Partners in UK offshore wind

MONA OFFSHORE WIND PROJECT

Annex 3.8 to the Applicant's response to Relevant Representation at the Procedural Deadline

NRW Sediment sample analysis proforma in response to NRW RR-11.170

Sediment sample results 2022(A)

Deadline: Procedural Deadline

Application Reference: EN01037

Document Number: MOCNS-J3303-RPS-10227

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June 2024

F01

Image of an offshore wind farm

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
F01	Examination – Procedural Deadline	RPS	Mona Offshore Wind Ltd	Mona Offshore Wind Ltd	June 2024

Prepared by:

RPS

Prepared for:

Mona Offshore Wind Ltd.

Applicant Information

Instructions:

1. All applicants and laboratories should refer to the most recent guidance on sediment analysis in support of marine licence applications on the Marine Licensing pages of the NRW website
2. Full information must be provided under each relevant sheet of the workbook. Grey highlighted cells indicate where information can be entered.
3. Where information cannot be provided, the applicant should consult with NRW PS prior to submission.
4. Worksheets are protected to prevent accidental amendments to calculated values. If amendments are required please consult with NRW PS.
5. Sample IDs used through the data output worksheets should correspond to Sample IDs provided on this worksheet.

Marine licence applicant information:

Applicant:	Mona Offshore Wind Project Ltd
NRW Sample plan reference number:	
Application title:	Mona Offshore Wind Project Ltd
Date sampled:	01/04/2022 to 14/08/2022
Sampling location:	South Irish Sea

Dredge area tonnages:

Dredge Area	Dredging tonnages	% total dredged material	Total dredged material
Area i			
Area ii			
Area iii			0
Area iv			
Area v			
Area vi			

NRW PS use only

Sample numbers and locations

Sample ID	Excluded sample (NRW PS use)	Sample location (decimal degrees, WGS84)		Location name (as per sampling plan)	Sampling depth (m)	Dredge area
		Position latitude	Position longitude			
ENV67A		-3.758941	53.670339		44	
ENV50		-4.027610	53.735212		42	
ENV59		-3.926186	53.824720		38	
22ENV30		-4.054745	53.678805		41	
ENV56		-4.001345	53.789762		41	
22ENV32		-3.914742	53.763164		41	
22ENV33		-3.872820	53.685977		39	
22ENV34		-3.750532	53.616199		34	
ENV51		-3.918337	53.734634		38	
22ENV36		-3.942914	53.652717		40	
22ENV37		-4.019189	53.848918		42	
22ENV38		-3.825934	53.630786		38	
ZOI39		-3.691285	53.719629		37	
ZOI40		-3.789703	53.761177		36	
ZOI41		-4.214004	53.805011		52	
ZOI42		-3.684305	53.660236		34	
ZOI43		-4.026209	53.864921		41	
ZOI45		-4.097667	53.781215		44	
ZOI46		-3.645176	53.614998		28	
ZOI47		-3.834850	53.801832		34	
ZOI48		-4.130504	53.837980		48	
ZOI50		-3.717886	53.692354		41	
OCC52		-3.970472	53.600901		42	
OCC53		-3.916648	53.594854		42	
OCC54		-3.837332	53.590060		41	
OCC55		-3.944839	53.549285		47	
OCC56		-3.911587	53.549256		48	
OCC57		-3.878203	53.547195		44	
OCC58		-3.914166	53.501531		41	
OCC59		-3.925595	53.487025		38	

Physical characteristics data

Instructions:

1. Record the laboratory/contractor responsible for analysis
2. Record the date the samples were analysed.
3. Enter full dataset for each sample in the analysis results table
4. Where copying and pasting entries please use paste values only
5. Where entering multiple Sample IDs please use the pop-up form
   IDs should be separated by a comma

Analysis information:

Laboratory/contractor: Kenneth Pye Associates Ltd. and Ocean Ecology

Date of analysis:

Physical characteristics analysis outputs:

Laboratory sample number	Dredge Area	Sample ID(s)	Visual appearance*	Exempt from chemical analysis▫
ENV67A		ENV67A	Fine to coarse sand with shell fragments	
ENV50		ENV50	Fine to coarse sand with pebbles	
ENV59		ENV59	Sandy gravel with shell fragments	
22ENV30		22ENV30	Sandy gravel with small cobbles	y
ENV56		ENV56	Fine to coarse sand with shell fragments	y
22ENV32		22ENV32	Sandy gravel with shell fragments	y
22ENV33		22ENV33	Sandy gravel with shell fragments	y
22ENV34		22ENV34	Fine to coarse sand with shell fragments	y
ENV51		ENV51	Sandy gravel with shell fragments	y
22ENV36		22ENV36	Sandy gravel with shell fragments	
22ENV37		22ENV37	Sandy gravel with shell fragments	y
22ENV38		22ENV38	Fine to coarse sand with shell fragments	
ZOI39		ZOI39	Sandy gravel with shell fragments	
ZOI40		ZOI40	Sandy gravel with shell fragments	
ZOI41		ZOI41	Sandy gravel with cobbles and shell fragments	y
ZOI42		ZOI42	Fine to coarse sand with shell fragments	y
ZOI43		ZOI43	Fine to coarse sand with shell fragments	
ZOI45		ZOI45	Fine to coarse sand with shell fragments	
ZOI46		ZOI46	Fine to coarse sand with shell fragments	
ZOI47		ZOI47	Sandy gravel with shell fragments	y
ZOI48		ZOI48	Sandy gravel with shell fragments	y
ZOI50		ZOI50	Fine to coarse sand with shell fragments	y
OCC52		OCC52	Sandy gravel with shell fragments	y
OCC53		OCC53	Sandy gravel and shell fragments	
OCC54		OCC54	Sandy gravel and shell fragments	
OCC55		OCC55	Fine to coarse sand with shell fragments	y
OCC56		OCC56	Sandy gravel and shell fragments	
OCC57		OCC57	Sandy gravel and shell fragments	y
OCC58		OCC58	Fine to coarse sand with shell fragments	
OCC59		OCC59	Fine to coarse sand with shell fragments	y

* **Visual appearance**: Incude a description of what the material looks like and what it contains, e.g. sandy material containing brick fragments, or black silt, or foreign man made matter caught in the sample.

▫ **Exempt from chemical analysis:** enter 'y' where sediment samples contain glacial material or are too coarse and thus exempt from chemical analysis.

Total Solids (% total sediments)	Organic matter (total organic carbon)	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0
		45mm	31.5mm	22.4mm	16mm	11.2mm	8mm	5.6mm	4mm	2.8mm	2mm
	0.1100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.40	0.60
	0.2000	0.00	0.00	0.00	0.00	1.00	3.90	6.80	7.40	7.10	4.00
	0.1900	0.00	0.00	0.00	0.00	0.50	3.70	2.90	2.00	4.30	4.30
		0.00	0.00	0.00	0.40	2.00	7.00	8.60	6.50	4.90	4.20
		0.00	0.00	0.00	0.00	0.00	1.40	1.50	2.40	2.80	2.70
		0.00	0.00	0.00	0.00	0.30	3.40	2.80	2.30	3.50	3.60
		0.00	0.00	0.00	0.00	1.00	4.20	2.60	3.10	4.40	5.30
		0.00	0.00	0.00	0.00	0.00	1.10	2.90	3.90	5.40	6.70
		0.00	0.00	0.00	1.90	5.70	8.80	5.40	4.20	4.80	5.20
	0.2300	0.00	0.00	0.00	0.00	2.10	5.70	6.60	5.70	6.70	5.40
		0.00	0.00	0.00	0.00	0.50	0.20	2.90	3.60	3.90	4.10
	0.1600	0.00	0.00	0.00	0.00	0.00	0.00	0.40	1.20	3.00	5.30
	0.1600	0.00	0.00	0.00	0.00	1.00	6.00	6.00	4.40	5.50	5.20
	0.2000	0.00	0.00	0.00	0.00	1.70	4.30	2.30	2.60	3.40	4.20
		0.00	0.00	18.80	15.90	4.70	2.60	3.30	3.20	2.20	1.60
		0.00	0.00	0.00	0.00	0.90	0.80	0.90	1.10	1.10	1.30
	0.1600	0.00	0.00	0.00	0.00	0.90	7.20	7.30	3.40	3.30	2.90
	0.1400	0.00	0.00	0.00	0.00	0.40	1.20	2.60	2.20	3.10	2.90
	0.1300	0.00	0.00	0.00	0.00	0.20	0.20	0.20	0.20	0.70	1.50
		0.00	0.00	0.00	0.00	0.10	0.10	0.60	0.70	1.00	1.50
		0.00	0.00	0.00	0.00	0.20	3.10	4.30	3.60	3.60	3.20
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
		0.00	0.00	0.00	0.00	1.70	6.30	5.00	4.50	4.80	4.70
	0.2000	0.00	0.90	0.00	0.00	1.80	4.50	4.10	5.40	6.70	5.30
	0.1700	0.00	0.00	0.00	0.00	0.50	1.50	2.80	3.50	5.20	4.70
		0.00	0.00	0.00	0.00	0.00	0.10	1.10	2.10	3.20	3.60
	0.1800	0.00	0.00	0.00	0.00	0.00	0.10	1.10	2.30	4.50	4.00
		0.00	0.00	0.00	0.00	0.60	1.50	1.80	2.60	5.20	6.50
	0.2100	0.00	0.00	0.00	0.00	0.10	2.50	2.20	2.60	4.10	3.90
		0.00	0.00	0.00	0.00	0.00	1.60	3.50	5.10	5.30	5.30

Particle size distribution (% at 0.5 phi inter

-0.5	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
1.4mm	1mm	707µm	500µm	353.6µm	250µm	176.8µm	125µm	88.39µm	63µm	44.2µm	31.3µm
1.30	2.70	29.30	39.20	18.90	5.00	1.90	0.50	0.00	0.00	0.00	0.00
5.00	6.90	7.30	10.30	14.10	11.40	3.70	1.10	0.50	0.00	0.50	0.60
4.90	3.80	4.40	7.60	15.00	19.60	13.50	4.20	0.60	0.40	0.60	0.50
6.40	7.60	10.50	11.50	9.50	7.30	3.00	1.10	0.20	0.10	0.70	0.60
3.00	3.50	7.90	14.00	19.10	20.90	8.10	2.40	0.70	0.20	0.90	0.50
3.60	4.00	10.80	13.60	17.20	17.20	6.80	1.30	0.40	0.20	0.60	0.50
5.70	3.90	6.70	10.70	16.30	18.20	7.40	0.00	0.00	0.00	0.70	0.50
7.90	6.70	5.00	6.90	11.30	17.10	11.00	2.70	0.40	0.10	0.60	0.60
5.30	4.30	4.80	8.90	13.60	14.00	5.40	0.90	0.30	0.00	0.30	0.40
5.80	4.80	9.10	10.90	10.90	10.40	4.50	1.10	0.50	0.00	0.40	0.60
4.70	3.30	4.00	7.70	18.30	23.50	10.50	1.90	1.30	0.00	0.60	0.60
8.40	12.10	25.90	23.60	9.70	5.00	2.10	0.70	0.10	0.10	0.20	0.20
5.00	2.70	3.60	7.50	10.50	19.20	14.30	2.10	0.50	0.00	0.40	0.40
4.70	4.50	8.60	11.30	14.70	17.10	8.50	1.30	0.40	0.00	0.50	0.60
1.80	1.70	4.20	6.30	10.40	9.30	3.30	1.20	0.40	0.20	0.70	0.50
3.00	4.70	16.80	25.40	15.00	12.80	6.00	1.30	0.10	0.00	0.50	0.50
2.70	2.20	4.60	7.10	15.30	21.50	10.40	3.20	0.70	0.30	0.60	0.40
2.80	2.70	10.60	15.80	19.70	20.00	8.20	2.20	0.70	0.10	0.50	0.30
3.20	6.30	16.80	25.40	25.70	13.80	4.40	1.30	0.20	0.00	0.00	0.00
2.00	2.00	4.80	18.50	36.50	25.20	5.70	0.90	0.20	0.00	0.00	0.00
3.60	2.50	3.50	8.30	18.30	23.40	10.30	2.60	1.20	0.00	0.70	0.50
0.10	0.50	13.50	31.40	22.40	12.40	4.70	0.40	0.10	0.00	0.30	0.70
4.70	3.70	4.90	8.10	14.80	18.80	8.40	2.40	0.60	0.30	0.50	0.40
4.90	4.20	4.90	7.30	13.80	17.60	8.40	1.40	0.20	0.20	0.60	0.50
4.60	3.90	5.70	9.40	14.10	20.80	11.00	2.00	0.70	0.00	0.60	0.60
5.40	6.50	12.30	14.40	16.20	14.20	6.20	2.30	0.80	0.20	0.70	0.70
5.00	6.00	8.10	10.60	16.80	18.30	7.90	2.20	0.80	0.20	0.70	0.70
8.60	9.30	8.40	8.10	10.80	12.80	6.50	2.90	0.90	0.20	0.80	0.80
4.70	5.20	7.10	11.10	17.40	18.90	8.60	1.50	0.40	0.10	0.50	0.60
4.40	3.20	6.10	10.00	16.30	17.60	6.90	1.40	0.70	0.10	0.50	0.90

vals)

5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0
22.1µm	15.6µm	11µm	7.8µm	5.5µm	3.9µm	2.75µm	1.95µm	1.38µm	0.98µm	0.69µm	0.49µm
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.50	0.60	0.80	1.10	1.30	1.20	0.80	0.50	0.30	0.20	1.00	
0.50	0.60	0.90	1.00	1.10	1.00	0.70	0.40	0.30	0.20	0.60	
0.60	0.70	0.70	1.00	1.10	1.00	0.70	0.40	0.30	0.20	0.90	
0.50	0.60	0.50	0.80	1.20	1.20	0.80	0.40	0.50	0.40	1.00	
0.50	0.50	0.70	1.00	1.10	1.10	0.80	0.50	0.30	0.20	0.90	
0.60	0.80	0.70	1.00	1.50	1.50	0.80	0.50	0.50	0.40	1.00	
0.60	0.60	0.70	1.10	1.40	1.30	1.00	0.70	0.40	0.30	1.30	
0.30	0.50	0.50	0.70	1.00	0.90	0.50	0.30	0.30	0.20	0.50	
0.50	0.60	0.70	1.00	1.30	1.30	0.90	0.60	0.40	0.30	1.20	
0.60	0.60	0.50	0.80	1.30	1.20	0.80	0.50	0.50	0.40	1.10	
0.20	0.20	0.30	0.30	0.30	0.20	0.10	0.10	0.00	0.10	0.20	
0.40	0.40	0.40	0.70	1.00	0.90	0.60	0.30	0.30	0.30	0.70	
0.50	0.60	0.70	1.10	1.30	1.30	1.00	0.60	0.40	0.30	1.30	
0.60	0.60	0.50	0.70	0.90	0.90	0.70	0.50	0.40	0.30	1.40	
0.50	0.70	0.70	0.90	1.30	1.20	0.70	0.40	0.40	0.30	0.70	
0.40	0.50	0.50	0.60	0.90	1.00	0.60	0.30	0.30	0.30	0.70	
0.30	0.30	0.30	0.50	0.60	0.50	0.30	0.20	0.20	0.20	0.40	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.50	0.50	0.50	0.90	1.10	1.00	0.70	0.40	0.40	0.30	0.80	
0.70	1.10	0.90	1.60	2.10	2.10	1.30	0.80	0.70	0.50	1.60	
0.40	0.50	0.60	0.60	0.90	0.90	0.50	0.30	0.20	0.20	0.50	
0.50	0.60	0.80	1.00	1.10	1.00	0.70	0.50	0.30	0.20	0.80	
0.60	0.60	0.70	1.10	1.30	1.20	0.80	0.50	0.40	0.30	0.80	
0.60	0.70	0.90	1.20	1.50	1.40	1.00	0.60	0.40	0.30	1.40	
0.60	0.70	0.90	1.30	1.60	1.50	1.10	0.70	0.40	0.30	1.40	
0.70	0.90	1.00	1.40	1.80	1.70	1.20	0.70	0.40	0.30	1.60	
0.50	0.60	0.90	1.20	1.30	1.20	0.90	0.60	0.30	0.20	0.90	
0.70	0.60	0.90	1.40	1.70	1.50	1.20	0.70	0.50	0.40	1.50	

11.5	12.0	12.5	13.0	13.5	14.0	14.5	>14.5
0.34µm	0.24µm	0.17µm	0.12µm	0.09µm	0.06µm	0.04µm	<0.04µm

Trace metal data

Instructions:

1. Record the laboratory/contractor responsible for trace metal analysis
2. Record the date the samples were analysed.
3. Enter full dataset for each sample in the analysis results table
4. Trace metal analysis results should be reported in mg/kg (ppm) dry weight
5. Enter methdological limit of detection for each trace metal prior to inputting raw data
6. Where analysis outputs are less than the limits of detection please enter text "<LOD"
7. Where copying and pasting entries please use paste values only
8. Where entering multiple Sample IDs please use the pop-up form
   IDs should be separated by a comma

Analysis information:

Laboratory/contractor:	Kenneth Pye Associates Ltd. and Ocean Ecology
Date of analysis:	

Determinand analysis outputs:

Laboratory sample number	Dredge Area	Sample ID(s)	Metals as mg/kg dry weight							
			Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Mercury (Hg)	Nickel (Ni)	Lead (Pb)	Zinc (Zn)
ENV67A		ENV67A	10.7	<LOD	6.7	5.9	0.03	6.6	8.1	27.7
ENV50		ENV50	19.6	0.13	15.4	8.5	0.06	14.9	14.3	44
ENV59		ENV59	15.4	0.13	14.2	7.8	0.05	12.9	14.6	44.4
22ENV36		22ENV36	19	0.65	18.8	10.9	0.06	15.8	18.7	62.8
22ENV38		22ENV38	18.6	0.18	7.4	8.4	0.04	8.2	11.1	31.9
ZOI39		ZOI39	13.3	0.1	19.8	8.8	0.06	17.8	12.2	47.8
ZOI40		ZOI40	13	<LOD	13.4	7.6	0.07	10.4	14.7	45.4
ZOI43		ZOI43	11.6	<LOD	24.1	10.5	0.03	15.7	10.9	41.9
ZOI45		ZOI45	12.9	0.1	9.8	7.6	0.04	9.9	9.2	30.3
ZOI46		ZOI46	11.8	0.15	6.9	5.6	0.04	6.2	8.4	25.8
OCC53		OCC53	20.7	0.15	14.6	7.2	0.04	12.9	14.7	43.6
OCC54		OCC54	18	0.1	11.5	7.7	0.05	9.9	15	38.2
OCC56		OCC56	11.8	0.17	8.6	7.2	0.04	8.5	11.2	39.5
OCC58		OCC58	17.9	0.11	10.8	7.4	0.04	10.8	15	60.2
Limits of detection (mg/kg dry weight):			1	0.04	0.5	2	0.01	0.5	2	3

Organotin data

Instructions:

1. Record the laboratory/contractor responsible for organotin analysis
2. Record the date the samples were analysed.
3. Enter full dataset for each sample in the analysis results table
4. Organotin analysis results should be reported in mg/kg (ppm) dry weight
5. Enter methdological limit of detection for each organotin prior to inputting raw data
6. Where analysis outputs are less than the limits of detection please enter text "<LOD"
7. Where copying and pasting entries please use paste values only
8. Where entering multiple Sample IDs please use the pop-up form
   IDs should be separated by a comma

Analysis information:

Laboratory/contractor:	Kenneth Pye Associates Ltd. and Ocean Ecology
Date of analysis:	

Determinand analysis outputs:

Laboratory sample number	Dredge Area	Sample ID(s)	Organotins as mg/kg dry weight	
			Dibutyltine (DBT)	Tributyltin (TBT)
ENV67A		ENV67A	<LOD	<LOD
ENV50		ENV50	<LOD	<LOD
ENV59		ENV59	<LOD	<LOD
22ENV36		22ENV36	<LOD	<LOD
22ENV38		22ENV38	<LOD	<LOD
ZOI39		ZOI39	<LOD	<LOD
ZOI40		ZOI40	<LOD	<LOD
ZOI43		ZOI43	<LOD	<LOD
ZOI45		ZOI45	<LOD	<LOD
ZOI46		ZOI46	<LOD	<LOD
OCC53		OCC53	<LOD	<LOD
OCC54		OCC54	<LOD	<LOD
OCC56		OCC56	<LOD	<LOD
OCC58		OCC58	<LOD	<LOD
Limits of detection (mg/kg dry weight):			0.001	0.001

Polyaromatic hydrocarbon data

Instructions:

1. Record the laboratory/contractor responsible for PAH analysis
2. Record the date the samples were analysed.
3. Enter full dataset for each sample in the analysis results table
4. Analysis results for individual PAHs should be reported in µg/kg (ppb) dry weight.
   THC should be reported as mg/kg (ppm)
5. Enter methdological limit of detection for each PAH prior to inputting raw data
6. Where analysis outputs are less than the limits of detection please enter text "<LOD"
7. Where copying and pasting entries please use paste values only
8. Where entering multiple Sample IDs please use the pop-up form
   IDs should be separated by a comma

Analysis information:

Laboratory/contractor:	Kenneth Pye Associates Ltd. and Ocean Ecology
Date of analysis:	

Determinand analysis outputs:

Laboratory sample number	Dredge Area	Sample ID(s)	Acenapthene	Acenapthylene
ENV67A		ENV67A	<LOD	<LOD
ENV50		ENV50	<LOD	<LOD
ENV59		ENV59	<LOD	<LOD
22ENV36		22ENV36	<LOD	<LOD
22ENV38		22ENV38	<LOD	<LOD
ZOI39		ZOI39	<LOD	<LOD
ZOI40		ZOI40	<LOD	<LOD
ZOI43		ZOI43	<LOD	<LOD
ZOI45		ZOI45	<LOD	<LOD
ZOI46		ZOI46	<LOD	<LOD
OCC53		OCC53	<LOD	<LOD
OCC54		OCC54	<LOD	<LOD
OCC56		OCC56	<LOD	<LOD
OCC58		OCC58	<LOD	<LOD
Limits of detection (µg/kg dry weight):			1	1

Anthracene	Benz[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[e]pyrene	Benzo[k]fluoranthene	C1-Napthalenes
<LOD	<LOD	<LOD	1.52	1.27	1.08	<LOD	1.4
<LOD	3	5.05	8.81	8.02	8.31	3.27	8.31
<LOD	3.2	4.36	7.63	6.53	6.66	3.41	7.33
1.04	3.51	4.41	9.1	7.36	7.45	2.72	10.9
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
1.04	3.65	5.33	8.4	7.63	7.74	4.21	7.93
1.43	5.41	7.85	12.7	11.2	11.8	5.35	12.1
<LOD	3.01	3.95	8.25	6.52	6.35	2.83	7.44
<LOD	1.47	1.7	4.21	3.37	2.99	1.65	5.54
<LOD	<LOD	<LOD	1.15	1.01	<LOD	<LOD	1.24
<LOD	3.48	4.12	7.57	6.35	6.08	3.77	10.6
1.05	3.64	4.87	8.92	7.83	7.37	4.12	9.03
<LOD	2.04	2.57	4.74	4.35	3.88	2.21	6.17
<LOD	2.61	3.22	6.24	5.4	4.81	2.81	7.2
1	1	1	1	1	1	1	1

PAHs as dry weight (µg/kg dry weight)							
C1-Phenanthrenes	C2-Napthalenes	C3-Napthalenes	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[123-c,d]pyrene
1.64	1.65	1.69	<LOD	<LOD	1.05	<LOD	1.08
9.17	8.59	7.55	4.47	1.8	4.73	1.44	7.64
7.92	7.74	6.45	4.62	1.5	5.2	1.18	7.29
9.83	11.3	9.08	5.7	1.71	5.55	1.51	8.35
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
8.15	8.72	6.63	4.73	1.58	6.05	1.23	8.26
12.1	12.6	9.76	6.96	2.48	8.57	1.91	13.7
7.34	7.76	5.8	4.38	1.38	5.1	1.26	7.25
5.16	5.44	3.54	2.46	<LOD	2.35	<LOD	3.22
1.29	1.51	1.07	<LOD	<LOD	<LOD	<LOD	<LOD
10.7	12.6	10.1	4.67	1.18	5.45	1.36	6.52
8.96	9.43	6.99	5.03	1.6	6.07	1.5	7.94
5.7	6.26	4.28	3.01	<LOD	3.39	<LOD	3.94
6.7	7.12	5.73	3.47	<LOD	4.18	1.04	4.92
1	1	1	1	1	1	1	1

Napthalene	Perylene	Phenanthrene	Pyrene	**Total hydrocarbon content (mg/kg)**
<LOD	<LOD	1.09	1.02	14.49
3.42	1.41	6.66	4.05	105.7
2.93	1.62	6.07	4.69	96.33
4.5	1.69	7.18	4.9	117.79
<LOD	<LOD	<LOD	<LOD	**NQ**
3.19	1.9	6.24	5.62	108
4.45	2.71	9.17	7.93	160.18
3.86	1.62	6.15	4.39	94.64
1.9	<LOD	3.81	2.03	50.84
<LOD	<LOD	1.09	<LOD	8.36
3.6	1.26	8.39	4.89	112.69
3.67	1.89	6.68	5.39	111.98
2.43	1.17	4.38	2.9	63.42
2.54	1.2	4.95	3.77	77.91
1	1	1	1	1

Polychlorinated biphenyl data

Instructions:

1. Record the laboratory/contractor responsible for PCB analysis
2. Record the date the samples were analysed.
3. Enter full dataset for each sample in the analysis results table
4. Analysis results should be reported in mg/kg (ppm) dry weight.
5. Enter methdological limit of detection for each PCB prior to inputting raw data
6. Where analysis outputs are less than the limits of detection please enter text "<LOD"
7. ICES 7 PCBs are highlighted in bold
8. Where copying and pasting entries please use paste values only
9. Where entering multiple Sample IDs please use the pop-up form
   IDs should be separated by a comma

Analysis information:

Laboratory/contractor:	Kenneth Pye Associates Ltd. and Ocean Ecology
Date of analysis:	

Determinand analysis outputs:

Laboratory sample number	Dredge Area	Sample ID(s)	2,2',4,5,5'-Pentachlorobiphenyl CB101	2,3,3',4,4'-Pentachlorobiphenyl CB105
ENV67A		ENV67A	<LOD	<LOD
ENV50		ENV50	<LOD	<LOD
ENV59		ENV59	<LOD	<LOD
22ENV36		22ENV36	<LOD	<LOD
22ENV38		22ENV38	<LOD	<LOD
ZOI39		ZOI39	0.00008	<LOD
ZOI40		ZOI40	0.00016	0.00026
ZOI43		ZOI43	<LOD	<LOD
ZOI45		ZOI45	<LOD	<LOD
ZOI46		ZOI46	<LOD	<LOD
OCC53		OCC53	<LOD	<LOD
OCC54		OCC54	<LOD	<LOD
OCC56		OCC56	<LOD	<LOD
OCC58		OCC58	<LOD	<LOD
Limits of detection (mg/kg dry weight):			0.00008	0.00008

2,3,3',4',6-Pentachlorobiphenyl CB110	2,3',4,4',5-Pentachlorobiphenyl CB118	2,2',3,3',4,4'-Hexachlorobiphenyl CB128	2,2',3,4,4',5'-Hexachlorobiphenyl CB138	2,2',3,4,5,5'-Hexachlorobiphenyl CB141	2,2',3,4',5',6-Hexachlorobiphenyl CB149	2,2',3,5,5',6-Hexachlorobiphenyl CB151	2,2',4,4',5,5'-Hexachlorobiphenyl CB153
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	0.00008	<LOD	0.00011
0.00021	0.00021	0.00019	0.00022	0.00028	0.00016	0.00016	0.00023
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008

PCBs as mg/kg dry weight

2,3,3',4,4',5- Hexachlorobiphenyl CB156	2,3,3',4,4',6- Hexachlorobiphenyl CB158	2,2',3,3',4,4',5- Heptachlorobiphenyl CB170	2,2',5- Trichlorobiphenyl CB18	2,2',3,4,4',5,5'- Heptachlorobiphenyl CB180	2,2',3,4,4',5',6- Heptachlorobiphenyl CB183	2,2',3,4',5,5',6- Heptachlorobiphenyl CB187	2,2',3,3',4,4',5,5'- Octachlorobiphenyl CB194
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
0.00023	0.00017	0.00017	<LOD	0.00018	0.00019	0.00015	0.00017
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008

2,4,4'-Trichlorobiphenyl CB28	2,4',5-Trichlorobiphenyl CB31	2,2',3,5'-Tetrachlorobiphenyl CB44	2,2',4,4'-Tetrachlorobiphenyl CB47	2,2',4,5'-Tetrachlorobiphenyl CB49	2,2',5,5'-Tetrachlorobiphenyl CB52	2,3',4,4'-Tetrachlorobiphenyl CB66
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.00012
0.0001	<LOD	0.00011	0.00011	0.0001	0.00012	0.00022
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	0.00062	<LOD	<LOD	<LOD
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008

Organochlorine data

Instructions:

1. Record the laboratory/contractor responsible for analysis
2. Record the date the samples were analysed.

3. Enter full dataset for each sample in the analysis results table

4. Analysis results should be reported in mg/kg (ppm) dry weight.
5. Enter methdological limit of detection for each Organochlorine prior to inputting raw data
6. Where analysis outputs are less than the limits of detection please enter text "<LOD"
7. Where copying and pasting entries please use paste values only
8. Where entering multiple Sample IDs please use the pop-up form
   IDs should be separated by a comma

Analysis information:

Laboratory/contractor: Kenneth Pye Associates Ltd. and Ocean Ecology

Date of analysis:

Determinand analysis outputs:

Laboratory sample number	Dredge Area	Sample ID(s)	Organochlorine pesticides as mg/kg dry weight							
			alpha-hexachlorocyclohexane (AHCH)	beta-hexachlorocyclohexane (BHCH)	gamma-hexachlorocyclohexane (GHCH)	Dieldrin	Hexachlorobenzene (HCB)	1,1-Dichloro-2,2-bis(p-chlorophenyl) ethylene (PPDDE)	Dichlorodiphenyltrichloro ethane (PPDDT)	1,1-dichloro-2,2-bis(p-chlorophenyl)ethane (PPTDE)
ENV67A		ENV67A	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
ENV50		ENV50	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
ENV59		ENV59	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
22ENV36		22ENV36	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
22ENV38		22ENV38	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
ZOI39		ZOI39	<LOD	<LOD	<LOD	0.0002	<LOD	<LOD	<LOD	0.0004
ZOI40		ZOI40	<LOD	0.0001	<LOD	0.0003	<LOD	0.0002	0.0004	0.0005
ZOI43		ZOI43	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
ZOI45		ZOI45	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
ZOI46		ZOI46	<LOD	<LOD	<LOD	0.0002	<LOD	<LOD	0.0002	<LOD
OCC53		OCC53	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0002	0.0001
OCC54		OCC54	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0002	<LOD
OCC56		OCC56	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0001	<LOD
OCC58		OCC58	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0007	<LOD
Limits of detection (mg/kg dry weight):			0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Brominated flame retardant data

Instructions:

1. Record the laboratory/contractor responsible for analysis
2. Record the date the samples were analysed.
3. Enter full dataset for each sample in the analysis results table
4. Analysis results should be reported in mg/kg (ppm) dry weight.
5. Enter methdological limit of detection for each BDE prior to inputting raw data
6. Where analysis outputs are less than the limits of detection please enter text "<LOD"
7. Where copying and pasting entries please use paste values only
8. Where entering multiple Sample IDs please use the pop-up form
   IDs should be separated by a comma

Analysis information:

Laboratory/contractor: N/A

Date of analysis: N/A

Determinand analysis outputs:

Laboratory sample number	Dredge Area	Sample ID(s)	Brominated flame retardants as mg/kg dry weight												
			2,2',4,4',6-penta-bromodiphenyl ether (BDE100)	Hexabromodiphenyl ether (BDE138)	2,2',4,4',5,5'-hexa-bromodiphenyl ether (BDE153)	2,2',4,4',5,6'-hexa-bromodiphenyl ether (BDE154)	2,2',4-tri-bromodiphenylether (BDE17)	2,2',3,4,4',5,5',6-heptabromodiphenyl ether (BDE183)	2,2',3,3',4,4',5,5',6,6'-decabrominated diphenyl ether (BDE 209)	2,4,4'-tribromodiphenyl ether (BDE28)	2,2',4,4'-Tetrabromodiphenyl ether (BDE47)	2,3',4,4'-Tetrabromodiphenyl ether (BDE66)	2,2',3,4,4'-Pentabromodiphenyl ether (BDE85)	2,2',4,4',5-pentabromodiphenyl ether (BDE99)
Limits of detection (mg/kg dry weight):															