

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ



Test Report ID MAR02656

Issue Version: 1

Customer: Associated British Ports, Queen Alexandra House, Cargo Road, Cardiff, CF10 4LY

Customer Reference: Swansea - MMO Analysis

Date Sampled: 29/04-02/05/2025

Date Samples Received: 08-May-25

Test Report Date: 11-Jun-25

Condition of samples: Cold Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditation

The results reported relate only to the sample tested

The results apply to the sample as received

A handwritten signature in grey ink, appearing to read 'K. Smith'.

Authorised by: Katherine Smith

Position: Customer Services Co-ordinator



1252

MAR02656
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		Units	% M/M	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	WSLM59*	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	MMO
			Total Organic Carbon	45mm	31.5mm	22.4mm	16mm	11.2mm	8mm
Client Reference:	SOCOTEC Ref:	Matrix	-	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0
A	MAR02656.001	Sediment	2.69	0.00	0.00	0.00	0.00	0.00	0.00
B	MAR02656.002	Sediment	2.31	0.00	0.00	0.00	0.00	0.00	0.00
C	MAR02656.003	Sediment	2.29	0.00	0.00	0.00	0.00	0.00	0.00
D	MAR02656.004	Sediment	2.31	0.00	0.00	0.00	0.00	0.00	0.00
E	MAR02656.005	Sediment	2.44	0.00	0.00	0.00	0.00	0.00	0.00
F	MAR02656.006	Sediment	3.35	0.00	0.00	0.00	0.00	0.00	0.00
G	MAR02656.007	Sediment	2.54	0.00	0.00	0.00	0.00	0.00	0.00
H	MAR02656.008	Sediment	2.52	0.00	0.00	0.00	0.00	0.00	0.00
I	MAR02656.009	Sediment	1.73	0.00	0.00	0.00	0.00	0.00	0.00
L	MAR02656.011	Sediment	0.28	0.00	19.11	0.00	0.00	0.01	0.00

* See Report Notes

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		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			5.6mm	4mm	2.8mm	2mm	1.4mm	1mm	707µm
Client Reference:	SOCOTEC Ref:	Matrix	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5
A	MAR02656.001	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B	MAR02656.002	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	MAR02656.003	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D	MAR02656.004	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E	MAR02656.005	Sediment	0.00	0.00	0.06	0.01	0.04	0.02	0.00
F	MAR02656.006	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.16
G	MAR02656.007	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H	MAR02656.008	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.72
I	MAR02656.009	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
L	MAR02656.011	Sediment	0.11	0.37	0.51	0.25	0.23	0.24	0.00

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		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			500µm	353.6µm	250µm	176.8µm	125µm	88.39µm	63µm
Client Reference:	SOCOTEC Ref:	Matrix	1.0	1.5	2.0	2.5	3.0	3.5	4.0
A	MAR02656.001	Sediment	0.00	0.00	0.00	0.20	0.78	0.11	0.93
B	MAR02656.002	Sediment	0.00	0.00	0.00	0.03	1.13	0.57	0.00
C	MAR02656.003	Sediment	0.00	0.00	0.00	0.42	4.22	1.36	0.75
D	MAR02656.004	Sediment	0.00	0.00	0.00	0.56	2.75	0.60	1.81
E	MAR02656.005	Sediment	0.00	0.25	1.26	1.53	5.58	2.18	1.64
F	MAR02656.006	Sediment	2.30	4.04	1.56	2.77	5.60	1.57	1.12
G	MAR02656.007	Sediment	0.00	0.23	0.53	1.85	4.80	1.01	1.33
H	MAR02656.008	Sediment	1.89	3.09	2.00	1.82	6.71	3.71	2.87
I	MAR02656.009	Sediment	0.00	0.00	0.00	1.28	8.14	5.70	3.58
L	MAR02656.011	Sediment	1.20	20.20	39.17	17.98	0.62	0.00	0.00

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		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			44.2µm	31.3µm	22.1µm	15.6µm	11µm	7.8µm	5.5µm
Client Reference:	SOCOTEC Ref:	Matrix	4.5	5.0	5.5	6.0	6.5	7.0	7.5
A	MAR02656.001	Sediment	6.10	7.37	7.83	9.88	11.20	12.07	12.24
B	MAR02656.002	Sediment	1.14	6.08	5.93	7.80	8.56	11.35	13.35
C	MAR02656.003	Sediment	6.31	8.56	8.46	9.70	10.56	11.47	11.37
D	MAR02656.004	Sediment	6.55	8.04	8.32	9.86	11.03	11.54	11.29
E	MAR02656.005	Sediment	7.84	8.55	8.58	9.24	9.46	10.00	9.80
F	MAR02656.006	Sediment	6.28	6.82	6.80	7.89	8.14	9.11	9.74
G	MAR02656.007	Sediment	7.28	7.12	7.47	9.63	9.67	10.41	10.89
H	MAR02656.008	Sediment	7.89	8.20	7.70	7.65	7.92	8.59	8.49
I	MAR02656.009	Sediment	6.44	8.41	8.21	8.16	8.63	9.03	8.92
L	MAR02656.011	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			3.9µm	2.75µm	1.95µm	1.38µm	0.98µm	0.69µm	0.49µm
Client Reference:	SOCOTEC Ref:	Matrix	8.0	8.5	9.0	9.5	10.0	10.5	11.0
A	MAR02656.001	Sediment	10.21	6.80	3.58	1.85	1.33	1.34	1.39
B	MAR02656.002	Sediment	12.08	8.56	5.16	3.38	2.73	2.51	2.38
C	MAR02656.003	Sediment	9.06	5.74	2.96	1.60	1.23	1.21	1.21
D	MAR02656.004	Sediment	9.18	6.04	3.18	1.64	1.18	1.17	1.20
E	MAR02656.005	Sediment	7.87	5.13	2.75	1.52	1.14	1.09	1.08
F	MAR02656.006	Sediment	8.31	5.56	3.02	1.73	1.32	1.25	1.21
G	MAR02656.007	Sediment	9.12	5.98	3.14	1.69	1.26	1.23	1.23
H	MAR02656.008	Sediment	6.79	4.39	2.35	1.32	1.00	0.96	0.93
I	MAR02656.009	Sediment	7.31	4.89	2.74	1.64	1.27	1.17	1.11
L	MAR02656.011	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			0.34µm	0.24µm	0.17µm	0.12µm	0.09µm	0.06µm	0.04µm
Client Reference:	SOCOTEC Ref:	Matrix	11.5	12.0	12.5	13.0	13.5	14.0	14.5
A	MAR02656.001	Sediment	1.35	1.19	0.93	0.70	0.44	0.18	0.02
B	MAR02656.002	Sediment	2.19	1.85	1.38	0.99	0.59	0.23	0.03
C	MAR02656.003	Sediment	1.12	0.96	0.73	0.53	0.33	0.13	0.02
D	MAR02656.004	Sediment	1.15	1.01	0.79	0.59	0.37	0.15	0.02
E	MAR02656.005	Sediment	1.00	0.85	0.65	0.47	0.29	0.12	0.01
F	MAR02656.006	Sediment	1.12	0.94	0.70	0.50	0.31	0.12	0.01
G	MAR02656.007	Sediment	1.17	1.02	0.79	0.59	0.37	0.15	0.02
H	MAR02656.008	Sediment	0.86	0.74	0.57	0.43	0.27	0.11	0.01
I	MAR02656.009	Sediment	0.99	0.84	0.64	0.47	0.30	0.12	0.01
L	MAR02656.011	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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		Units	% (at 0.5phi intervals)
		Method No	*SUB_01
		Accreditation	MMO
			<0.04µm
Client Reference:	SOCOTEC Ref:	Matrix	>14.5
A	MAR02656.001	Sediment	0.00
B	MAR02656.002	Sediment	0.00
C	MAR02656.003	Sediment	0.00
D	MAR02656.004	Sediment	0.00
E	MAR02656.005	Sediment	0.00
F	MAR02656.006	Sediment	0.00
G	MAR02656.007	Sediment	0.00
H	MAR02656.008	Sediment	0.00
I	MAR02656.009	Sediment	0.00
L	MAR02656.011	Sediment	0.00

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		Units	mg/Kg (Dry Weight)							
		Method No	ICPMSS*							
		Limit of Detection	0.5	0.04	0.5	0.5	0.01	0.5	0.5	2
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Mercury (Hg)	Nickel (Ni)	Lead (Pb)	Zinc (Zn)
A	MAR02656.001	Sediment	17.7	0.43	39.2	27.1	0.15	34.6	57.4	207
B	MAR02656.002	Sediment	17.4	0.41	35.3	25.0	0.12	32.1	54.6	197
C	MAR02656.003	Sediment	17.4	0.42	35.6	26.0	0.12	32.7	56.4	201
D	MAR02656.004	Sediment	18.3	0.41	33.4	26.7	0.12	32.1	58.1	204
E	MAR02656.005	Sediment	18.5	0.60	32.9	30.0	0.22	33.1	60.5	215
F	MAR02656.006	Sediment	22.2	0.99	33.2	33.8	0.16	38.0	65.4	249
G	MAR02656.007	Sediment	17.7	0.34	36.9	25.2	0.12	32.7	56.7	186
H	MAR02656.008	Sediment	15.5	0.22	32.4	20.6	0.11	28.1	47.4	154
I	MAR02656.009	Sediment	13.4	0.33	21.3	19.4	0.07	22.9	35.2	125
L	MAR02656.011	Sediment	9.00	0.06	5.20	3.20	<0.01	5.80	8.20	28.5
Certified Reference Material SETOC 768 (% Recovery)			98	117	103	103	104	105	99	106
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

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		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	ACENAPTH	ACENAPHY	ANTHRACN	BAA	BAP	BBF	BENZGHIP	BEP
A	MAR02656.001	Sediment	36.6	24.9	60.8	183	229	311	215	221
B	MAR02656.002	Sediment	40.5	28.3	67.7	204	260	351	238	250
C	MAR02656.003	Sediment	37.2	27.9	69.5	220	271	362	248	256
D	MAR02656.004	Sediment	52.0	26.9	62.4	208	248	340	226	241
E	MAR02656.005	Sediment	38.0	26.5	65.1	209	252	339	227	242
F	MAR02656.006	Sediment	42.8	30.1	70.8	223	276	365	243	260
G	MAR02656.007	Sediment	57.5	31.4	73.5	224	278	381	263	269
H	MAR02656.008	Sediment	38.8	32.8	78.4	236	275	338	236	244
I	MAR02656.009	Sediment	28.8	19.4	58.5	213	247	291	197	210
L	MAR02656.011	Sediment	<1	<1	<1	1.07	1.26	1.79	1.31	1.39
Certified Reference Material Nist 1941b (% Recovery)			66	93	63	65	57	88	65	88
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	BKF*	C1N	C1PHEN	C2N	C3N	CHRYSENE*	DBENZAH	FLUORANT
A	MAR02656.001	Sediment	212	278	278	248	168	273	51.7	357
B	MAR02656.002	Sediment	238	313	289	271	179	303	57.3	404
C	MAR02656.003	Sediment	246	276	277	245	163	329	59.6	425
D	MAR02656.004	Sediment	233	277	267	255	169	309	56.0	407
E	MAR02656.005	Sediment	234	263	287	230	156	287	54.4	421
F	MAR02656.006	Sediment	254	258	264	236	147	327	60.3	460
G	MAR02656.007	Sediment	258	339	300	288	178	339	63.8	443
H	MAR02656.008	Sediment	244	279	268	243	165	329	57.6	455
I	MAR02656.009	Sediment	207	147	179	126	89.7	283	48.3	403
L	MAR02656.011	Sediment	1.40	1.97	1.45	1.22	<1	1.71	<1	2.09
Certified Reference Material Nist 1941b (% Recovery)			71	74	82	107	109	87	100	80
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	FLUORENE	INDPYR	NAPTH	PERYLENE	PHENANT	PYRENE
A	MAR02656.001	Sediment	85.0	233	151	79.9	269	279
B	MAR02656.002	Sediment	94.9	267	161	89.7	300	318
C	MAR02656.003	Sediment	85.4	272	154	91.5	305	337
D	MAR02656.004	Sediment	89.8	257	158	83.1	300	316
E	MAR02656.005	Sediment	85.6	253	148	129	274	334
F	MAR02656.006	Sediment	85.5	275	153	105	303	364
G	MAR02656.007	Sediment	106	297	184	94.8	321	338
H	MAR02656.008	Sediment	90.8	265	160	90.0	333	368
I	MAR02656.009	Sediment	55.5	219	83.8	83.8	236	319
L	MAR02656.011	Sediment	<1	1.25	2.79	<1	2.21	1.70
Certified Reference Material Nist 1941b (% Recovery)			51	74	57	59	78	70
QC Blank			<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Customer Reference Swansea - MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	MMO*	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	PCB 101	PCB 105	PCB 110	PCB 118	PCB 128	PCB 138	PCB 141
A	MAR02656.001	Sediment	0.00110	0.00065	0.00164	0.00164	0.00039	0.00178	0.00033
B	MAR02656.002	Sediment	0.00109	0.00053	0.00169	0.00170	0.00033	0.00165	0.00036
C	MAR02656.003	Sediment	0.00125	0.00070	0.00189	0.00161	0.00044	0.00200	0.00047
D	MAR02656.004	Sediment	0.00129	0.00058	0.00180	0.00172	0.00040	0.00200	0.00032
E	MAR02656.005	Sediment	0.00105	0.00057	0.00164	0.00172	0.00035	0.00139	0.00026
F	MAR02656.006	Sediment	0.00099	0.00047	0.00162	0.00144	0.00034	0.00162	0.00031
G	MAR02656.007	Sediment	0.00115	0.00060	0.00181	0.00148	0.00036	0.00165	0.00035
H	MAR02656.008	Sediment	0.00087	0.00049	0.00143	0.00139	0.00043	0.00137	0.00026
I	MAR02656.009	Sediment	0.00051	0.00027	0.00075	0.00076	0.00016	0.00083	0.00011
L	MAR02656.011	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			85	91	105	99	87	118	106~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

*See report notes

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Issuing Laboratory SOCOTEC, Marine Department, Advanced Chemistry and Research, Etwall House, Bretby Business Park, Ashby Road, Burton-upon-Trent DE15 0YZ

Test Report ID MAR02656
Issue Version 1
Customer Reference Swansea - MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	PCB 149	PCB 151	PCB 153	PCB 156	PCB 158	PCB 170	PCB 18
A	MAR02656.001	Sediment	0.00126	0.00048	0.00219	0.00020	0.00025	0.00067	0.00125
B	MAR02656.002	Sediment	0.00112	0.00034	0.00204	0.00019	0.00030	0.00058	0.00132
C	MAR02656.003	Sediment	0.00139	0.00041	0.00199	0.00021	0.00026	0.00055	0.00128
D	MAR02656.004	Sediment	0.00138	0.00037	0.00211	0.00022	0.00030	0.00059	0.00113
E	MAR02656.005	Sediment	0.00135	0.00029	0.00194	0.00022	0.00028	0.00060	0.00145
F	MAR02656.006	Sediment	0.00121	0.00040	0.00193	0.00023	0.00029	0.00050	0.00109
G	MAR02656.007	Sediment	0.00147	0.00050	0.00221	0.00021	0.00024	0.00078	0.00113
H	MAR02656.008	Sediment	0.00098	0.00026	0.00171	0.00015	0.00023	0.00049	0.00085
I	MAR02656.009	Sediment	0.00061	0.00020	0.00101	0.00013	0.00011	0.00035	0.00046
L	MAR02656.011	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			102	102~	100	98	83	100	82
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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*See report notes

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Test Report ID MAR02656
Issue Version 1
Customer Reference Swansea - MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*	UKAS/MMO	MMO*	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	PCB 180	PCB 183	PCB 187	PCB 194	PCB 28	PCB 31	PCB 44
A	MAR02656.001	Sediment	0.00138	0.00040	0.00091	0.00045	0.00320	0.00236	0.00109
B	MAR02656.002	Sediment	0.00148	0.00029	0.00075	0.00039	0.00313	0.00240	0.00109
C	MAR02656.003	Sediment	0.00140	0.00032	0.00097	0.00035	0.00325	0.00249	0.00119
D	MAR02656.004	Sediment	0.00151	0.00034	0.00078	0.00033	0.00304	0.00233	0.00106
E	MAR02656.005	Sediment	0.00147	0.00024	0.00088	0.00040	0.00289	0.00226	0.00105
F	MAR02656.006	Sediment	0.00139	0.00024	0.00076	0.00034	0.00252	0.00188	0.00087
G	MAR02656.007	Sediment	0.00186	0.00028	0.00082	0.00044	0.00303	0.00234	0.00112
H	MAR02656.008	Sediment	0.00122	0.00019	0.00057	0.00028	0.00259	0.00192	0.00089
I	MAR02656.009	Sediment	0.00066	0.00015	0.00029	0.00020	0.00128	0.00093	0.00047
L	MAR02656.011	Sediment	0.00009	<0.00008	<0.00008	<0.00008	0.00010	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			86	83	84	124	73	83	90
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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*See report notes

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Test Report ID MAR02656
Issue Version 1
Customer Reference Swansea - MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*
Client Reference:	SOCOTEC Ref:	Matrix	PCB 47	PCB 49	PCB 52	PCB 66
A	MAR02656.001	Sediment	0.00054	0.00110	0.00129	0.00284
B	MAR02656.002	Sediment	0.00047	0.00110	0.00137	0.00255
C	MAR02656.003	Sediment	0.00043	0.00118	0.00140	0.00272
D	MAR02656.004	Sediment	0.00045	0.00112	0.00129	0.00277
E	MAR02656.005	Sediment	0.00048	0.00105	0.00134	0.00246
F	MAR02656.006	Sediment	0.00038	0.00092	0.00110	0.00214
G	MAR02656.007	Sediment	0.00046	0.00104	0.00127	0.00269
H	MAR02656.008	Sediment	0.00038	0.00080	0.00095	0.00217
I	MAR02656.009	Sediment	0.00020	0.00046	0.00052	0.00114
L	MAR02656.011	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			111~	105	92	121
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

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*See report notes

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Test Report ID MAR02656
Issue Version 1
Customer Reference Swansea - MMO Analysis

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*	MMO*	MMO*
Client Reference:	SOCOTEC Ref:	Matrix	AHCH	BHCH	GHCH	DIELDRIN	HCB	PPTDE	PPDDE	PPDDT
A	MAR02656.001	Sediment	<0.0001	<0.0001	<0.0001	0.00025	0.00034	0.00072	0.00030	<0.0001
B	MAR02656.002	Sediment	<0.0001	<0.0001	<0.0001	0.00019	0.00024	0.00065	0.00019	0.00016
C	MAR02656.003	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	0.00036	0.00080	0.00022	0.00017
D	MAR02656.004	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	0.00027	0.00091	0.00027	0.00012
E	MAR02656.005	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	0.00028	0.00055	0.00035	0.00021
F	MAR02656.006	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	0.00026	0.00052	0.00037	<0.0001
G	MAR02656.007	Sediment	<0.0001	<0.0001	<0.0001	0.00017	0.00037	0.00068	0.00021	0.00016
H	MAR02656.008	Sediment	<0.0001	<0.0001	<0.0001	0.00010	0.00023	0.00065	0.00029	0.00023
I	MAR02656.009	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	0.00015	0.00043	0.00012	<0.0001
L	MAR02656.011	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			121~	87~	111~	120~	118	115	120	66~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

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For full analyte name see method summaries.

*See report notes

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Test Report ID MAR02656
Issue Version 1
Customer Reference Swansea - MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO*	MMO*	MMO*	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	BDE17	BDE28	BDE47	BDE66	BDE85	BDE99	BDE100	BDE138
A	MAR02656.001	Sediment	<0.00005	<0.00005	0.00026	0.00005	0.00013	0.00087	<0.00005	<0.00005
B	MAR02656.002	Sediment	<0.00005	<0.00005	0.00023	<0.00005	0.00006	0.00086	<0.00005	<0.00005
C	MAR02656.003	Sediment	<0.00005	<0.00005	0.00023	<0.00005	0.00012	0.00108	0.00005	<0.00005
D	MAR02656.004	Sediment	<0.00005	<0.00005	0.00025	<0.00005	0.00006	0.00106	<0.00005	<0.00005
E	MAR02656.005	Sediment	<0.00005	<0.00005	0.00008	<0.00005	<0.00005	0.00055	<0.00005	<0.00005
F	MAR02656.006	Sediment	<0.00005	<0.00005	0.00023	<0.00005	<0.00005	0.00081	<0.00005	<0.00005
G	MAR02656.007	Sediment	<0.00005	<0.00005	0.00021	<0.00005	<0.00005	0.00089	0.00006	<0.00005
H	MAR02656.008	Sediment	<0.00005	<0.00005	0.00019	<0.00005	0.00005	0.00080	<0.00005	<0.00005
I	MAR02656.009	Sediment	<0.00005	<0.00005	0.00012	<0.00005	<0.00005	0.00051	<0.00005	<0.00005
L	MAR02656.011	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Certified Reference Material QBC069MS (% Recovery)			98~	112	95	84~	224~	209~	160	99~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

* See Report Notes

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Test Report ID MAR02656
Issue Version 1
Customer Reference Swansea - MMO Analysis

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	MMO*	UKAS/MMO	MMO*	UKAS/MMO
Client Reference:	SOCOTEC Ref:	Matrix	BDE153	BDE154	BDE183	BDE209
A	MAR02656.001	Sediment	0.00010	0.00009	0.00009	0.0259
B	MAR02656.002	Sediment	0.00006	0.00006	0.00005	0.0234
C	MAR02656.003	Sediment	0.00009	0.00007	0.00008	0.0280
D	MAR02656.004	Sediment	0.00008	0.00005	0.00006	0.0252
E	MAR02656.005	Sediment	<0.00005	<0.00005	<0.00005	0.0103
F	MAR02656.006	Sediment	<0.00005	0.00007	<0.00005	0.0366
G	MAR02656.007	Sediment	0.00006	0.00005	0.00006	0.0255
H	MAR02656.008	Sediment	<0.00005	<0.00005	<0.00005	0.0179
I	MAR02656.009	Sediment	0.00006	<0.00005	0.00006	0.0260
L	MAR02656.011	Sediment	<0.00005	<0.00005	<0.00005	0.0031
Certified Reference Material QBC069MS (% Recovery)			100~	101~	159	59
QC Blank			<0.00005	<0.00005	<0.00005	<0.002*

* See Report Notes

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Test Report ID MAR02656
Issue Version 1
Customer Reference Swansea - MMO Analysis

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
*SUB_01	MAR02656.001-009, .011	Analysis was conducted by an approved subcontracted laboratory.
WSLM59*	MAR02656.001-009, .011	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPMSS*	MAR02656.001-009, .011	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/302	MAR02656.001-009, .011	The Primary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected. However in line with our QMS policy we have removed accreditation, where applicable, from the affected analytes (PCB31, PCB66, PCB101, PCB170, PCB194, PPTDE, PPDDE, PPDDT) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR02656.001-009, .011	Benzo[k]fluoranthene is known to coelute with Benzo[j]fluoranthene and these peaks can not be resolved. It is believed Benzo[j]fluoranthene is present in these samples therefore it is suggested that the Benzo[k]fluoranthene results should be taken as a Benzo[k]fluoranthene (inc. Benzo[j]fluoranthene). Benzo[j]fluoranthene is not UKAS accredited. This should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR02656.001-009, .011	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved in the PAHSED UKAS accredited method. Chrysene and Triphenylene are resolved for MMO but this is currently not UKAS accredited therefore Chrysene is reported without this accreditation.
ASC/SOP/308	MAR02656.001-009, .011	The Primary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with one or more target analytes falling outside acceptable limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected. However in line with our QMS policy we have removed accreditation, where applicable, from the affected analytes (BDE85, BDE99, BDE100, BDE153, BDE183) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/308	MAR02656.001-009, .011	The Primary process control blank data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with BDE209 falling above acceptable reporting limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected. However in line with our QMS policy the report limit for this compound has been raised and samples have been blank subtracted.

DEVIATING SAMPLE STATEMENT

Deviation Code	Deviation Definition	Sample ID	Deviation Details. The following information should be taken into consideration when using the data contained within this report
D1	Holding Time Exceeded	N/A	N/A
D2	Sample Contaminated through Damaged Packaging	N/A	N/A
D3	Sample Contaminated through Sampling	N/A	N/A
D4	Inappropriate Container/Packaging	N/A	N/A
D5	Damaged in Transit	N/A	N/A
D6	Insufficient Quantity of Sample	N/A	N/A
D7	Inappropriate Headspace	N/A	N/A
D8	Retained at Incorrect Temperature	N/A	N/A
D9	Lack of Date & Time of Sampling	N/A	N/A
D10	Insufficient Sample Details	N/A	N/A
D11	Sample integrity compromised or not suitable for analysis	N/A	N/A

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Test Report ID MAR02656
Issue Version 1
Customer Reference Swansea - MMO Analysis

Method	Sample and Fraction Size	Method Summary
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Total Organic Carbon (TOC)	Air dried	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
Metals	Air dried	Aqua-regia extraction followed by ICP analysis.
Organotins	Wet Sediment	Solvent extraction and derivatisation followed by GC-MS analysis.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.
Total Hydrocarbon Content (THC)	Wet Sediment	Ultra-violet fluorescence spectroscopy
Polychlorinated Biphenyls (PCBs)	Air dried and sieved to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Organochlorine Pesticides (OCPs)	Air dried and sieved to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Brominated Flame Retardants (PBDEs)	Air dried and sieved to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.

Analyte Definitions					
Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name
ACENAPTH	Acenaphthene	C2N	C2-naphthalenes	THC	Total Hydrocarbon Content
ACENAPHY	Acenaphthylene	C3N	C3-naphthalenes	AHCH	alpha-Hexachlorocyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorocyclohexane
BAA	Benzo[a]anthracene	DBENZA	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorocyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HC	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	PPDDE	p,p'-Dichlorodiphenyldichloroethylene
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	PPDDT	p,p'-Dichlorodiphenyltrichloroethane
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	PPTDE	p,p'-Dichlorodiphenyldichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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