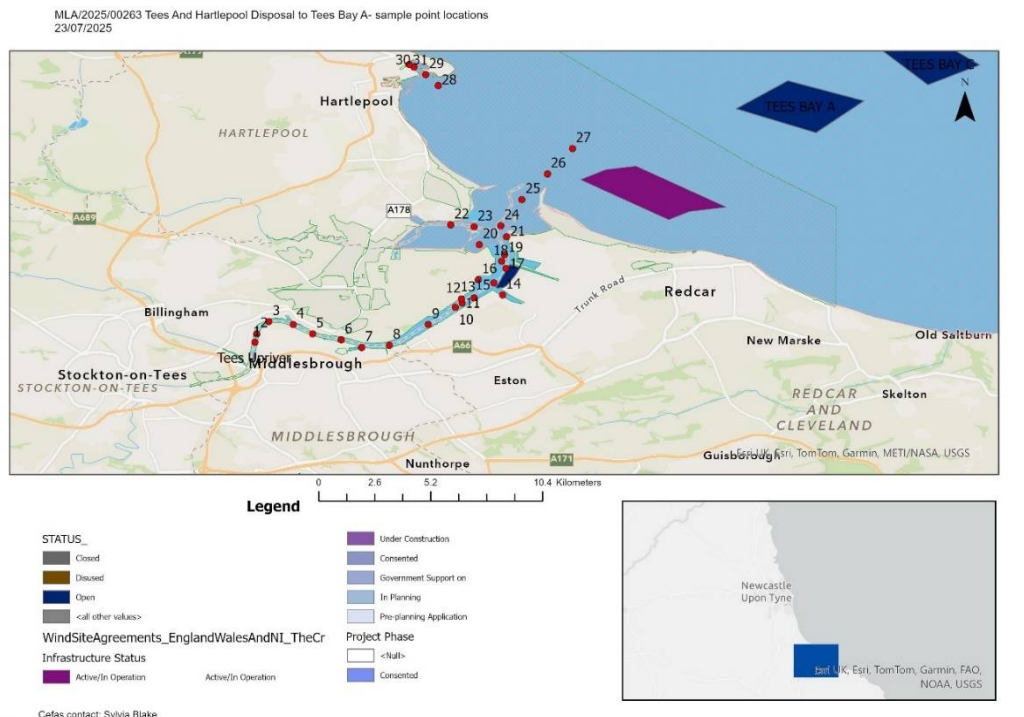


Figure 1. Location of thirty-one surface samples to support the continuation of the use of Tees Bay A for disposal of maintenance dredgings from the Tees and Hartlepool.

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MMO Question 3. Is the evidence complete for its intended use i.e. is there sufficient information to allow a decision on the application to be made? If not please explain why and what you would expect to see and any additional work.

18. These data were already reviewed for the year 9 mid-licence sampling advice (MLA/2015/00088/6; Ryan Alexander, 16th January 2025) and as such, I refer the MMO to the conclusions of that advice, which were that all contaminants other than PBDEs did not preclude material from disposal at sea, but that PBDEs denoted an increase year-on-year.
19. **Minor Comment (No Action):** With respect to the subset of samples analysed for PCBs and OCs, these sample sites are not evenly distributed and there appears a considerable distance from sample location 4 to sample location 17 where there is a lack of recent information in the application. The applicant should endeavour to provide analysis of these contaminants across this area at the time of the next sampling to ensure the evidence on which the MMO can base their decisions is fit for the purpose.

Other assessment criteria

20. The UK only has agreed ALs for trace metals and organotins and only has limited agreed ALs for PAHs, PCBs and OCs. In light of this limitation and following several Defra- and MMO-funded Action Levels Review programmes¹, various changes have been proposed by Cefas to make the UK ALs more in line with other countries and with the relevant literature. To date, no changes proposed following these reviews have been implemented, however, the proposed criteria constitute the best available evidence to interpret sediment sample results for dredged material in the UK. As such, Cefas uses these “other assessment criteria” to further assess certain contaminants for which there is no corresponding UK AL, or where results require further assessment due to intermediate quality. The use of these criteria is **advisory only**, and should a contaminant exceed any of the proposed upper assessment criteria, the MMO is not obliged to reject the licence application or report this to OSPAR or the LP as a breach of either agreement. See Annex 1 Table 1 for a consolidated table of these other assessment criteria.
21. The applicant has now provided TOC data and therefore the concentrations of PBDEs have been normalised to take these into account. The percentage of TOC in samples tested for PBDEs ranged from 0.4% to 11.2% with an average of 4.9%, which meant that the concentrations for normalised data were around half or less than the calculated values².
22. However, levels of BDE 209 and 99 in over half the samples were seen to be above the deAL2 although this is not unusual for levels in the Tees as this was a large manufacturing source of these contaminants.

¹ 2020 Action Levels Review, Defra ME5226: <https://randd.defra.gov.uk/ProjectDetails?ProjectId=20243>
2015 Action Levels Review, MMO 1053: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/485576/High_level_review_of_current_UK_action_level_guidance_report_1053_.pdf
2003 Action Levels Review, Defra AE0258: <https://randd.defra.gov.uk/ProjectDetails?ProjectId=9962>

² Normalisation of PBDE levels using TOC data uses the formula: *Normalised*PBDEs = PBDEs * (2.5/TOC)

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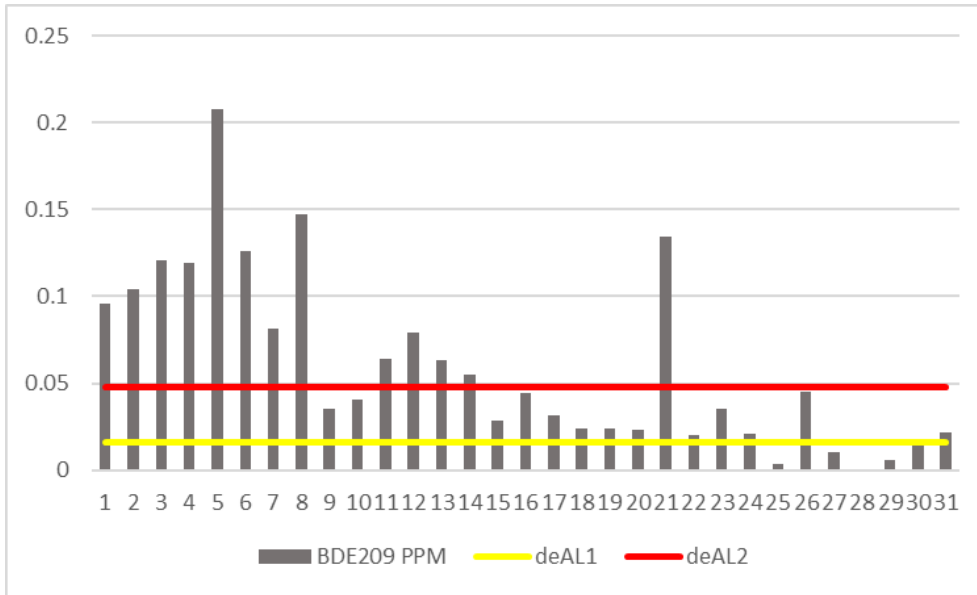


Figure 6. Levels of normalised BDE209 in 31 samples from the Tees (October 2024).

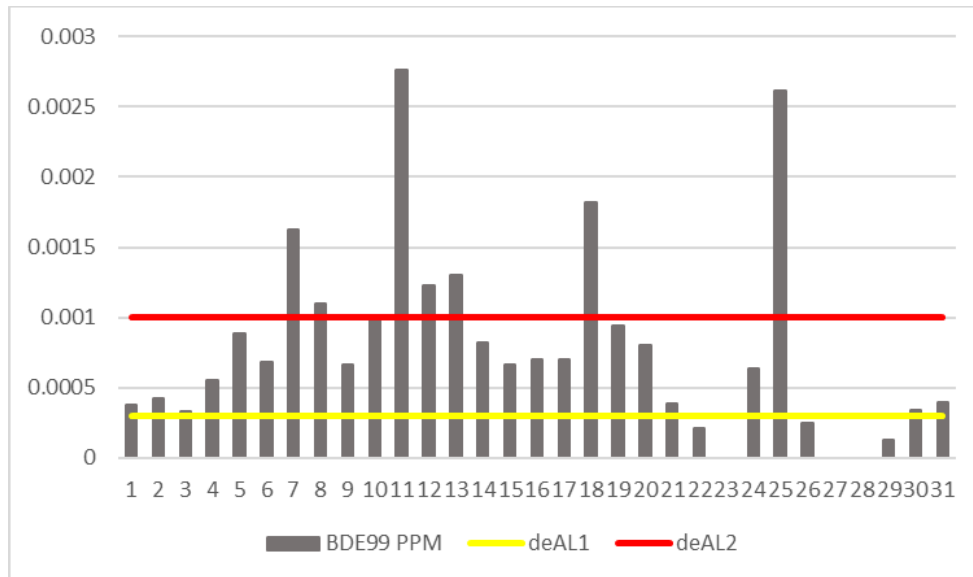


Figure 7. Levels of normalised BDE99 in 31 samples from the Tees (October 2024).

23. Comparison of the levels of BDE209 and BDE99 was undertaken from 2019 to 2024 and for normalised versus non-normalised data in 2024 which showed mean normalised levels of BDE99 in 2024 to be still above levels in 2023. However, levels of BDE 209 on average were lower than levels from 2019 to 2023. As a result of this assessment the annual resampling requirement was rescinded to every three years.

MMO Question 4. Do you agree with the conclusions reached?

24. N/A

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MMO Question 5. Please assess the methodology used to prepare and gather evidence. Have they used standard practices?

25. Yes, please see response to Questions 1 and 2.

MMO Question 6. Is the timeliness of the data appropriate for the intended use?

26. Yes, the samples were collected and analysed in October 2024 to support this application.

MMO Question Is there anything that would prevent the disposal of the material to sea?

27. No, the conclusions of the assessment of the dredge material are unchanged from previous comments on the sampling provided in that the material remains acceptable for disposal to sea.

28. Tees Bay A (TY160) and Tees Bay C (TY150) were surveyed in 2023 (Bolm *et.al* 2024). Seventeen samples collected were analysed for PSA, TOC, PAHs and Organohalogen³ (OHs). The highest sum of PAHs found over Tee Bay A (TY160) showed levels of about 83 mg/kg (PPM). Evaluation of the PAH data indicates that the source in all the sediment samples from Inner and Outer Tees was predominantly petrogenic with >71 % of the PAH content arising from oil rather than combustion sources. Temporally, PAHs across the survey area remain generally comparable to those observed historically (2007 to 2013),

29. Polychlorinated biphenyls (PCBs) were detected at all 17 of the stations sampled in 2023 (\sum ICES7 PCBs ranged from 0.043 $\mu\text{g kg}^{-1}$ dw to 2.27 $\mu\text{g kg}^{-1}$ dw). The highest concentrations were observed within the Inner Tees disposal site, although one station within this site showed one of the lowest measured concentrations. Polybrominated diphenyl ethers (PBDEs) were detected in all the 17 stations sampled (\sum 11 PBDEs ranged from 0.078 $\mu\text{g kg}^{-1}$ dw to 2.95 $\mu\text{g kg}^{-1}$ dw), with BDEs 47 and 99 being detected at all stations. Again, the highest concentrations witnessed were within the Inner Tees disposal site boundary. Two congeners, BDE99 and BDE47, were responsible for 47 to 62 % of the \sum 11 PBDEs concentrations. Concentrations of OHs are compared within the report to Canada's Federal Environmental Quality Guidelines (FEQGs) (which are used by OSPAR) and Cefas Action Levels (ALs). The temporal assessment indicated that no notable change in OH concentrations can be discerned across the Inner and Outer Tees survey area.

30. It was concluded that the results of sampling conducted indicated that there has been no evident change in sediment contaminant concentrations within and around the Inner and Outer Tees disposal sites compared to data previously sampled under this project (C6794). As these two sites, the Inner (Tees Bay A (TY160)) site in particular, generally receives large quantities of material on an annual basis, future monitoring was recommended (in three years' time, for example) to help ensure that any potential changes to the current sediment characteristics in this region are identified as early as practicably possible.

MMO Question Are there any recommended conditions relating to post consent sampling? any observations here - number paragraphs separately.

31. The maintenance dredge material should be characterised for disposal every three years to ensure that the material remains suitable for disposal to Tees Bay A (TY160). As the samples were collected and analysed in October 2024 the next round of sampling would be in 2027.

32. The analysis of PBDEs should remain a requirement of the routine sampling at this time due to the levels of these observed in the material.

³ PCBs, OCs and PBDEs

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33. Due to the lack of data between sample locations 4 and 17, future analysis of PCBs and OCs would be useful in those sections of the dredge areas not covered by sample sites 4 to 17 to reduce gaps in characterisation of the proposed dredge material.

Summary

34. The analysis of the data provided for previous licence to discharged licence condition 5.2.3. for year nine sampling are suitable to support the application for this renewal for a ten-year licence for the continued use of Tees Bay A (TY160) for the disposal of maintenance dredge material from Tees and Hartlepool. The material remains acceptable for disposal to sea.
35. The applicant should provide the MMO with accurately completed templates for this data to ensure that annual returns data for Tees Bay A (TY160) are accurate and for use with Cefas Sediment Framework Management Application for publication of the data⁴.
36. Previous Cefas advice (cited points 8 and 9) suggested Tees Bay A (TY160) was included in future monitoring to look at impacts on sediment quality, flora and fauna at the site and surrounding area as a result of the continued disposal activity. This is in line with conclusions from the assessment of survey data from 2023 (*Bolam et.al 2024*). Should the results of any future monitoring indicate any negative adverse effects then this advice could be subject to change before the next round of monitoring. Therefore, results of monitoring should be reviewed alongside the licence conditions for this application if consented.

Sylvia Blake
Senior Advisor

Marine Coastal Planning and Infrastructure Team

Quality Check	Date
Joe Perry	28/07/2025

References

Bolam, S., Mason, C., Potter, K., Barber, J., and Hynes, C., (2024) Dredged Material Disposal Site Monitoring Around the Coast of England: Results of Sampling (2023-2024) Tees (Inner and Outer) March 2024 v2.

Gorham-Test, C., Wade, T., Engle, V., Summers, K., & Hornig, E. (1999). Regional Environmental Monitoring and Assessment Program — Galveston Bay 1993. Proceedings, Galveston Bay Estuary Program, State of the Bay Symposium IV, January 28–29, Galveston, TX, 97–109.

Long, E.R., Field, L.J., and MacDonald, D.D. (1998). Predicting toxicity in marine sediments with numerical sediment quality guidelines. *Environmental Toxicology and Chemistry*. 17, 714-727

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⁴ [Sediment Management Framework application, available at: https://rconnect.cefas.co.uk/content/692515e9-65a5-41d8-9117-79a9798a0519](https://rconnect.cefas.co.uk/content/692515e9-65a5-41d8-9117-79a9798a0519)

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Mason, C., Vivian, C., Griffith, A., Warford, L., Hynes, C., Barber, J., Sheahan, D., Bersuder, P., Bakir, A. and Lonsdale, J.A., 2021. Reviewing the UK's Action Levels for the Management of Dredged Material. *Geosciences*, 12(1), p.3.

Nicolaus, E.M., Law, R.J., Wright, S.R. and Lyons, B.P., (2015). Spatial and temporal analysis of the risks posed by polycyclic aromatic hydrocarbon, polychlorinated biphenyl and metal contaminants in sediments in UK estuaries and coastal waters. *Marine pollution bulletin*, 95(1), pp.469-479.

Appendix 1

Table 1. Other Assessment Criteria (adapted from Table 5-1 (p53) of the 2020 Action Levels Review. Trace metals and organotins have been excluded from the table, and organochlorine pesticides have been added from Table 3-14 (pg34)).

Contaminant	Units	Current Action Level 1	Proposed Action Level 1	Current Action Level 2	Proposed Action Level 2
PAHs_THC	ppm	(100)	-	-	-
PAHs_LMW ⁵	ppb	-	552	-	3160
PAHs_HMW ⁶	ppb	-	1700	-	9600
Σ25_PCBs	ppb	20	20	200	180
ΣICES7_PCBs	ppb	10	10	-	90
PCB28	ppb	-	0.6	-	1.7
PCB52	ppb	-	0.9	-	2.7
PCB101	ppb	-	1	-	3
PCB118	ppb	-	0.2	-	0.6
PCB138	ppb	-	2.6	-	7.9
PCB153	ppb	-	13	-	40
PCB180	ppb	-	4	-	12
AHCH	ppb	-	0.4	-	1
GHCH	ppb	-	0.2	-	1
HCB	ppb	-	2	-	6
DDE	ppb	-	1	-	3
DDT	ppb	1	1	-	3
TDE	ppb	-	3	-	10
BDE28	ppb	-	38	-	110
BDE47	ppb	-	33	-	97.5
BDE66	ppb	-	33	-	97.5
BDE85	ppb	-	0.3	-	1
BDE99	ppb	-	0.3	-	1
BDE100	ppb	-	0.3	-	1
BDE153	ppb	-	367	-	1100

⁵ Acenaphthene, Acenaphthylene, Anthracene, C1-Napthalenes, Fluorene, Napthalene, Phenanthrene.

⁶ Benz[a]anthracene, Benzo[a]pyrene, Chrysene, Dibenz[a,h]anthracene, Fluoranthene, Pyrene.

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BDE154	ppb	-	367	-	1100
BDE183	ppb	-	4666	-	14000
BDE209	ppb	-	16	-	47.5

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