Ardersier Port
Dredging Best Practicable Environmental Option Information

May 2023

CONTROL SHEET

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2					

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1 INTRODUCTION

EnviroCentre Ltd. were appointed by Ardersier Port to undertake a Best Practicable Environmental Options appraisal (BPEO) in support of the dredge licence for capital dredging to help develop a deeper berth at Ardersier Port. The harbour is currently being dredged under licence to -6.5m below Chart Datum (bCD). The proposed deepening would take the final depth to -12.9m below CD. The purpose of the deepening is to allow deeper draft vessels to access the quayside which is yet to be constructed. Review of pertinent geological and historic dredging information shows that the proposed dredged material comprises predominately undisturbed sands and gravels. The material is proposed to be pumped ashore for stockpiling and reuse as aggregate for future construction projects.

As part of the licensing process applicants are required to undertake a Best Practicable Environmental Option (BPEO) assessment for the disposal routes for the prospective dredge material in conjunction with the assessment of the chemical and physical properties of the same material to ensure that quality of the material is suitable for the identified disposal route(s). In this instance, the dredged material is to be beneficially reused in the same manner as the material currently being dredged, so the focus of this report will relate to sediment quality and potential risks to the water environment.

1.1 Scope of Report

The purpose of this report is to review the available information and assess potential contamination risks associated with the proposed dredging works.

1.2 Report Usage

The information and recommendations contained within this report have been prepared in the specific context stated above and should not be utilised in any other context without prior written permission from EnviroCentre Limited.

If this report is to be submitted for regulatory approval more than 12 months following the report date, it is recommended that it is referred to EnviroCentre Limited for review to ensure that any relevant changes in data, best practice, guidance or legislation in the intervening period are integrated into an updated version of the report.

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2 SAMPLING AND ANALYSIS

As per the sample plan submitted in February 2023, 30 boreholes were to be progressed to proposed dredge depth with samples to be collected from the base of the currently licensed dredge depth of -6.5m bCD, the middle and samples representative of the base the dredge at 12.9m bCD.

The proposed dredge areas and volumes are detailed in Table 2-1 below with the dredge areas presented and sample locations provided in drawing G676693-GIS001 in Appendix A.

Table 2-1: Proposed Dredge Areas and Approximate Dredge Volumes

Dredge Area	Approximate Total Dredge Volume (m^3)	Target Dredge Depth (m below Chart Datum)	Dredge Thickness (m)*
Ardersier Port	Up to 2,000,000	-12.9 m	6.4 m

2.1 Sediment Sampling and Nature of Marine Sediments on Site

Samples from the proposed dredge area were collected in March and April 2023 and submitted for analysis in line with Marine Scotland's guidance and the agreed sampling plan. The sample logs are provided in Appendix B with Laboratory certificates and data summary tables in Appendix C.

Sediment type across all dredge areas was predominately sand with varying gravel and silt content.

The following sections details the exceedances of the Revised Action Levels (RALs) with further consideration of these exceedances undertaken in in Section 3.

2.2 Deviations from Sampling Plan

All samples were collected from their proposed positions with the exception of the following exceptions:

- S28 and S29 – due to water depth/shallow dredge depth at these locations the only material present was for the base of the borehole with samples recovered from 12.5-13.0m below chart datum; and
- S30 was not drilled as the seabed is below the target dredge depth.

As a result of this, total samples were reduced from 90 planned to 83 collected and tested.

2.2.1 Metals

Exceedances of the RALs for metals can be summarised as follows:

- Arsenic –0 of 83 samples recorded arsenic levels above RAL1. The maximum concentration recorded was 9.9mg/kg.
- Cadmium –0 of 83 samples recorded cadmium levels above RAL1. The maximum concentration recorded was 0.39 mg/kg.
- Copper – 1 of 83 samples recorded copper levels above RAL1. The maximum concentration recorded was 31.2 mg/kg.

- Chromium – 1 of 83 samples recorded chromium levels above RAL1. The maximum concentration recorded was 90.9 mg/kg.
- Lead – 0 of 83 samples recorded lead levels above RAL1. The maximum concentration recorded was 19.2 mg/kg.
- Mercury – 3 of 83 samples recorded mercury levels above RAL1. The maximum concentration recorded was 0.35 mg/kg.
- Nickel – 1 of 83 samples recorded nickel levels above RAL1. The maximum concentration recorded was 63.5 mg/kg.
- Zinc – 3 of 83 samples recorded zinc levels above RAL1. The maximum concentration recorded was 212 mg/kg.

There were no exceedances of RAL2 for metals recorded within any of the 83 samples collected.

2.2.2 Tributyl Tin (TBT)

The majority of samples were recorded below the laboratory limit of detection (LOD) and all samples recorded below RAL1.

2.2.3 Polyaromatic Hydrocarbons (PAHs)

2 of 83 samples recorded individual PAH concentrations above RAL1.

2.2.4 Polychlorinated Biphenyls (PCBs)

All samples recorded individual PCB congeners below RAL1. The highest recorded total ICES 7 concentration was 0.0029 mg/kg.

2.2.5 Total Hydrocarbons (THC)

0 of 83 samples recorded hydrocarbons above RAL1. The maximum recorded is 67.7 mg/kg.

3 DISCUSSION OF AVAILABLE DISPOSAL OPTIONS

The BPEO process is geared towards identifying a preferred overall strategy from the perspective of the environment as a whole, as opposed to detailed optimisation of any one selected scheme.

In this instance as outlined above, the dredged material, will be stockpiled for beneficial reuse so no further screening of options, or cost assessments are presented. This beneficial reuse option has already been established for the current dredging activity.

4 FURTHER ASSESSMENT

4.1 Chemical Quality

Nine samples from 87 in total recorded Action Level 1 for metals and one sample recorded a marginal exceedance of Total Petroleum Hydrocarbons (TPH).

Further consideration is given to this result using the Canadian Council Ministers of the Environment (CCME) Canadian Sediment Quality Guidelines for the Protection of Aquatic Life considering both the Effects Range Low (ERL) and Probable Effects Level (PEL). This is summarised in the table below.

Table 4-1: Further Assessment Summary

Contaminant	Number of RAL1 Exceedances of 83 samples	Number of ERL Exceedances of 83 samples	Number of PEL Exceedances of 83 samples
Copper	1	0	0
Chromium	1	1	0
Nickle	1	N/A	N/A
Zinc	3	3	0
Pyrene	1	0	0
Dibenz(ah)anthracene	1	N/A	N/A

In summary, there are no exceedances of Probable Effect Levels or RAL2 where one is available for review.

4.2 Water Framework Directive Assessment

A WFD assessment has not been undertaken for these works as the proposed works are considered to be a continuation of the currently licensed works with all relevant supporting information and assessments contained within the existing Environmental Impact Assessment Report and other supporting documentation for the site.

4.3 Potential Risk to Water Quality and Marine Life

The key risks from dredging activities, as with all dredging projects are the risks associated with suspended solids. There is no sea disposal associated with the proposed dredge works, so all of the material will continue to be pumped ashore as per the current licensed works. Associated water from the dredging process will continue to be directed through settlement ponds to help reduce the suspended solid content prior to discharge of the water back into the harbour as per the current operations.

4.4 Conclusions

Review of available chemical quality information has low level/frequency exceedances for a copper, nickel, chromium, zinc and PAHs.

The contaminants of concern levels recorded in the sediment are not considered likely to have a significant adverse impact on surrounding water quality during the works due to the very low levels of contamination associated with the dredged material.

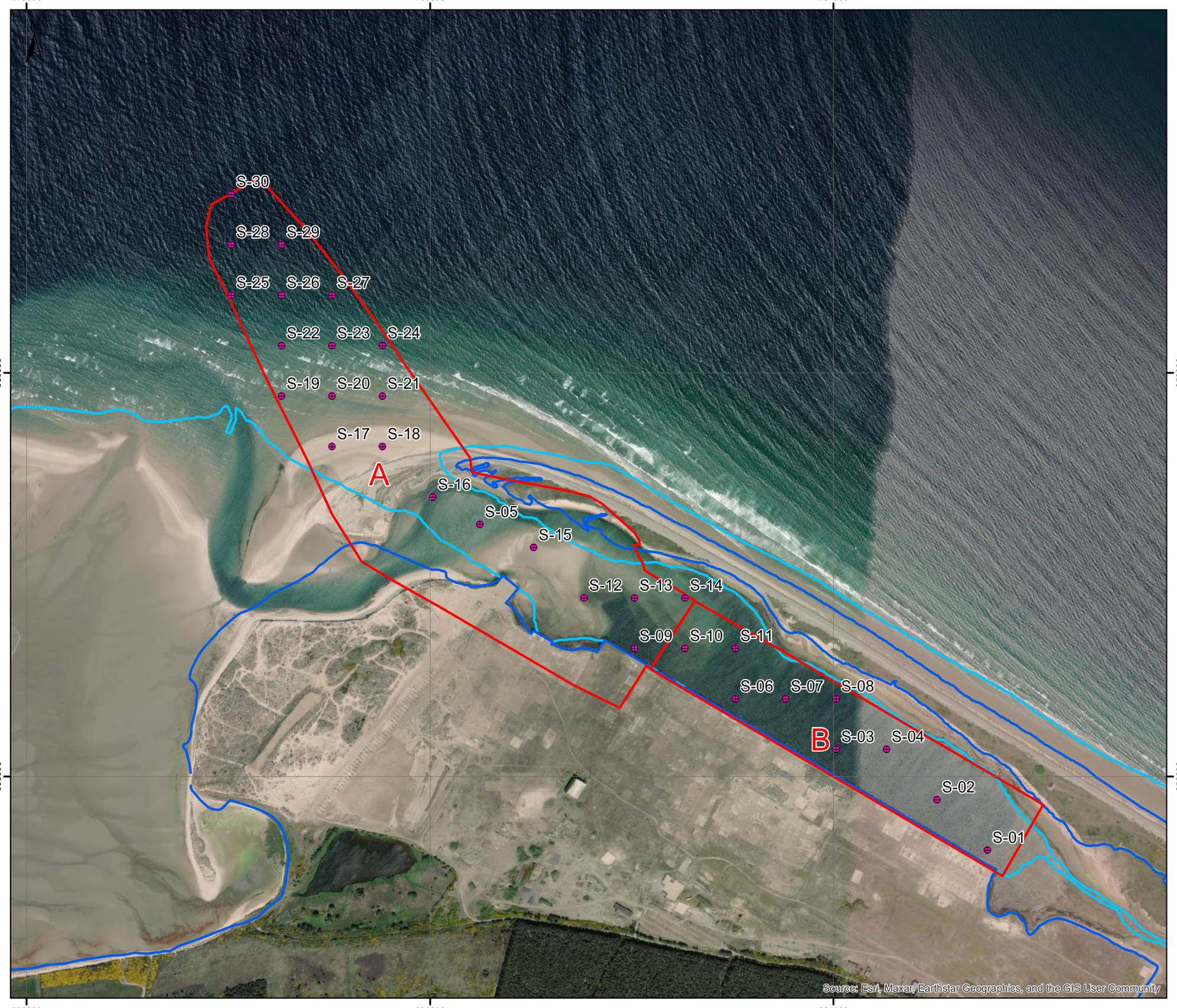
The proposed deeper dredge works are essentially an extension of the currently licensed works, albeit to a greater depth. So, in conclusion, dredging of deeper sands and gravels with storage on land for beneficial use is considered to present a very low level of risk to the environment.

REFERENCES

Marine Scotland (2017). Pre-Dredge Sampling Guidance Version 2: Scottish Government.
Marine Scotland (2015). Guidance for Marine Licence Applicants Version 2: Scottish Government.

APPENDICES

A FIGURES



Legend

- Sample Locations
- Dredge Boundaries
- MHWS
- MLWS

Do not scale this map

Client
Ardersier Port (Scotland) Ltd.

Project
Ardersier Deeper Dredge

Title
Sample Plan

Status
FINAL

Drawing No.	Revision	Date
676693-GIS001	-	13 February 23
Drawn	**Checked**	**Approved**
SMC	CGF	CCAS

Scale
1:9,000 @A3
0 45 90 180 270 Metres

Rev	Date	Amendment	Initials
-	-	-	-

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B BOREHOLE LOGS

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Borehole Log

Scale 1:125 Sheet 1 of 1

S-01

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	06/03/2023
Client:	Ardersier Port			**Ended:**	06/03/2023
Method:	Cable Percussive			**Backfilled:**	06/03/2023

GL (mCD):	4.00m	
Easting:	281382	
Northing:	857816	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing: Depth (m)	Type	Results
				WATER			
		6.50	-2.50	Dark greyish black silty SAND. Sand is fine to medium grained.			
		7.30	-3.30	Grey SAND. Sand is fine to coarse grained with occasional shells.			
					10.50	ES	
					11.00	ES	
		11.50	-7.50	Grey slightly gravelly silty SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone.	11.50	ES	
					12.00	ES	
					12.50	ES	
					13.00	ES	
					13.50	ES	
					14.00	ES	
					14.50	ES	
					15.00	ES	
					15.50	ES	
					16.00	ES	
					16.50	ES	
					17.00	ES	
					17.50	ES	
					18.00	ES	
					18.50	ES	
					19.00	ES	
					19.50	ES	
					20.00	ES	
					20.50	ES	
					21.00	ES	
		21.70	-17.70	End of Borehole at 21.700m			

Hole Diameter

Depth Base (m)	Diameter (mm)
21.70	150

Casing Depths

Depth Base (m)	Diameter (mm)
21.50	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

Scale 1:125 Sheet 1 of 1

S-02

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	07/03/2023
Client:	Ardersier Port			**Ended:**	07/03/2023
Method:	Cable Percussive			**Backfilled:**	07/03/2023

GL (mCD):	2.39m	
Easting:	281257	
Northing:	857941	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		7.30	-4.91	Dark greyish black silty SAND. Sand is fine to medium grained..			
		8.10	-5.71	Grey SAND. Sand is fine to coarse grained with occasional shells.			
					8.89	ES	
					9.39	ES	
					9.89	ES	
					10.39	ES	
					10.89	ES	
					11.39	ES	
					11.89	ES	
		12.40	-10.01	Grey silty SAND. Sand is fine to medium grained.	12.39	ES	
					12.89	ES	
					13.39	ES	
					13.89	ES	
					14.39	ES	
					14.89	ES	
					15.39	ES	
					15.89	ES	
					16.39	ES	
					16.89	ES	
					17.39	ES	
					17.89	ES	
					18.39	ES	
					18.89	ES	
		19.40	-17.01	End of Borehole at 19.400m	19.39	ES	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
19.40	150	19.40	150	Drilled overwater - no handdug pit undertaken.								

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Borehole Log

Scale 1:125 Sheet 1 of 1

S-03

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	08/03/2023
Client:	Ardersier Port			**Ended:**	08/03/2023
Method:	Cable Percussive			**Backfilled:**	08/03/2023

GL (mCD):	2.32m	
Easting:	281007	
Northing:	858066	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		8.20	-5.88	Dark greyish black silty SAND. Sand is fine to medium grained.	8.82	ES	
		9.10	-6.78	Grey SAND. Sand is fine to coarse grained with occasional shells.	9.32	ES	
					9.82	ES	
					10.32	ES	
					10.82	ES	
					11.32	ES	
					11.82	ES	
					12.32	ES	
					12.82	ES	
					13.32	ES	
					13.82	ES	
					14.32	ES	
					14.82	ES	
					15.32	ES	
					15.82	ES	
					16.32	ES	
					16.82	ES	
					17.32	ES	
					17.82	ES	
					18.32	ES	
					18.82	ES	
		19.40	-17.08	End of Borehole at 19.400m	19.32	ES	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
19.40	150	19.40	150	Drilled overwater - no handdug pit undertaken.								

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Borehole Log

Scale 1:125 Sheet 1 of 1

S-04

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	07/03/2023
Client:	Ardersier Port			**Ended:**	07/03/2023
Method:	Cable Percussive			**Backfilled:**	07/03/2023

GL (mCD):	4.98m	
Easting:	281132	
Northing:	858066	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing: Depth (m)	Type	Results
				WATER			
		9.60	-4.62	Dark greyish black silty SAND. Sand is fine to medium grained.			
		10.40	-5.42	Grey SAND. Sand is fine to coarse grained with occasional shells.			
					11.48	ES	
					11.98	ES	
					12.48	ES	
					12.98	ES	
					13.48	ES	
					13.98	ES	
					14.48	ES	
					14.98	ES	
					15.48	ES	
					15.98	ES	
					16.48	ES	
					16.98	ES	
					17.48	ES	
					17.98	ES	
					18.48	ES	
					18.98	ES	
					19.48	ES	
					19.98	ES	
					20.48	ES	
					20.98	ES	
					21.48	ES	
		21.98	-17.00	End of Borehole at 21.980m	21.98	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
21.98	150

Casing Depths

Depth Base (m)	Diameter (mm)
19.50	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

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S-05

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	09/03/2023
Client:	Ardersier Port			**Ended:**	09/03/2023
Method:	Cable Percussive			**Backfilled:**	09/03/2023

GL (mCD):	5.20m	
Easting:	280124	
Northing:	858623	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		7.30	-2.10	Dark Grey SAND. Sand is fine to medium grained.			
					11.70	ES	
		12.10	-6.90	Grey SAND. Sand is fine to medium grained with broken shell fragments.	12.20	ES	
					12.70	ES	
					13.20	ES	
					13.70	ES	
					14.20	ES	
					14.70	ES	
					15.20	ES	
					15.70	ES	
					16.20	ES	
					16.70	ES	
					17.20	ES	
					17.70	ES	
					18.20	ES	
					18.70	ES	
					19.20	ES	
					19.70	ES	
					20.20	ES	
					20.70	ES	
					21.20	ES	
					21.70	ES	
		22.20	-17.00	End of Borehole at 22.200m	22.20	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
21.20	150

Casing Depths

Depth Base (m)	Diameter (mm)
21.00	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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S-06

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	13/03/2023
Client:	Ardersier Port			**Ended:**	13/03/2023
Method:	Cable Percussive			**Backfilled:**	13/03/2023

GL (mCD):	2.43m
Easting:	280757
Northing:	858191
Logged:	SD
Status:	DRAFT

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		5.20	-2.77	Black silty SAND with occasional wood fragments.			
		7.80	-5.37	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					8.93	ES	
					9.43	ES	
					9.93	ES	
					10.43	ES	
					10.93	ES	
					11.43	ES	
					11.93	ES	
					12.43	ES	
					12.93	ES	
					13.43	ES	
					13.93	ES	
					14.43	ES	
					14.93	ES	
					15.43	ES	
					15.93	ES	
					16.43	ES	
					16.93	ES	
					17.43	ES	
					17.93	ES	
					18.43	ES	
					18.93	ES	
		19.50	-17.07		19.43	ES	
				End of Borehole at 19.500m			

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
19.33	150	19.00	150	Drilled overwater - no handdug pit undertaken.								

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Borehole Log

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S-07

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	08/03/2023
Client:	Ardersier Port			**Ended:**	08/03/2023
Method:	Cable Percussive			**Backfilled:**	08/03/2023

GL (mCD):	4.30m	
Easting:	280882	
Northing:	858191	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description
				WATER
		7.80	-3.50	Dark greyish black silty SAND. Sand is fine to medium grained.
		8.40	-4.10	Grey SAND. Sand is fine to coarse grained with occasional shells.
		21.30	-17.00	End of Borehole at 21.300m

Samples and Insitu Testing

Depth (m)	Type	Results
10.80	ES	
11.30	ES	
11.80	ES	
12.30	ES	
12.80	ES	
13.30	ES	
13.80	ES	
14.30	ES	
14.80	ES	
15.30	ES	
15.80	ES	
16.30	ES	
16.80	ES	
17.30	ES	
17.80	ES	
18.30	ES	
18.80	ES	
19.30	ES	
19.80	ES	
20.30	ES	
20.80	ES	
21.30	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
21.30	150

Casing Depths

Depth Base (m)	Diameter (mm)
21.00	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

Scale 1:125 Sheet 1 of 1

S-08

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	08/03/2023
Client:	Ardersier Port			**Ended:**	08/03/2023
Method:	Cable Percussive			**Backfilled:**	08/03/2023

GL (mCD):	4.98m
Easting:	281007
Northing:	858191
Logged:	SD
Status:	DRAFT

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing: Depth (m)	Type	Results
				WATER			
		10.60	-5.62	Dark greyish black silty SAND. Sand is fine to medium grained.	11.48	ES	
					11.98	ES	
					12.48	ES	
					12.98	ES	
		13.60	-8.62	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with broken shell fragments.	13.48	ES	
					13.98	ES	
					14.48	ES	
					14.98	ES	
					15.48	ES	
					15.98	ES	
					16.48	ES	
		17.00	-12.02	Grey SAND. Sand is fine to coarse grained.	16.98	ES	
					17.48	ES	
					17.98	ES	
					18.48	ES	
					18.98	ES	
					19.48	ES	
					19.98	ES	
					20.48	ES	
					20.98	ES	
					21.48	ES	
		22.00	-17.02	End of Borehole at 22.000m	21.98	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
22.00	150

Casing Depths

Depth Base (m)	Diameter (mm)
22.00	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

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S-09

Contract no: S230232
Site: Marine Scotland Boreholes, Ardersier, Inverness
Client: Ardersier Port
Method:

Driller:
Plant used:
Started: 22/03/2023
Ended: 22/03/2023
Backfilled: 22/03/2023

GL (mCD): 5.58m
Easting: 280507
Northing: 858316
Logged:
Status: DRAFT

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		7.70	-2.12	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					12.08	ES	
					12.56	ES	
					13.08	ES	
					13.58	ES	
					14.08	ES	
					14.58	ES	
					15.08	ES	
					15.58	ES	
					16.08	ES	
					16.58	ES	
					17.08	ES	
					17.58	ES	
					18.08	ES	
					18.58	ES	
					19.08	ES	
					19.58	ES	
					20.08	ES	
					20.58	ES	
					21.08	ES	
					21.58	ES	
					22.08	ES	
		22.60	-17.02	End of Borehole at 22.600m	22.58	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
22.60	150

Casing Depths

Depth Base (m)	Diameter (mm)
22.60	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

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S-10

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	13/03/2023
Client:	Ardersier Port			**Ended:**	13/03/2023
Method:	Cable Percussive			**Backfilled:**	13/03/2023

GL (mCD):	3.66m	
Easting:	280632	
Northing:	858316	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		5.20	-1.54	Black silty SAND with occasional wood fragments.			
		7.80	-4.14	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					10.16	ES	
					10.66	ES	
					11.16	ES	
					11.66	ES	
					12.16	ES	
					12.66	ES	
					13.16	ES	
					13.66	ES	
					14.16	ES	
					14.66	ES	
					15.16	ES	
					15.66	ES	
					16.16	ES	
					16.66	ES	
					17.16	ES	
					17.66	ES	
					18.16	ES	
					18.66	ES	
					19.16	ES	
					19.66	ES	
					20.16	ES	
		20.70	-17.04	End of Borehole at 20.700m	20.66	ES	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
20.50	150	20.50	150	Drilled overwater - no handdug pit undertaken.								

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Borehole Log

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Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	16/03/2023
Client:	Ardersier Port			**Ended:**	16/03/2023
Method:	Cable Percussive			**Backfilled:**	16/03/2023

GL (mCD):	2.93m	
Easting:	280757	
Northing:	858316	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		7.20	-4.27	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					9.43	ES	
					9.93	ES	
					10.43	ES	
					10.93	ES	
					11.43	ES	
					11.93	ES	
					12.43	ES	
					12.93	ES	
					13.43	ES	
					13.93	ES	
					14.43	ES	
					14.93	ES	
					15.43	ES	
					15.93	ES	
					16.43	ES	
					16.93	ES	
					17.43	ES	
					17.93	ES	
					18.43	ES	
					18.93	ES	
					19.43	ES	
		20.00	-17.07		19.93	ES	
				End of Borehole at 20.000m			

Hole Diameter		Casing Depths		General Remarks
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)	
19.80	150	19.50	150	Drilled overwater - no handdug pit undertaken.

Chiselling		
From (m)	To (m)	Time (hr)

Ground Water				
Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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S-12

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	10/03/2023
Client:	Ardersier Port			**Ended:**	10/03/2023
Method:	Cable Percussive			**Backfilled:**	10/03/2023

GL (mCD):	2.13m	
Easting:	280382	
Northing:	858441	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		4.90	-2.77	Grey SAND. Sand is fine to coarse grained with occasional shell fragments.			
					8.63	ES	
					9.13	ES	
					9.63	ES	
					10.13	ES	
					10.63	ES	
					11.13	ES	
					11.63	ES	
					12.13	ES	
					12.63	ES	
					13.13	ES	
					13.63	ES	
					14.13	ES	
					14.63	ES	
					15.13	ES	
					15.63	ES	
					16.13	ES	
					16.63	ES	
					17.13	ES	
					17.63	ES	
					18.13	ES	
					18.63	ES	
					19.13	ES	
		19.50	-17.37	End of Borehole at 19.500m			

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
19.50	150	19.50	150	Drilled overwater - no handdug pit undertaken.								

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S-13

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	20/03/2023
Client:	Ardersier Port			**Ended:**	20/03/2023
Method:	Cable Percussive			**Backfilled:**	20/03/2023

GL (mCD):	4.38m	
Easting:	280507	
Northing:	858441	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		6.70	-2.32	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					10.88	ES	
					11.38	ES	
					11.88	ES	
					12.38	ES	
					12.88	ES	
					13.38	ES	
					13.88	ES	
					14.38	ES	
					14.88	ES	
					15.38	ES	
					15.88	ES	
					16.38	ES	
					16.88	ES	
					17.38	ES	
					17.88	ES	
					18.38	ES	
					18.88	ES	
					19.38	ES	
					19.88	ES	
					20.38	ES	
					20.88	ES	
		21.40	-17.02	End of Borehole at 21.400m	21.38	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
21.40	150

Casing Depths

Depth Base (m)	Diameter (mm)
21.40	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	20/03/2023
Client:	Ardersier Port			**Ended:**	20/03/2023
Method:	Cable Percussive			**Backfilled:**	

GL (mCD):	3.78m	
Easting:	280632	
Northing:	858441	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing: Depth (m)	Type	Results
				WATER			
		5.20	-1.42	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.	10.28	ES	
					10.78	ES	
					11.28	ES	
					11.78	ES	
					12.28	ES	
					12.78	ES	
					13.28	ES	
					13.78	ES	
					14.28	ES	
					14.78	ES	
					15.28	ES	
					15.78	ES	
					16.28	ES	
					16.78	ES	
					17.28	ES	
					17.78	ES	
					18.28	ES	
					18.78	ES	
					19.28	ES	
					19.78	ES	
					20.28	ES	
		20.80	-17.02	End of Borehole at 20.800m	20.78	ES	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
20.80	150	20.80	150	Drilled overwater - no handdug pit undertaken.								

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Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	17/03/2023
Client:	Ardersier Port			**Ended:**	17/03/2023
Method:	Cable Percussive			**Backfilled:**	17/03/2023

GL (mCD):	4.20m	
Easting:	280257	
Northing:	858566	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		7.40	-3.20	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					10.70	ES	
					11.20	ES	
					11.70	ES	
					12.20	ES	
					12.70	ES	
					13.20	ES	
					13.70	ES	
					14.20	ES	
					14.70	ES	
					15.20	ES	
					15.70	ES	
					16.20	ES	
					16.70	ES	
					17.20	ES	
					17.70	ES	
					18.20	ES	
					18.70	ES	
					19.20	ES	
					19.70	ES	
					20.20	ES	
					20.70	ES	
		21.20	-17.00	End of Borehole at 21.200m	21.20	ES	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
21.00	150	21.00	150	Drilled overwater - no handdug pit undertaken.								

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S-16

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	09/03/2023
Client:	Ardersier Port			**Ended:**	09/03/2023
Method:	Cable Percussive			**Backfilled:**	09/03/2023

GL (mCD):	2.78m	
Easting:	280007	
Northing:	858691	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		4.80	-2.02	Grey SAND. Sand is fine to coarse grained with occasional shell fragments.			
					9.28	ES	
					9.78	ES	
					10.28	ES	
					10.78	ES	
					11.28	ES	
					11.78	ES	
					12.28	ES	
					12.78	ES	
					13.28	ES	
					13.78	ES	
					14.28	ES	
					14.78	ES	
					15.28	ES	
					15.78	ES	
					16.28	ES	
					16.78	ES	
					17.28	ES	
					17.78	ES	
					18.28	ES	
					18.78	ES	
					19.28	ES	
		19.80	-17.02	End of Borehole at 19.800m	19.78	ES	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
19.70	150	19.50	150	Drilled overwater - no handdug pit undertaken.								

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S-17

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	27/03/2023
Client:	Ardersier Port			**Ended:**	27/03/2023
Method:	Cable Percussive			**Backfilled:**	27/03/2023

GL (mCD):	3.02m	
Easting:	279757	
Northing:	858816	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				Brown SAND. Sand is fine to medium grained with occasional shell fragments.			
		0.70	2.32	Dark greyish black slightly gravelly silty SAND. Sand is fine to medium grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone and broken shell fragments.			
					9.52	ES	
					10.02	ES	
					10.52	ES	
					11.02	ES	
					11.52	ES	
					12.02	ES	
					12.52	ES	
					13.02	ES	
					13.52	ES	
					14.02	ES	
					14.52	ES	
					15.02	ES	
					15.52	ES	
					16.02	ES	
					16.52	ES	
					17.02	ES	
					17.52	ES	
					18.02	ES	
					18.52	ES	
					19.02	ES	
					19.52	ES	
		20.10	-17.08		20.02	ES	
				End of Borehole at 20.100m			

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
19.20	150	19.00	150	Drilled overwater - no handdug pit undertaken.								

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Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	15/03/2023
Client:	Ardersier Port			**Ended:**	15/03/2023
Method:	Cable Percussive			**Backfilled:**	15/03/2023

GL (mCD):	2.62m	
Easting:	279882	
Northing:	858816	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		2.50	0.12	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					9.12	ES	
					9.62	ES	
					10.12	ES	
					10.62	ES	
					11.12	ES	
					11.62	ES	
					12.12	ES	
					12.62	ES	
					13.12	ES	
					13.62	ES	
					14.12	ES	
					14.62	ES	
					15.12	ES	
					15.62	ES	
					16.12	ES	
					16.62	ES	
					17.12	ES	
					17.62	ES	
					18.12	ES	
					18.62	ES	
					19.12	ES	
		19.70	-17.08		19.62	ES	
				End of Borehole at 19.700m			

Hole Diameter

Depth Base (m)	Diameter (mm)
19.50	150

Casing Depths

Depth Base (m)	Diameter (mm)
19.50	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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S-19

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	14/03/2023
Client:	Ardersier Port			**Ended:**	14/03/2023
Method:	Cable Percussive			**Backfilled:**	14/03/2023

GL (mCD):	2.61m	
Easting:	279632	
Northing:	858941	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		8.60	-5.99	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.	9.11	ES	
					9.61	ES	
					10.11	ES	
					10.61	ES	
					11.11	ES	
					11.61	ES	
					12.11	ES	
					12.61	ES	
					13.11	ES	
					13.61	ES	
					14.11	ES	
					14.61	ES	
					15.11	ES	
					15.61	ES	
					16.11	ES	
					16.61	ES	
					17.11	ES	
					17.61	ES	
					18.11	ES	
					18.61	ES	
					19.11	ES	
		19.70	-17.09		19.61	ES	
				End of Borehole at 19.700m			

Hole Diameter

Depth Base (m)	Diameter (mm)
19.50	150

Casing Depths

Depth Base (m)	Diameter (mm)
19.50	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

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S-20

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	14/03/2023
Client:	Ardersier Port			**Ended:**	14/03/2023
Method:	Cable Percussive			**Backfilled:**	14/03/2023

GL (mCD):	2.49m	
Easting:	279757	
Northing:	858941	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		9.10	-6.61	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.	8.99	ES	
					9.49	ES	
					9.99	ES	
					10.49	ES	
					10.99	ES	
					11.49	ES	
					11.99	ES	
					12.49	ES	
					12.99	ES	
					13.49	ES	
					13.99	ES	
					14.49	ES	
					14.99	ES	
					15.49	ES	
					15.99	ES	
					16.49	ES	
					16.99	ES	
					17.49	ES	
					17.99	ES	
					18.49	ES	
					18.99	ES	
		19.50	-17.01	End of Borehole at 19.500m	19.49	ES	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
19.40	150	19.40	150	Drilled overwater - no handdug pit undertaken.								

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Borehole Log

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S-21

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	14/03/2023
Client:	Ardersier Port			**Ended:**	14/03/2023
Method:	Cable Percussive			**Backfilled:**	14/03/2023

GL (mCD):	3.64m
Easting:	279882
Northing:	858941
Logged:	SD
Status:	DRAFT

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description
				WATER
		7.20	-3.56	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.
		20.70	-17.06	End of Borehole at 20.700m

Samples and Insitu Testing

Depth (m)	Type	Results
10.14	ES	
10.64	ES	
11.14	ES	
11.64	ES	
12.14	ES	
12.64	ES	
13.14	ES	
13.64	ES	
14.14	ES	
14.64	ES	
15.14	ES	
15.64	ES	
16.14	ES	
16.64	ES	
17.14	ES	
17.64	ES	
18.14	ES	
18.64	ES	
19.14	ES	
19.64	ES	
20.14	ES	
20.64	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
20.50	150

Casing Depths

Depth Base (m)	Diameter (mm)
20.50	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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S-22

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	21/03/2023
Client:	Ardersier Port			**Ended:**	21/03/2023
Method:	Cable Percussive			**Backfilled:**	21/03/2023

GL (mCD):	5.45m	
Easting:	279632	
Northing:	859066	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		2.90	2.55	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					11.95	ES	
					12.45	ES	
					12.95	ES	
					13.45	ES	
					13.95	ES	
					14.45	ES	
					14.95	ES	
					15.45	ES	
					15.95	ES	
					16.45	ES	
					16.95	ES	
					17.45	ES	
					17.95	ES	
					18.45	ES	
					18.95	ES	
					19.45	ES	
					19.95	ES	
					20.45	ES	
					20.95	ES	
					21.45	ES	
					21.95	ES	
		22.50	-17.05	End of Borehole at 22.500m	22.45	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
20.50	150

Casing Depths

Depth Base (m)	Diameter (mm)
20.50	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

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S-23

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	21/03/2023
Client:	Ardersier Port			**Ended:**	21/03/2023
Method:	Cable Percussive			**Backfilled:**	21/03/2023

GL (mCD):	3.49m	
Easting:	279757	
Northing:	859066	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		2.70	0.79	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					9.99	ES	
					10.49	ES	
					10.99	ES	
					11.49	ES	
					11.99	ES	
					12.49	ES	
					12.99	ES	
					13.49	ES	
					13.99	ES	
					14.49	ES	
					14.99	ES	
					15.49	ES	
					15.99	ES	
					16.49	ES	
					16.99	ES	
					17.49	ES	
					17.99	ES	
					18.49	ES	
					18.99	ES	
					19.49	ES	
					19.99	ES	
		20.50	-17.01	End of Borehole at 20.500m	20.49	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
20.50	150

Casing Depths

Depth Base (m)	Diameter (mm)
20.50	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

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S-24

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	23/03/2023
Client:	Ardersier Port			**Ended:**	23/03/2023
Method:	Cable Percussive			**Backfilled:**	23/03/2023

GL (mCD):	3.88m	
Easting:	279882	
Northing:	859066	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing: Depth (m)	Type	Results
				WATE			
		4.50	-0.62	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					10.38	ES	
					10.88	ES	
					11.38	ES	
					11.88	ES	
					12.38	ES	
					12.88	ES	
					13.38	ES	
					13.88	ES	
					14.38	ES	
					14.88	ES	
					15.38	ES	
					15.88	ES	
					16.38	ES	
					16.88	ES	
					17.38	ES	
					17.88	ES	
					18.38	ES	
					18.88	ES	
					19.38	ES	
					19.88	ES	
					20.38	ES	
		21.00	-17.12		20.88	ES	
				End of Borehole at 21.000m			

Hole Diameter

Depth Base (m)	Diameter (mm)
21.00	150

Casing Depths

Depth Base (m)	Diameter (mm)
21.00	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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S-25

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	16/03/2023
Client:	Ardersier Port			**Ended:**	16/03/2023
Method:	Cable Percussive			**Backfilled:**	16/03/2023

GL (mCD):	3.46m
Easting:	279507
Northing:	859191
Logged:	SD
Status:	DRAFT

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing: Depth (m)	Type	Results
				WATER			
		7.50	-4.04	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.	9.96	ES	
					10.46	ES	
					10.96	ES	
					11.46	ES	
					11.96	ES	
					12.46	ES	
					12.96	ES	
					13.46	ES	
					13.96	ES	
					14.46	ES	
					14.96	ES	
					15.46	ES	
					15.96	ES	
					16.46	ES	
					16.96	ES	
					17.46	ES	
					17.96	ES	
					18.46	ES	
					18.96	ES	
					19.46	ES	
					19.96	ES	
		20.50	-17.04	End of Borehole at 20.500m	20.45	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
20.30	150

Casing Depths

Depth Base (m)	Diameter (mm)
20.30	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

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S-26

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	16/03/2023
Client:	Ardersier Port			**Ended:**	16/03/2023
Method:	Cable Percussive			**Backfilled:**	16/03/2023

GL (mCD):	2.67m
Easting:	279632
Northing:	859191
Logged:	SD
Status:	DRAFT

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description
				WATER
		8.20	-5.53	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.
		19.70	-17.03	End of Borehole at 19.700m

Samples and Insitu Testing

Depth (m)	Type	Results
9.17	ES	
9.67	ES	
10.17	ES	
10.67	ES	
11.17	ES	
11.67	ES	
12.17	ES	
12.67	ES	
13.17	ES	
13.67	ES	
14.17	ES	
14.67	ES	
15.17	ES	
15.67	ES	
16.17	ES	
16.67	ES	
17.17	ES	
17.67	ES	
18.17	ES	
18.67	ES	
19.17	ES	
19.67	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
19.50	150

Casing Depths

Depth Base (m)	Diameter (mm)
19.50	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

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S-27

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	15/03/2023
Client:	Ardersier Port			**Ended:**	15/03/2023
Method:	Cable Percussive			**Backfilled:**	15/03/2023

GL (mCD):	3.10m	
Easting:	279757	
Northing:	859191	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		6.80	-3.70	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.			
					9.60	ES	
					10.10	ES	
					10.60	ES	
					11.10	ES	
					11.60	ES	
					12.10	ES	
					12.60	ES	
					13.10	ES	
					13.60	ES	
					14.10	ES	
					14.60	ES	
					15.10	ES	
					15.60	ES	
					16.10	ES	
					16.60	ES	
					17.10	ES	
					17.60	ES	
					18.10	ES	
					18.60	ES	
					19.10	ES	
					19.60	ES	
		20.10	-17.00	End of Borehole at 20.100m	20.10	ES	

Hole Diameter

Depth Base (m)	Diameter (mm)
20.00	150

Casing Depths

Depth Base (m)	Diameter (mm)
19.50	150

General Remarks

Drilled overwater - no handdug pit undertaken.

Chiselling

From (m)	To (m)	Time (hr)

Ground Water

Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)

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Borehole Log

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S-28

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	23/03/2023
Client:	Ardersier Port			**Ended:**	23/03/2023
Method:	Cable Percussive			**Backfilled:**	23/03/2023

GL (mCD):	2.34m	
Easting:	279507	
Northing:	859316	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing: Depth (m)	Type	Results
				WATER			
		13.70	-11.36	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.	13.84	ES	
					14.34	ES	
					14.84	ES	
					15.34	ES	
					15.84	ES	
					16.34	ES	
					16.84	ES	
					17.34	ES	
					17.84	ES	
					18.34	ES	
					18.84	ES	
		19.40	-17.06	End of Borehole at 19.400m	19.34	ES	

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
19.40	150	19.40	150	Drilled overwater - no handdug pit undertaken.								

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S-29

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	22/03/2023
Client:	Ardersier Port			**Ended:**	22/03/2023
Method:	Cable Percussive			**Backfilled:**	22/03/2023

GL (mCD):	2.40m	
Easting:	279632	
Northing:	859316	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing		
					Depth (m)	Type	Results
				WATER			
		12.70	-10.30	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.	12.90	ES	
					13.40	ES	
					13.90	ES	
					14.40	ES	
					14.90	ES	
					15.40	ES	
					15.90	ES	
					16.40	ES	
					16.90	ES	
					17.40	ES	
					17.90	ES	
					18.40	ES	
					18.90	ES	
		19.50	-17.10		19.40	ES	
				End of Borehole at 19.500m			

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
19.50	150	19.50	150	Drilled overwater - no handdug pit undertaken.								

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S-30

Contract no:	S230232	**Site:**	Marine Scotland Boreholes, Ardersier, Inverness	**Driller:**	Bainbridge Brothers Ltd
				Plant used:	Dando 2000
				Started:	22/03/2023
Client:	Ardersier Port			**Ended:**	22/03/2023
Method:	Cable Percussive			**Backfilled:**	22/03/2023

GL (mCD):	4.66m	
Easting:	279507	
Northing:	859441	
Logged:	SD	
Status:	DRAFT	

Backfill / Installation	Legend	Depth (m)	Level (m CD)	Stratum Description	Samples and Insitu Testing: Depth (m)	Type	Results
				WATER			
		21.60	-16.94	Grey slightly gravelly SAND. Sand is fine to coarse grained. Gravel is fine to medium grained, sub-rounded to rounded of sandstone with occasional shell fragments.	21.66	ES	
		22.00	-17.34	End of Borehole at 22.000m			

Hole Diameter		Casing Depths		General Remarks	Chiselling			Ground Water				
Depth Base (m)	Diameter (mm)	Depth Base (m)	Diameter (mm)		From (m)	To (m)	Time (hr)	Depth Strike (m)	Depth Casing (m)	Depth Sealed (m)	Time Elapsed (min)	Water Level (m)
22.00	150	22.00	150	Drilled overwater - no handdug pit undertaken.								

C DATA SUMMARY TABLES AND LAB CERTIFICATES

Summary Table A

Ardersier -12.9m Dredge Sampling Results Incorporated with BPEO Assessment (mg/kg)

Source	AL1 (Marine Scotland)	AL1 (Marine Scotland)	BAC (CSEMP)	ERL (CSEMP)	PEL (Canada)	S01 - 1 - 6.50-7.00m	S01 - 7 - 9.50-10.00m	S01 - 13 - 12.50-13.00m	S02 - 1 - 6.50-7.00m	S02 - 7 - 9.50-10.00m	S02 - 13 - 12.50-13.00m	S03 - 1 - 6.50-7.00m	S03 - 7 - 9.50-10.00m	S03 - 13 - 15.50-13.00m	S04 - 1 - 6.50-7.00m	S04 - 7 - 9.50-1.00m	S04 - 13 - 12.50-13.00m	S05 ES1 6.50-7.00m	S05 ES7 9.50-10.00m	S05 ES13 12.50-13.00m	S06 ES1 6.50-7.00	S06 ES7 9.50-10.00	S06 ES13 12.50-13.00	S07 - 1 - 6.50-7.00m	S07 - 7 - 9.50-10.00m	S07 - 13 - 12.50-13.00m	S08 - 1 - 6.50-7.00m	S08 - 7 - 9.50-10.00m	S08 - 13 - 12.50-13.00m	S09 ES1 6.50-7.00	S09 ES7 9.50-10.00
Arsenic	20	70	25		41.6	1.1	1.7	1.2	1.4	1.2	2.2	2.5	2.4	3.3	6.2	2.4	2.2	3.7	2.9	4.1	1.9	1.8	3.5	2.3	3.2	2.5	9.9	5.2	4	4.4	3.6
Cadmium	0.4	4	0.31	1.2	4.2	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.12	0.04	0.1	0.13	0.14	0.18	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Chromium	50	370	81	81	160	10	5.5	13.6	4.4	4.4	6.8	6.9	16.4	18.3	27.6	11.9	15.4	20.4	17.1	19.8	15.4	16	18	14.8	16.3	18	27.9	17.7	23.1	23.2	19.2
Copper	30	300	27	34	108	7.7	4.8	8.1	4.4	5.3	4.6	7.9	10	10.8	21.4	8.3	8.9	12.6	10.5	12	13.4	14	12.5	8.6	10.4	11.1	23.2	11.1	13.3	21.3	13
Mercury	0.25	1.5	0.07	0.15	0.7	0.02	0.01	0.01	0.06	0.02	0.01	0.02	0.01	0.01	0.08	0.02	0.01	0.05	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.06	0.02	0.03	0.04	0.02
Nickel	30	150	36	-	-	8.2	5	11.6	4.8	4.2	5.7	5.5	14.6	15.6	16.2	11.5	13.9	14.8	18	19.5	14.6	15.2	16.4	11.9	15	16.4	17.6	13.9	18.2	23	20.4
Lead	50	400	38	47	112	2.3	1.3	2.9	1.7	1.1	1.7	4.4	3.1	3.5	11.1	2.3	2.9	11.9	5.1	5.1	4	3.4	3.5	2.3	2.8	3.9	19.2	5.9	5.6	12.3	5.3
Zinc	130	600	122	150	271	24.6	15.1	30.1	16.5	11.7	19.4	36.9	30	42	89.5	21.9	28	59.6	43.7	50.4	37.9	36.2	44.6	20.5	27.4	33.4	125	44	51.4	99.9	66.3
Napthalene	0.1	-	0.08	0.16	0.391	0.005	0.005	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.005	0.005	0.005	0.00483	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.00158	0.00291
Acenaphthylene	0.1	-	-	-	0.128	0.005	0.005	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.005	0.005	0.005	0.00937	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.00289	0.00364
Acenaphthene	0.1	-	-	-	0.0889	0.005	0.005	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.005	0.005	0.005	0.00337	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.001	0.00104
Fluorene	0.1	-	-	-	0.144	0.005	0.005	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.005	0.005	0.005	0.00813	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.00249	0.00298
Phenanthrene	0.1	-	0.032	0.24	0.544	0.005	0.005	0.001	0.00239	0.0023	0.005	0.005	0.005	0.001	0.0478	0.005	0.005	0.0501	0.00183	0.00119	0.0024	0.00117	0.001	0.005	0.005	0.005	0.0169	0.005	0.005	0.0284	0.0421
Anthracene	0.1	-	0.05	0.085	0.245	0.005	0.005	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.0118	0.005	0.005	0.0161	0.001	0.001	0.00109	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.00301	0.00239
Fluoranthene	0.1	-	0.039	0.6	1.494	0.005	0.005	0.001	0.00638	0.00379	0.005	0.0218	0.005	0.00178	0.0983	0.005	0.005	0.0845	0.00402	0.00192	0.0051	0.00159	0.001	0.005	0.005	0.005	0.0411	0.00977	0.005	0.0576	0.058
Pyrene	0.1	-	0.024	0.665	1.398	0.005	0.005	0.00105	0.00735	0.00361	0.005	0.0333	0.005	0.0027	0.11	0.005	0.005	0.0892	0.00467	0.0028	0.00557	0.002	0.00104	0.005	0.005	0.005	0.0587	0.0109	0.005	0.0524	0.0507
Benzo(a)anthracene	0.1	-	0.016	0.261	0.693	0.005	0.005	0.001	0.00297	0.00172	0.005	0.0104	0.005	0.001	0.0507	0.005	0.005	0.0427	0.00209	0.001	0.00224	0.001	0.001	0.005	0.005	0.005	0.0198	0.005	0.005	0.0218	0.0185
Chrysene	0.1	-	0.02	0.384	0.846	0.005	0.005	0.001	0.00359	0.00203	0.005	0.0148	0.005	0.00144	0.0642	0.005	0.005	0.0465	0.00261	0.00126	0.00267	0.001	0.001	0.005	0.005	0.005	0.0268	0.005	0.005	0.0306	0.0285
Benzo(b)fluoranthene	0.1	-	-	-	-	0.005	0.005	0.001	0.00468	0.00127	0.005	0.0165	0.005	0.0011	0.074	0.005	0.005	0.0547	0.00288	0.00122	0.0019	0.001	0.001	0.005	0.005	0.005	0.0268	0.005	0.005	0.0287	0.0274
Benzo(k)fluoranthene	0.1	-	-	-	-	0.005	0.005	0.001	0.00581	0.00202	0.005	0.0196	0.005	0.00134	0.0794	0.005	0.005	0	0.00264	0.00103	0.00287	0.00115	0.001	0.005	0.005	0.005	0.037	0.005	0.005	0.029	0.0299
Benzo(a)pyrene	0.1	-	0.03	0.384	0.763	0.005	0.005	0.001	0.00435	0.00212	0.005	0.0168	0.005	0.00106	0.0668	0.005	0.005	0.0557	0.00277	0.00133	0.00254	0.001	0.001	0.005	0.005	0.005	0.0303	0.005	0.005	0.0301	0.0286
Indeno(1,2,3cd)pyrene	0.1	-	0.103	0.24	-	0.005	0.005	0.001	0.00336	0.0011	0.005	0.0126	0.005	0.001	0.0537	0.005	0.005	0.0568	0.00224	0.001	0.00135	0.001	0.001	0.005	0.005	0.005	0.0206	0.005	0.005	0.0257	0.0261
Benzo(ghi)perylene	0.1	-	0.08	0.085	-	0.005	0.005	0.001	0.00318	0.00116	0.005	0.0113	0.005	0.00106	0.0476	0.005	0.005	0.0497	0.0021	0.00137	0.00166	0.001	0.001	0.005	0.005	0.005	0.0245	0.005	0.005	0.0231	0.0242
Dibenzo(a,h)anthracene	0.01	-	-	-	0.135	0.005	0.005	0.001	0.001	0.001	0.005	0.005	0.005	0.001	0.005	0.005	0.005	0.0104	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.00446	0.00512
TPH	100	-	-	-	-	9.98	6.18	8.97	8.64	1.99	25.5	36.8	34.9	6.03	54	4.26	4.18	62.2	8.14	8.17	4.72	3.98	4.1	2.84	4.13	10.2	54.9	8.51	9.38	20.5	56.4
PCBs	0.02000	0.18000	-	-	0.18900	0.00056	0.00056	0.00056	0.00056	0.00056	0.00110	0.00056	0.00056	0.00056	0.00058	0.00056	0.00056	0.00058	0.00056	0.00056	0.00056	0.00056	0.00056	0.00129	0.00056	0.00056	0.00059	0.00056	0.00056	0.00056	0.00056
TBT	0.10000	0.50000	-	-	-	0.00500	0.00500	0.00100	0.00500	0.00100	0.00500	0.00500	0.00500	0.00100	0.01690	0.00500	0.00100	0.02070	0.00500	0.00500	0.00500	0.00500	0.00500	0.00500	0.00100	0.00500	0.01840	0.00500	0.00500	0.02110	0.00726

Note: Underlined Values are LOD. Values highlighted red are equal to or greater than AL1.

PEL Data Source: http://ceqg-rcqe.ccme.ca/en/index.html#void

Summary Table A

Ardersier -12.9m Dredge Sampling Results Incorporated with BPEO Assessme

Source	AL1 (Marine Scotland)	AL1 (Marine Scotland)	BAC (CSEMP)	ERL (CSEMP)	PEL (Canada)	Ardersier -12.4m Dredge Data																								
						S09 ES13 12.50-13.00	S10 ES1 6.50-7.00	S10 ES7 9.50-10.00	S10 ES13 12.50-13.00	S11 ES1 6.50-7.00m	S11 ES7 9.50-10.00m	S11 ES13 12.50-13.00m	S12 ES1 6.50-7.00	S12 ES7 9.50-10.00	S12 ES13 12.50-13.00	S13 ES1 6.50-7.00	S13 ES7 9.50-10.00	S13 ES13 12.50-13.00	S14 ES1 6.50-7.00	S14 ES7 9.50-10.00	S14 ES13 12.50-13.00	S15 ES1 6.50-7.00m	S15 ES7 9.50-10.00m	S15 ES13 12.50-13.00m	S16 ES1 6.50-7.00m	S16 ES7 9.50-10.00m	S16 ES13 12.50-13.00m	S17 ES1 6.50-7.00	S17 ES7 9.50-10.00	S17 ES13 12.50-13.00	S18 ES1 6.50-7.00m
Arsenic	20	70	25		41.6	1.9	2.4	2.4	1.9	6.9	5.4	4.8	6	3.5	3.1	2.9	2.9	2.5	2.4	4.4	3.1	3.5	5.8	2.8	3.6	2.3	2.8	3.8	3.2	3.2	2.7
Cadmium	0.4	4	0.31	1.2	4.2	0.04	0.14	0.12	0.19	0.17	0.04	0.04	0.17	0.08	0.25	0.39	0.31	0.24	0.2	0.13	0.19	0.04	0.05	0.04	0.04	0.16	0.23	0.04	0.04	0.04	0.14
Chromium	50	370	81	81	160	6.3	17.4	17.5	11.9	30.7	22	21	22.2	18.6	21.2	18.7	17.4	19.5	16.4	19.8	18.8	15	25.9	13.8	21.8	20.3	19.8	15.9	14.6	15.5	19.7
Copper	30	300	27	34	108	4.7	16.1	17.4	11.4	31.2	28.5	26.7	16.3	12.3	13.9	10.3	11.1	10.8	12	11.7	11.6	12	21.7	9.3	13.7	12.8	11.2	11.7	10.1	10.6	12.3
Mercury	0.25	1.5	0.07	0.15	0.7	0.01	0.02	0.02	0.07	0.05	0.03	0.03	0.09	0.04	0.03	0.23	0.23	0.27	0.24	0.17	0.22	0.07	0.05	0.02	0.04	0.04	0.03	0.01	0.01	0.01	0.03
Nickel	30	150	36	-	-	7.7	13.6	13.5	9.5	20.9	15.9	14	14.2	15	16.4	12.4	11.6	13.4	14.3	19.5	16.9	10	16.8	9.3	17.8	20.8	17	14.9	14.1	15.1	14
Lead	50	400	38	47	112	1.6	6.4	7.6	4.3	17.8	14	12.7	13.5	4.8	4.5	5.7	5.2	3.6	5.1	5.3	3.8	9.1	13.6	3.8	8.3	5.5	3.8	4.7	2.4	2.5	4.8
Zinc	130	600	122	150	271	22.2	101	115	60.4	211.9	209.4	195.6	63.6	44.7	45.3	50.6	57.1	50.3	48.3	49.9	42.6	55.3	126.8	34	57.3	55.4	64.9	27	20.8	23.5	48.4
Napthalene	0.1	-	0.08	0.16	0.391	0.001	0.001	0.001	0.001	0.001	0.00206	0.00183	0.00341	0.001	0.001	0.00261	0.001	0.001	0.001	0.00102	0.001	0.00395	0.00123	0.001	0.00164	0.001	0.001	0.005	0.005	0.001	0.00155
Acenaphthylene	0.1	-	-	-	0.128	0.001	0.00328	0.001	0.001	0.0019	0.0034	0.00457	0.00376	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.00373	0.00102	0.001	0.00195	0.001	0.001	0.005	0.005	0.001	0.00116
Acenaphthene	0.1	-	-	-	0.0889	0.001	0.001	0.001	0.001	0.00185	0.00212	0.00122	0.00366	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.00193	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.001	0.001
Fluorene	0.1	-	-	-	0.144	0.001	0.00191	0.001	0.001	0.00178	0.00251	0.00345	0.00468	0.001	0.001	0.00102	0.001	0.001	0.001	0.001	0.001	0.00359	0.00116	0.001	0.00173	0.001	0.001	0.005	0.005	0.001	0.001
Phenanthrene	0.1	-	0.032	0.24	0.544	0.00248	0.00634	0.00405	0.00105	0.0326	0.0146	0.0181	0.03	0.00256	0.001	0.00588	0.00256	0.001	0.00321	0.00181	0.001	0.0262	0.00661	0.00396	0.0112	0.00241	0.001	0.005	0.00788	0.001	0.00823
Anthracene	0.1	-	0.05	0.085	0.245	0.001	0.00175	0.001	0.001	0.00487	0.00438	0.00481	0.00845	0.001	0.001	0.00208	0.001	0.001	0.001	0.001	0.001	0.00711	0.00215	0.00284	0.00308	0.00106	0.001	0.005	0.005	0.001	0.00273
Fluoranthene	0.1	-	0.039	0.6	1.494	0.00393	0.00906	0.00575	0.00128	0.0746	0.0338	0.0315	0.0501	0.00496	0.00197	0.00929	0.00537	0.00134	0.00695	0.00318	0.001	0.0453	0.015	0.0108	0.0149	0.00635	0.0012	0.005	0.0135	0.001	0.0163
Pyrene	0.1	-	0.024	0.665	1.398	0.00389	0.00851	0.00654	0.00166	0.0652	0.055	0.0346	0.0473	0.00654	0.00234	0.00874	0.00584	0.00175	0.0101	0.00445	0.00149	0.0485	0.0192	0.0112	0.0184	0.00741	0.00196	0.005	0.0151	0.001	0.015
Benzo(a)anthracene	0.1	-	0.016	0.261	0.693	0.00126	0.00376	0.00227	0.001	0.0303	0.0189	0.0155	0.0223	0.00215	0.001	0.00351	0.00204	0.001	0.00289	0.00126	0.001	0.0221	0.00802	0.00549	0.00713	0.00299	0.001	0.005	0.0057	0.001	0.00631
Chrysene	0.1	-	0.02	0.384	0.846	0.0018	0.00479	0.00276	0.001	0.0401	0.0261	0.0167	0.0248	0.00297	0.00122	0.00407	0.00245	0.001	0.00438	0.00184	0.001	0.023	0.00875	0.00601	0.00826	0.00342	0.001	0.005	0.00653	0.001	0.00652
Benzo(b)fluoranthene	0.1	-	-	-	-	0.00168	0.0032	0.00201	0.001	0.0352	0.0334	0.0182	0.0286	0.00343	0.001	0.00417	0.00226	0.001	0.00549	0.0015	0.001	0.0276	0.0108	0.00624	0.00902	0.00354	0.001	0.005	0.005	0.001	0.00496
Benzo(k)fluoranthene	0.1	-	-	-	-	0.00149	0.00504	0.00247	0.001	0.0312	0.0333	0.0185	0.0284	0.00432	0.0013	0.00451	0.00214	0.001	0.0061	0.00191	0.001	0.0265	0.0111	0.00642	0.00914	0.00332	0.001	0.005	0.005	0.001	0.00583
Benzo(a)pyrene	0.1	-	0.03	0.384	0.763	0.00141	0.0043	0.00286	0.001	0.0331	0.0326	0.02	0.0295	0.00254	0.001	0.00341	0.00213	0.001	0.00418	0.00156	0.001	0.026	0.0113	0.00724	0.00924	0.00375	0.001	0.005	0.005	0.001	0.00681
Indeno(1,2,3cd)pyrene	0.1	-	0.103	0.24	-	0.00124	0.00252	0.00177	0.001	0.0277	0.0322	0.015	0.0287	0.00208	0.001	0.00284	0.00178	0.001	0.00357	0.00114	0.001	0.0264	0.0102	0.00546	0.00892	0.00257	0.001	0.005	0.005	0.001	0.00429
Benzo(ghi)perylene	0.1	-	0.08	0.085	-	0.0014	0.0028	0.00216	0.001	0.0251	0.0285	0.0145	0.0292	0.0025	0.001	0.00286	0.00191	0.001	0.0041	0.00174	0.001	0.0239	0.00998	0.00499	0.00786	0.00234	0.00105	0.005	0.005	0.001	0.00402
Dibenzo(a,h)anthracene	0.01	-	-	-	0.135	0.001	0.001	0.001	0.001	0.00481	0.00642	0.00275	0.00567	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.00482	0.00178	0.001	0.00142	0.001	0.001	0.005	0.005	0.001	0.001
TPH	100	-	-	-	-	8.54	6.54	7.58	5.24	24	67.7	23.1	42.5	10.9	4.46	7.1	5.99	4.59	11.5	8.89	3.58	41.1	20.9	10.2	14.5	6.21	7.1	49.2	28.1	1.78	6.23
PCBs	0.02000	0.18000	-	-	0.18900	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00066	0.00294	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00107
TBT	0.10000	0.50000	-	-	-	0.00500	0.00500	0.00500	0.00100	0.00500	0.00500	0.00500	0.00500	0.00500	0.00500	0.00500	0.00500	0.00100	0.00900	0.00500	0.00100	0.00500	0.00500	0.00500	0.01130	0.00237	0.00100	0.00100	0.00100	0.00100	0.00500

Note: Underlined Values are LOD. Values highlighted red are equal to or greater th

PEL Data Source: http://ceqg-rcqe.ccme.ca/en/index.html#void

Summary Table A

Ardersier -12.9m Dredge Sampling Results Incorporated with BPEO Assessme

Source	AL1 (Marine Scotland)	AL1 (Marine Scotland)	BAC (CSEMP)	ERL (CSEMP)	PEL (Canada)	S18 ES7 9.50-10.00m	S18 ES13 12.50-13.00m	S19 ES1 6.50-7.00m	S19 ES7 9.50-10.00m	S19 ES13 12.50-13.00m	S20 ES1 6.50-7.00m	S20 ES7 9.50-10.00m	S20 ES13 12.50-13.00m	S21 ES1 6.50-7.00	S21 ES7 9.50-10.00	S21 ES13 12.50-13.00	S22 ES1 6.50-7.00	S22 ES7 9.50-10.00	S22 ES13 12.50-13.00	S23 ES1 6.50-7.00	S23 ES7 9.50-10.00	S23 ES13 12.50-13.00	S24 ES1 6.50-7.00	S24 ES7 9.50-10.00	S24 ES13 12.50-13.00	S25 ES1 6.50-7.00m	S25 ES7 9.50-10.00m	S25 ES13 12.50-13.00m	S26 ES1 6.50-7.00m	S26 ES7 9.50-10.00m	S26 ES13 12.50-13.00m
Arsenic	20	70	25		41.6	2	2.4	2.4	2.5	3.7	1.6	1.6	1.6	2.4	3.7	3.1	4.1	3.1	3.2	2.8	2.9	2.7	2.2	2.4	2.7	4.3	3.7	3.8	3.3	3.5	3.4
Cadmium	0.4	4	0.31	1.2	4.2	0.12	0.17	0.05	0.13	0.21	0.12	0.04	0.04	0.19	0.26	0.27	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.07	0.04	0.04	0.04
Chromium	50	370	81	81	160	19.2	20.7	16.8	14.5	90.9	21.7	13	12	16.6	19.7	15.8	21.4	17.5	20	18.6	19.1	16	15.1	15	16.8	20.2	16.6	20.5	19	20.2	17.9
Copper	30	300	27	34	108	12.5	12	10.9	10.8	11.6	9.2	9.5	9.7	11.3	11.1	10.3	10.6	9.9	11.8	10	11.5	9.6	10.1	10.1	11.3	12.8	12.8	14	12.3	13.3	11.9
Mercury	0.25	1.5	0.07	0.15	0.7	0.02	0.03	0.02	0.05	0.03	0.03	0.01	0.01	0.2	0.35	0.26	0.02	0.01	0.01	0.1	0.04	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.03
Nickel	30	150	36	-	-	13	15.4	13.8	13.4	63.5	15.3	9.1	10	11.4	14	13.3	17.6	20.2	20.1	16.6	18.3	14.4	13.6	15	17.2	13.1	12.8	14.9	13.5	15.3	12.1
Lead	50	400	38	47	112	4.2	4.6	3.3	3.5	4	3.1	3	2.9	5.1	4.5	3.9	7.1	3.7	4.3	3.9	4.9	3.9	3	3.7	3.9	5	4.2	4.1	3.9	3.8	4.3
Zinc	130	600	122	150	271	40.8	42.8	31.9	30.3	68.2	33.7	26.9	31.6	43.7	50.2	54.1	46.9	38.5	56.2	44.4	54.5	35.9	30.8	46.6	46.3	40.2	35.7	43.1	44.5	50.1	56.6
Napthalene	0.1	-	0.08	0.16	0.391	0.00149	0.00187	0.00351	0.001	0.001	0.00203	0.00141	0.001	0.00115	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.00116	0.001	0.001	0.001	0.001	0.001
Acenaphthylene	0.1	-	-	-	0.128	0.00109	0.00306	0.001	0.001	0.001	0.001	0.00304	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.00129	0.001	0.00103	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Acenaphthene	0.1	-	-	-	0.0889	0.001	0.001	0.001	0.001	0.001	0.001	0.00255	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Fluorene	0.1	-	-	-	0.144	0.001	0.00264	0.001	0.001	0.001	0.001	0.00382	0.001	0.00118	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.00103	0.001	0.00118	0.001	0.00109	0.00108	0.001	0.001	0.001	0.001
Phenanthrene	0.1	-	0.032	0.24	0.544	0.00742	0.0193	0.00365	0.00191	0.00587	0.00381	0.0198	0.00106	0.00752	0.00264	0.001	0.005	0.00141	0.001	0.00126	0.00355	0.00392	0.001	0.0124	0.00238	0.00473	0.0113	0.00118	0.00211	0.00183	0.0013
Anthracene	0.1	-	0.05	0.085	0.245	0.0028	0.00532	0.001	0.001	0.00321	0.00132	0.00713	0.001	0.00275	0.001	0.001	0.005	0.001	0.001	0.001	0.0011	0.00127	0.001	0.00526	0.00136	0.00186	0.00982	0.001	0.001	0.001	0.001
Fluoranthene	0.1	-	0.039	0.6	1.494	0.0157	0.0221	0.0046	0.00361	0.0228	0.00811	0.0204	0.00235	0.0121	0.00298	0.00113	0.00896	0.00395	0.001	0.00338	0.0067	0.00772	0.001	0.0302	0.00533	0.00751	0.0309	0.00175	0.00402	0.00317	0.00321
Pyrene	0.1	-	0.024	0.665	1.398	0.0166	0.0234	0.00455	0.00445	0.0217	0.00937	0.0179	0.00319	0.0134	0.00394	0.00155	0.0118	0.00512	0.0016	0.00374	0.00757	0.00916	0.00135	0.0263	0.00539	0.00827	0.0264	0.00311	0.00505	0.00421	0.00428
Benzo(a)anthracene	0.1	-	0.016	0.261	0.693	0.00655	0.00957	0.00194	0.00153	0.0104	0.00405	0.00696	0.00119	0.00581	0.00144	0.001	0.005	0.0015	0.001	0.0012	0.00256	0.00453	0.001	0.012	0.00187	0.00323	0.0122	0.001	0.00173	0.0012	0.00136
Chrysene	0.1	-	0.02	0.384	0.846	0.00742	0.0102	0.00215	0.00176	0.011	0.00473	0.00714	0.0012	0.00641	0.00165	0.001	0.005	0.0017	0.001	0.00144	0.00311	0.0045	0.001	0.0109	0.00184	0.00388	0.0119	0.00103	0.00209	0.00155	0.00164
Benzo(b)fluoranthene	0.1	-	-	-	-	0.00567	0.00667	0.00174	0.00188	0.0083	0.00524	0.00403	0.00119	0.00632	0.00168	0.001	0.005	0.00156	0.001	0.00119	0.00307	0.00364	0.001	0.00664	0.00112	0.00352	0.00858	0.00103	0.0018	0.0011	0.00158
Benzo(k)fluoranthene	0.1	-	-	-	-	0.00645	0.00766	0.00214	0.00214	0.0106	0.0048	0.00676	0.00166	0.00663	0.00208	0.001	0.005	0.00153	0.001	0.00141	0.00348	0.00462	0.001	0.00965	0.00174	0.00387	0.0112	0.00151	0.00163	0.00157	0.00183
Benzo(a)pyrene	0.1	-	0.03	0.384	0.763	0.00742	0.00997	0.00201	0.00169	0.0125	0.0046	0.00683	0.00161	0.0067	0.00199	0.001	0.005	0.00134	0.001	0.00122	0.00305	0.00502	0.001	0.0106	0.00164	0.00373	0.0126	0.00128	0.00198	0.00151	0.00156
Indeno(1,2,3cd)pyrene	0.1	-	0.103	0.24	-	0.00538	0.00537	0.0012	0.00111	0.00747	0.00274	0.00388	0.001	0.00455	0.0015	0.001	0.005	0.001	0.001	0.001	0.00231	0.00276	0.001	0.0053	0.001	0.00239	0.00627	0.001	0.001	0.00118	0.00106
Benzo(ghi)perylene	0.1	-	0.08	0.085	-	0.0054	0.00586	0.00128	0.00132	0.00813	0.00328	0.00395	0.001	0.00566	0.00231	0.001	0.005	0.00143	0.001	0.001	0.0028	0.0028	0.001	0.00529	0.00116	0.00339	0.00686	0.00199	0.00182	0.00163	0.00121
Dibenzo(a,h)anthracene	0.01	-	-	-	0.135	0.001	0.001	0.001	0.001	0.00128	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.00114	0.001	0.001	0.001	0.001
TPH	100	-	-	-	-	6.03	3.94	3.26	4.95	4.81	7.24	2.97	2.7	11.4	7.96	3.53	21.7	6.42	6.64	3.68	5.59	5.78	1.22	2.33	2.87	7.57	5.15	8.04	6.61	10.1	5.85
PCBs	0.02000	0.18000	-	-	0.18900	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056	0.00056
TBT	0.10000	0.50000	-	-	-	0.00500	0.00500	0.00500	0.00500	0.00174	0.00500	0.00171	0.00500	0.00500	0.00500	0.00500	0.00500	0.00500	0.00100	0.00500	0.00500	0.00500	0.00500	0.00500	0.00100	0.00500	0.00500	0.00500	0.00500	0.00100	0.00500

Note: Underlined Values are LOD. Values highlighted red are equal to or greater th

PEL Data Source: http://ceqg-rcqe.ccme.ca/en/index.html#void

Summary Table A

Ardersier -12.9m Dredge Sampling Results Incorporated with BPEO Assessme

Source	AL1 (Marine Scotland)	AL1 (Marine Scotland)	BAC (CSEMP)	ERL (CSEMP)	PEL (Canada)	S27 ES1 6.50-7.00m	S27 ES7 9.50-10.00m	S27 ES13 12.50-13.00m	S28 ES3 12.50-13.00	S29 ES5 12.50-13.00	MAX Conc	Average Conc	No. Exceed RAL 1	No. Exceed RAL 2	No.Exceed BAC?	No. Exceed ERL	No. Exceed PEL?
Arsenic	20	70	25		41.6	2.7	2.6	2.6	2.9	3.3	9.9	3.13	0	0	0	N/A	0
Cadmium	0.4	4	0.31	1.2	4.2	0.04	0.04	0.14	0.04	0.04	0.39	0.09	0	0	2	0	0
Chromium	50	370	81	81	160	17.5	18.7	18.9	17.3	19.7	90.9	18.27	1	0	1	1	0
Copper	30	300	27	34	108	11.1	12.2	12.2	10.6	11.5	31.2	12.16	1	0	2	0	0
Mercury	0.25	1.5	0.07	0.15	0.7	0.01	0.01	0.03	0.01	0.1	0.35	0.05	3	0	15	9	0
Nickel	30	150	36	-	-	12.2	12.4	12.6	17.6	18.4	63.5	14.82	1	0	1	N/A	N/A
Lead	50	400	38	47	112	4.2	4	4.6	4.2	4.1	19.2	5.18	0	0	0	0	0
Zinc	130	600	122	150	271	43.7	39.6	43.9	47.6	60.8	211.9	52.38	3	0	5	3	0
Napthalene	0.1	-	0.08	0.16	0.391	0.00102	0.001	0.00111	0.00161	0.001	0.005	0.002	0	N/A	0	0	0
Acenaphthylene	0.1	-	-	-	0.128	0.001	0.001	0.001	0.00194	0.001	0.00937	0.002	0	N/A	N/A	N/A	0
Acenaphthene	0.1	-	-	-	0.0889	0.001	0.001	0.001	0.001	0.001	0.005	0.002	0	N/A	N/A	N/A	0
Fluorene	0.1	-	-	-	0.144	0.001	0.001	0.001	0.00239	0.001	0.00813	0.002	0	N/A	N/A	N/A	0
Phenanthrene	0.1	-	0.032	0.24	0.544	0.00444	0.0026	0.0059	0.0095	0.00111	0.0501	0.007	0	N/A	4	0	0
Anthracene	0.1	-	0.05	0.085	0.245	0.00131	0.00121	0.00266	0.00459	0.001	0.0161	0.003	0	N/A	0	0	0
Fluoranthene	0.1	-	0.039	0.6	1.494	0.00645	0.005	0.0104	0.0197	0.00105	0.0983	0.013	0	N/A	8	0	0
Pyrene	0.1	-	0.024	0.665	1.398	0.00893	0.00666	0.0115	0.0171	0.00181	0.11	0.014	1	N/A	13	0	0
Benzo(a)anthracene	0.1	-	0.016	0.261	0.693	0.00271	0.00223	0.00419	0.00673	0.001	0.0507	0.006	0	N/A	9	0	0
Chrysene	0.1	-	0.02	0.384	0.846	0.00307	0.00263	0.00478	0.00733	0.001	0.0642	0.007	0	N/A	9	0	0
Benzo(b)fluoranthene	0.1	-	-	-	-	0.00226	0.00202	0.00355	0.00479	0.001	0.074	0.007	0	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	0.1	-	-	-	-	0.00335	0.00232	0.00459	0.00617	0.001	0.0794	0.007	0	N/A	N/A	N/A	N/A
Benzo(a)pyrene	0.1	-	0.03	0.384	0.763	0.00288	0.00228	0.00409	0.00642	0.001	0.0668	0.008	0	N/A	6	0	0
Indeno(1,2,3cd)pyrene	0.1	-	0.103	0.24	-	0.00173	0.00103	0.00221	0.00357	0.001	0.0568	0.006	0	N/A	0	0	N/A
Benzo(ghi)perylene	0.1	-	0.08	0.085	-	0.00232	0.00161	0.0026	0.00394	0.00108	0.0497	0.006	0	N/A	0	0	N/A
Dibenzo(a,h)anthracene	0.01	-	-	-	0.135	0.001	0.001	0.001	0.001	0.001	0.0104	0.002	1	N/A	N/A	N/A	0
TPH	100	-	-	-	-	15.4	5.26	4.46	3.21	8	67.7	13.03	0	N/A	N/A	N/A	N/A
PCBs	0.02000	0.18000	-	-	0.18900	0.00056	0.00056	0.00056	0.00056	0.00056	0.00294	0.00061	0.00000	0.00000	N/A	N/A	0.00000
TBT	0.10000	0.50000	-	-	-	0.00100	0.00500	0.00500	0.00500	0.00100	0.02110	0.00491	0.00000	0.00000	N/A	N/A	N/A

Note: Underlined Values are LOD. Values highlighted red are equal to or greater th

PEL Data Source: http://ceqg-rcqe.ccme.ca/en/index.html#void

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01805

Issue Version: 1

Customer: Solmek, 12 Yarm Road, Stockton-on-Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S17

Date Sampled: 27-Mar-23

Date Samples Received: 29-Mar-23

Test Report Date: 21-Apr-23

Condition of samples: Cold Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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	MAR01805
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S17

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S17 ES1 6.50-7.00	MAR01805.001	Sediment	10.0	90.0	0.00	97.54	2.46	NAIIS
S17 ES7 9.50-10.00	MAR01805.002	Sediment	11.1	88.9	0.00	97.82	2.18	NAIIS
S17 ES13 12.50-13.00	MAR01805.003	Sediment	9.74	90.3	0.00	97.72	2.28	NAIIS

* See Report Notes

NAIIS - No Asbestos Identified In Sample

Certificate of Analysis

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Test Report ID MAR01805
Issue Version 1
Customer Reference S230232 - Ardersier Port - S17

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S17 ES1 6.50-7.00	MAR01805.001	Sediment	3.8	<0.04	15.9	11.7	0.01	14.9	4.7	27.0
S17 ES7 9.50-10.00	MAR01805.002	Sediment	3.2	<0.04	14.6	10.1	<0.01	14.1	2.4	20.8
S17 ES13 12.50-13.00	MAR01805.003	Sediment	3.2	<0.04	15.5	10.6	<0.01	15.1	2.5	23.5
Certified Reference Material SETOC 768 (% Recovery)			98	111	97	109	98	96	95	102
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

Certificate of Analysis

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Test Report ID MAR01805
Issue Version 1
Customer Reference S230232 - Ardersier Port - S17

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S17 ES1 6.50-7.00	MAR01805.001	Sediment	<1	<1
S17 ES7 9.50-10.00	MAR01805.002	Sediment	<1	<1
S17 ES13 12.50-13.00	MAR01805.003	Sediment	<1	<1
Certified Reference Material BCR-646 (% Recovery)			80	85
QC Blank			<1	<1

* See Report Notes

Certificate of Analysis

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Test Report ID MAR01805
Issue Version 1
Customer Reference S230232 - Ardersier Port - S17

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S17 ES1 6.50-7.00	MAR01805.001	Sediment	<5	<5	<5	<5	<5	<5
S17 ES7 9.50-10.00	MAR01805.002	Sediment	<5	<5	<5	5.70	<5	<5
S17 ES13 12.50-13.00	MAR01805.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			91	111	64	68	65	91
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

Certificate of Analysis

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Test Report ID MAR01805
Issue Version 1
Customer Reference S230232 - Ardersier Port - S17

		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	N	N	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S17 ES1 6.50-7.00	MAR01805.001	Sediment	<5	<5	<5	<5	<5	<5
S17 ES7 9.50-10.00	MAR01805.002	Sediment	<5	<5	6.53	<5	13.5	<5
S17 ES13 12.50-13.00	MAR01805.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			83	77	87	113	79	54
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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Test Report ID MAR01805
Issue Version 1
Customer Reference S230232 - Ardersier Port - S17

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S17 ES1 6.50-7.00	MAR01805.001	Sediment	<5	<5	<5	<5	49200
S17 ES7 9.50-10.00	MAR01805.002	Sediment	<5	<5	7.88	15.1	28100
S17 ES13 12.50-13.00	MAR01805.003	Sediment	<1	<1	<1	<1	1780
Certified Reference Material NIST1941b (% Recovery)			88	61	79	73	84~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01805
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S17

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S17 ES1 6.50-7.00	MAR01805.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S17 ES7 9.50-10.00	MAR01805.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S17 ES13 12.50-13.00	MAR01805.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			66	92	90	96	102	102	94
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

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 MAR01805
Issue Version 1
Customer Reference S230232 - Ardersier Port - S17

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01805.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01805.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01805.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/303/304	MAR01805.001-002	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01805.001-003	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 (BKF, CHRYSENE) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01805.002	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01805
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S17

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01797

Issue Version: 1

Customer: Solmek, 12 Yarm Road, Stockton-on-Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S29

Date Sampled: 22-Mar-23

Date Samples Received: 27-Mar-23

Test Report Date: 19-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01797
Issue Version 1
Customer Reference S230232 - Ardersier Port - S29

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S29 ES5 12.50-13.00	MAR01797.001	Sediment	18.7	81.3	0.00	92.75	7.25	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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	MAR01797
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S29

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S29 ES5 12.50-13.00	MAR01797.001	Sediment	3.3	<0.04	19.7	11.5	0.1	18.4	4.1	60.8
Certified Reference Material SETOC 768 (% Recovery)			93	80	89	91	89	89	87	95
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01797
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S29

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S29 ES5 12.50-13.00	MAR01797.001	Sediment	<1	<1
Certified Reference Material BCR-646 (% Recovery)			76	81
QC Blank			<1	<1

* See Report Notes

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 MAR01797
Issue Version 1
Customer Reference S230232 - Ardersier Port - S29

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S29 ES5 12.50-13.00	MAR01797.001	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			86	94	73	67	60	83
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01797
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S29

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S29 ES5 12.50-13.00	MAR01797.001	Sediment	1.08	<1	<1	<1	1.05	<1
Certified Reference Material NIST1941b (% Recovery)			72	85	85	122	77	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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	MAR01797
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S29

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S29 ES5 12.50-13.00	MAR01797.001	Sediment	<1	<1	1.11	1.81	8000
Certified Reference Material NIST1941b (% Recovery)			67	58	74	69	92~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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	MAR01797
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S29

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S29 ES5 12.50-13.00	MAR01797.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			65	99	91	105	89	84	92
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

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 MAR01797
Issue Version 1
Customer Reference S230232 - Ardersier Port - S29

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01797.001	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01797.001	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01797.001	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/303/304	MAR01797.001	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 (NAPTH) . These circumstances should be taken into consideration when utilising the data.

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

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	MAR01797
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S29

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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 MAR01796

Issue Version: 1

Customer: Solmek, 12 Yarm Road, Stockton-on-Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S28

Date Sampled: 22-Mar-23

Date Samples Received: 27-Mar-23

Test Report Date: 19-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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	MAR01796
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S28

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S28 ES3 12.50-13.00	MAR01796.001	Sediment	24.5	75.5	0.00	96.5	3.53	NAIIS

* See Report Notes

NAIIS - No Asbestos Identified In Sample

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 MAR01796
Issue Version 1
Customer Reference S230232 - Ardersier Port - S28

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S28 ES3 12.50-13.00	MAR01796.001	Sediment	2.90	<0.04	17.3	10.6	0.01	17.6	4.20	47.6
Certified Reference Material SETOC 768 (% Recovery)			93	80	89	91	89	89	87	95
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01796
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S28

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S28 ES3 12.50-13.00	MAR01796.001	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			76	81
QC Blank			<1	<1

* See Report Notes

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	MAR01796
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S28

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S28 ES3 12.50-13.00	MAR01796.001	Sediment	1.94	<1	4.59	6.73	6.42	4.79
Certified Reference Material NIST1941b (% Recovery)			86	94	73	67	60	83
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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 MAR01796
Issue Version 1
Customer Reference S230232 - Ardersier Port - S28

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S28 ES3 12.50-13.00	MAR01796.001	Sediment	3.94	6.17	7.33	<1	19.7	2.39
Certified Reference Material NIST1941b (% Recovery)			72	85	85	122	77	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01796
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S28

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S28 ES3 12.50-13.00	MAR01796.001	Sediment	3.57	1.61	9.50	17.1	3210
Certified Reference Material NIST1941b (% Recovery)			67	58	74	69	92~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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	MAR01796
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S28

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S28 ES3 12.50-13.00	MAR01796.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			65	99	91	105	89	84	92
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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 MAR01796
Issue Version 1
Customer Reference S230232 - Ardersier Port - S28

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01796.001	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01796.001	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01796.001	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01796.001	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01796.001	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 (NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01796.001	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	MAR01796.001	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01796
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S28

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01795

Issue Version: 1

Customer: Solmek, 12 Yarm Road, Stockton-on-Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S24

Date Sampled: 22-Mar-23

Date Samples Received: 27-Mar-23

Test Report Date: 19-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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	MAR01795
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S24

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S24 ES1 6.50-7.00	MAR01795.001	Sediment	23.7	76.3	0.00	97.5	2.53	NAIIS
S24 ES7 9.50-10.00	MAR01795.002	Sediment	28.0	72.0	0.81	95.6	3.62	NAIIS
S24 ES13 12.50-13.00	MAR01795.003	Sediment	20.4	79.6	0.00	94.0	6.00	NAIIS

* See Report Notes

NAIIS - No Asbestos Identified In Sample

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 MAR01795
Issue Version 1
Customer Reference S230232 - Ardersier Port - S24

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S24 ES1 6.50-7.00	MAR01795.001	Sediment	2.20	<0.04	15.1	10.1	0.01	13.6	3.00	30.8
S24 ES7 9.50-10.00	MAR01795.002	Sediment	2.40	<0.04	15.0	10.1	0.02	15.0	3.70	46.6
S24 ES13 12.50-13.00	MAR01795.003	Sediment	2.70	<0.04	16.8	11.3	0.01	17.2	3.90	46.3
Certified Reference Material SETOC 768 (% Recovery)			93	80	89	91	89	89	87	95
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01795
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S24

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S24 ES1 6.50-7.00	MAR01795.001	Sediment	<5	<5
S24 ES7 9.50-10.00	MAR01795.002	Sediment	<5	<5
S24 ES13 12.50-13.00	MAR01795.003	Sediment	<1	<1
Certified Reference Material BCR-646 (% Recovery)			76	81
QC Blank			<1	<1

* See Report Notes

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 MAR01795
Issue Version 1
Customer Reference S230232 - Ardersier Port - S24

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S24 ES1 6.50-7.00	MAR01795.001	Sediment	<1	<1	<1	<1	<1	<1
S24 ES7 9.50-10.00	MAR01795.002	Sediment	1.03	<1	5.26	12.0	10.6	6.64
S24 ES13 12.50-13.00	MAR01795.003	Sediment	<1	<1	1.36	1.87	1.64	1.12
Certified Reference Material NIST1941b (% Recovery)			86	94	73	67	60	83
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01795
Issue Version 1
Customer Reference S230232 - Ardersier Port - S24

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S24 ES1 6.50-7.00	MAR01795.001	Sediment	<1	<1	<1	<1	<1	<1
S24 ES7 9.50-10.00	MAR01795.002	Sediment	5.29	9.65	10.9	<1	30.2	1.18
S24 ES13 12.50-13.00	MAR01795.003	Sediment	1.16	1.74	1.84	<1	5.33	<1
Certified Reference Material NIST1941b (% Recovery)			72	85	85	122	77	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01795
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S24

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S24 ES1 6.50-7.00	MAR01795.001	Sediment	<1	<1	<1	1.35	1220
S24 ES7 9.50-10.00	MAR01795.002	Sediment	5.30	<1	12.4	26.3	2330
S24 ES13 12.50-13.00	MAR01795.003	Sediment	<1	<1	2.38	5.39	2870
Certified Reference Material NIST1941b (% Recovery)			67	58	74	69	92~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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	MAR01795
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S24

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S24 ES1 6.50-7.00	MAR01795.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S24 ES7 9.50-10.00	MAR01795.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S24 ES13 12.50-13.00	MAR01795.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			65	99	91	105	89	84	92
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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 MAR01795
Issue Version 1
Customer Reference S230232 - Ardersier Port - S24

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01795.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01795.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01795.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01795.001-002	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01795.001-003	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 (NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01795.002-003	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	MAR01795.002-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01795
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S24

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01794

Issue Version: 1

Customer: Solmek, 12 Yarm Road, Stockton-on-Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S23

Date Sampled: 21-Mar-23

Date Samples Received: 27-Mar-23

Test Report Date: 19-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01794
Issue Version 1
Customer Reference S230232 - Ardersier Port - S23

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S23 ES1 6.50-7.00	MAR01794.001	Sediment	29.6	70.4	0.00	95.1	4.87	NAIIS
S23 ES7 9.50-10.00	MAR01794.002	Sediment	26.7	73.3	0.00	93.3	6.69	NAIIS
S23 ES13 12.50-13.00	MAR01794.003	Sediment	29.9	70.1	0.00	91.3	8.66	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01794
Issue Version 1
Customer Reference S230232 - Ardersier Port - S23

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S23 ES1 6.50-7.00	MAR01794.001	Sediment	2.80	<0.04	18.6	10.0	0.10	16.6	3.90	44.4
S23 ES7 9.50-10.00	MAR01794.002	Sediment	2.90	<0.04	19.1	11.5	0.04	18.3	4.90	54.5
S23 ES13 12.50-13.00	MAR01794.003	Sediment	2.70	<0.04	16.0	9.60	0.02	14.4	3.90	35.9
Certified Reference Material SETOC 768 (% Recovery)			93	80	89	91	89	89	87	95
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01794
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S23

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S23 ES1 6.50-7.00	MAR01794.001	Sediment	<5	<5
S23 ES7 9.50-10.00	MAR01794.002	Sediment	<5	<5
S23 ES13 12.50-13.00	MAR01794.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			76	81
QC Blank			<1	<1

* See Report Notes

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 MAR01794
Issue Version 1
Customer Reference S230232 - Ardersier Port - S23

		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	UKAS	UKAS	N*	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S23 ES1 6.50-7.00	MAR01794.001	Sediment	<1	<1	<1	1.20	1.22	1.19
S23 ES7 9.50-10.00	MAR01794.002	Sediment	<1	<1	1.10	2.56	3.05	3.07
S23 ES13 12.50-13.00	MAR01794.003	Sediment	1.29	<1	1.27	4.53	5.02	3.64
Certified Reference Material NIST1941b (% Recovery)			65	97	66	61	63	92
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01794
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S23

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S23 ES1 6.50-7.00	MAR01794.001	Sediment	<1	1.41	1.44	<1	3.38	<1
S23 ES7 9.50-10.00	MAR01794.002	Sediment	2.80	3.48	3.11	<1	6.70	<1
S23 ES13 12.50-13.00	MAR01794.003	Sediment	2.80	4.62	4.50	<1	7.72	1.03
Certified Reference Material NIST1941b (% Recovery)			76	82	91	109	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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 MAR01794
Issue Version 1
Customer Reference S230232 - Ardersier Port - S23

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S23 ES1 6.50-7.00	MAR01794.001	Sediment	<1	<1	1.26	3.74	3680
S23 ES7 9.50-10.00	MAR01794.002	Sediment	2.31	<1	3.55	7.57	5590
S23 ES13 12.50-13.00	MAR01794.003	Sediment	2.76	<1	3.92	9.16	5780
Certified Reference Material NIST1941b (% Recovery)			84	57	76	69	91~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01794
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S23

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S23 ES1 6.50-7.00	MAR01794.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S23 ES7 9.50-10.00	MAR01794.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S23 ES13 12.50-13.00	MAR01794.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			65	99	91	105	89	84	92
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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 MAR01794
Issue Version 1
Customer Reference S230232 - Ardersier Port - S23

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01794.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01794.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01794.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01794.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01794.001-003	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 (BAA, NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01794.001-003	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	MAR01794.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01794
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S23

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01793

Issue Version: 1

Customer: Solmek, 12 Yarm Road, Stockton-on-Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S22

Date Sampled: 21-Mar-23

Date Samples Received: 27-Mar-23

Test Report Date: 19-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01793
Issue Version 1
Customer Reference S230232 - Ardersier Port - S22

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S22 ES1 6.50-7.00	MAR01793.001	Sediment	32.1	67.9	0.00	87.0	13.0	NAIIS
S22 ES7 9.50-10.00	MAR01793.002	Sediment	27.2	72.8	0.00	91.3	8.71	NAIIS
S22 ES13 12.50-13.00	MAR01793.003	Sediment	22.8	77.2	0.00	93.3	6.75	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01793
Issue Version 1
Customer Reference S230232 - Ardersier Port - S22

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S22 ES1 6.50-7.00	MAR01793.001	Sediment	4.10	<0.04	21.4	10.6	0.02	17.6	7.10	46.9
S22 ES7 9.50-10.00	MAR01793.002	Sediment	3.10	<0.04	17.5	9.90	0.01	20.2	3.70	38.5
S22 ES13 12.50-13.00	MAR01793.003	Sediment	3.20	<0.04	20.0	11.8	<0.01	20.1	4.30	56.2
Certified Reference Material SETOC 768 (% Recovery)			93	80	89	91	89	89	87	95
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01793
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S22

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S22 ES1 6.50-7.00	MAR01793.001	Sediment	<5	<5
S22 ES7 9.50-10.00	MAR01793.002	Sediment	<5	<5
S22 ES13 12.50-13.00	MAR01793.003	Sediment	<1	<1
Certified Reference Material BCR-646 (% Recovery)			76	81
QC Blank			<1	<1

* See Report Notes

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	MAR01793
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S22

		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	UKAS	UKAS	N*	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S22 ES1 6.50-7.00	MAR01793.001	Sediment	<5	<5	<5	<5	<5	<5
S22 ES7 9.50-10.00	MAR01793.002	Sediment	<1	<1	<1	1.50	1.34	1.56
S22 ES13 12.50-13.00	MAR01793.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			65	97	66	61	63	92
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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 MAR01793
Issue Version 1
Customer Reference S230232 - Ardersier Port - S22

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S22 ES1 6.50-7.00	MAR01793.001	Sediment	<5	<5	<5	<5	8.96	<5
S22 ES7 9.50-10.00	MAR01793.002	Sediment	1.43	1.53	1.70	<1	3.95	<1
S22 ES13 12.50-13.00	MAR01793.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			76	82	91	109	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01793
Issue Version 1
Customer Reference S230232 - Ardersier Port - S22

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S22 ES1 6.50-7.00	MAR01793.001	Sediment	<5	<5	<5	11.8	21700
S22 ES7 9.50-10.00	MAR01793.002	Sediment	1.00	<1	1.41	5.12	6420
S22 ES13 12.50-13.00	MAR01793.003	Sediment	<1	<1	<1	1.60	6640
Certified Reference Material NIST1941b (% Recovery)			84	57	76	69	91~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01793
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S22

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S22 ES1 6.50-7.00	MAR01793.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S22 ES7 9.50-10.00	MAR01793.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S22 ES13 12.50-13.00	MAR01793.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			65	99	91	105	89	84	92
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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 MAR01793
Issue Version 1
Customer Reference S230232 - Ardersier Port - S22

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01793.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01793.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01793.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01793.001-002	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01793.001	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01793.001-003	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 (BAA, NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01793.002	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	MAR01793.002	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01793
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S22

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01792

Issue Version: 1

Customer: Solmek, 12 Yarm Road, Stockton-on-Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S09

Date Sampled: 22-Mar-23

Date Samples Received: 27-Mar-23

Test Report Date: 19-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01792
Issue Version 1
Customer Reference S230232 - Ardersier Port - S09

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S09 ES1 6.50-7.00	MAR01792.001	Sediment	27.5	72.5	0.00	84.0	16.0	NAIIS
S09 ES7 9.50-10.00	MAR01792.002	Sediment	22.8	77.2	0.00	93.2	6.78	NAIIS
S09 ES13 12.50-13.00	MAR01792.003	Sediment	26.2	73.8	1.81	91.6	6.63	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01792
Issue Version 1
Customer Reference S230232 - Ardersier Port - S09

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S09 ES1 6.50-7.00	MAR01792.001	Sediment	4.40	<0.04	23.2	21.3	0.04	23.0	12.3	99.9
S09 ES7 9.50-10.00	MAR01792.002	Sediment	3.60	<0.04	19.2	13.0	0.02	20.4	5.30	66.3
S09 ES13 12.50-13.00	MAR01792.003	Sediment	1.90	<0.04	6.30	4.70	<0.01	7.70	1.60	22.2
Certified Reference Material SETOC 768 (% Recovery)			93	80	89	91	89	89	87	95
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01792
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S09

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S09 ES1 6.50-7.00	MAR01792.001	Sediment	<5	21.1
S09 ES7 9.50-10.00	MAR01792.002	Sediment	<5	7.26
S09 ES13 12.50-13.00	MAR01792.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			76	81
QC Blank			<1	<1

* See Report Notes

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 MAR01792
Issue Version 1
Customer Reference S230232 - Ardersier Port - S09

		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	UKAS	UKAS	N*	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S09 ES1 6.50-7.00	MAR01792.001	Sediment	2.89	<1	3.01	21.8	30.1	28.7
S09 ES7 9.50-10.00	MAR01792.002	Sediment	3.64	1.04	2.39	18.5	28.6	27.4
S09 ES13 12.50-13.00	MAR01792.003	Sediment	<1	<1	<1	1.26	1.41	1.68
Certified Reference Material NIST1941b (% Recovery)			65	97	66	61	63	92
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01792
Issue Version 1
Customer Reference S230232 - Ardersier Port - S09

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S09 ES1 6.50-7.00	MAR01792.001	Sediment	23.1	29.0	30.6	4.46	57.6	2.49
S09 ES7 9.50-10.00	MAR01792.002	Sediment	24.2	29.9	28.5	5.12	58.0	2.98
S09 ES13 12.50-13.00	MAR01792.003	Sediment	1.40	1.49	1.80	<1	3.93	<1
Certified Reference Material NIST1941b (% Recovery)			76	82	91	109	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01792
Issue Version 1
Customer Reference S230232 - Ardersier Port - S09

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S09 ES1 6.50-7.00	MAR01792.001	Sediment	25.7	1.58	28.4	52.4	20500
S09 ES7 9.50-10.00	MAR01792.002	Sediment	26.1	2.91	42.1	50.7	56400
S09 ES13 12.50-13.00	MAR01792.003	Sediment	1.24	<1	2.48	3.89	8540
Certified Reference Material NIST1941b (% Recovery)			84	57	76	69	91~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01792
Issue Version 1
Customer Reference S230232 - Ardersier Port - S09

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S09 ES1 6.50-7.00	MAR01792.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S09 ES7 9.50-10.00	MAR01792.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S09 ES13 12.50-13.00	MAR01792.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			65	99	91	105	89	84	92
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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 MAR01792
Issue Version 1
Customer Reference S230232 - Ardersier Port - S09

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01792.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01792.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01792.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01792.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01792.001-003	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 (BAA, NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01792.001-003	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	MAR01792.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01792
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S09

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01786

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S14

Date Sampled: 20-Mar-23

Date Samples Received: 23-Mar-23

Test Report Date: 17-Apr-23

Condition of samples: Cold Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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	MAR01786
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S14

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S14 ES1 6.50-7.00	MAR01786.001	Sediment	27.7	72.3	0.00	90.67	9.33	NAIIS
S14 ES7 9.50-10.00	MAR01786.002	Sediment	28.2	71.8	2.10	90.10	7.80	NAIIS
S14 ES13 12.50-13.00	MAR01786.003	Sediment	21.0	79.0	0.00	94.90	5.10	NAIIS

* See Report Notes

NAIIS - No Asbestos Identified In Sample

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 MAR01786
Issue Version 1
Customer Reference S230232 - Ardersier Port - S14

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S14 ES1 6.50-7.00	MAR01786.001	Sediment	2.4	0.20	16.4	12.0	0.24	14.3	5.1	48.3
S14 ES7 9.50-10.00	MAR01786.002	Sediment	4.4	0.13	19.8	11.7	0.17	19.5	5.3	49.9
S14 ES13 12.50-13.00	MAR01786.003	Sediment	3.1	0.19	18.8	11.6	0.22	16.9	3.8	42.6
Certified Reference Material SETOC 768 (% Recovery)			91	107	87	101	89	89	88	89
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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 MAR01786
Issue Version 1
Customer Reference S230232 - Ardersier Port - S14

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S14 ES1 6.50-7.00	MAR01786.001	Sediment	<5	9.00
S14 ES7 9.50-10.00	MAR01786.002	Sediment	<5	<5
S14 ES13 12.50-13.00	MAR01786.003	Sediment	<1	<1
Certified Reference Material BCR-646 (% Recovery)			73	77
QC Blank			<1	<1

* See Report Notes

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Test Report ID MAR01786
Issue Version 1
Customer Reference S230232 - Ardersier Port - S14

		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	UKAS	UKAS	N*	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S14 ES1 6.50-7.00	MAR01786.001	Sediment	<1	<1	<1	2.89	4.18	5.49
S14 ES7 9.50-10.00	MAR01786.002	Sediment	<1	<1	<1	1.26	1.56	1.50
S14 ES13 12.50-13.00	MAR01786.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			65	97	66	61	63	92
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01786
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S14

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S14 ES1 6.50-7.00	MAR01786.001	Sediment	4.10	6.10	4.38	<1	6.95	<1
S14 ES7 9.50-10.00	MAR01786.002	Sediment	1.74	1.91	1.84	<1	3.18	<1
S14 ES13 12.50-13.00	MAR01786.003	Sediment	<1	<1	<1	<1	1.00	<1
Certified Reference Material NIST1941b (% Recovery)			76	82	91	109	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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 MAR01786
Issue Version 1
Customer Reference S230232 - Ardersier Port - S14

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S14 ES1 6.50-7.00	MAR01786.001	Sediment	3.57	<1	3.21	10.1	11500
S14 ES7 9.50-10.00	MAR01786.002	Sediment	1.14	1.02	1.81	4.45	8890
S14 ES13 12.50-13.00	MAR01786.003	Sediment	<1	<1	<1	1.49	3580
Certified Reference Material NIST1941b (% Recovery)			84	57	76	69	91~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01786
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S14

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S14 ES1 6.50-7.00	MAR01786.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S14 ES7 9.50-10.00	MAR01786.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S14 ES13 12.50-13.00	MAR01786.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			103	105	128	107	105	102	95
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

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 MAR01786
Issue Version 1
Customer Reference S230232 - Ardersier Port - S14

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01786.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01786.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01786.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01786.001-002	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01786.001-003	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 (BAA, NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01786.001-002	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	MAR01786.001-002	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01786
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S14

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01785

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S13

Date Sampled: 20-Mar-23

Date Samples Received: 23-Mar-23

Test Report Date: 17-Apr-23

Condition of samples: Cold Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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	MAR01785
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S13

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S13 ES1 6.50-7.00	MAR01785.001	Sediment	28.0	72.0	0.00	92.69	7.31	NAIIS
S13 ES7 9.50-10.00	MAR01785.002	Sediment	25.2	74.8	0.95	90.62	8.44	NAIIS
S13 ES13 12.50-13.00	MAR01785.003	Sediment	23.9	76.1	0.00	94.52	5.48	NAIIS

* See Report Notes

NAIIS - No Asbestos Identified In Sample

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 MAR01785
Issue Version 1
Customer Reference S230232 - Ardersier Port - S13

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S13 ES1 6.50-7.00	MAR01785.001	Sediment	2.9	0.39	18.7	10.3	0.23	12.4	5.7	50.6
S13 ES7 9.50-10.00	MAR01785.002	Sediment	2.9	0.31	17.4	11.1	0.23	11.6	5.2	57.1
S13 ES13 12.50-13.00	MAR01785.003	Sediment	2.5	0.24	19.5	10.8	0.27	13.4	3.6	50.3
Certified Reference Material SETOC 768 (% Recovery)			91	107	87	101	89	89	88	89
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01785
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S13

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S13 ES1 6.50-7.00	MAR01785.001	Sediment	<5	<5
S13 ES7 9.50-10.00	MAR01785.002	Sediment	<5	<5
S13 ES13 12.50-13.00	MAR01785.003	Sediment	<1	<1
Certified Reference Material BCR-646 (% Recovery)			73	77
QC Blank			<1	<1

* See Report Notes

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 MAR01785
Issue Version 1
Customer Reference S230232 - Ardersier Port - S13

		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	UKAS	UKAS	N*	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S13 ES1 6.50-7.00	MAR01785.001	Sediment	<1	<1	2.08	3.51	3.41	4.17
S13 ES7 9.50-10.00	MAR01785.002	Sediment	<1	<1	<1	2.04	2.13	2.26
S13 ES13 12.50-13.00	MAR01785.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			65	97	66	61	63	92
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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Test Report ID MAR01785
Issue Version 1
Customer Reference S230232 - Ardersier Port - S13

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S13 ES1 6.50-7.00	MAR01785.001	Sediment	2.86	4.51	4.07	<1	9.29	1.02
S13 ES7 9.50-10.00	MAR01785.002	Sediment	1.91	2.14	2.45	<1	5.37	<1
S13 ES13 12.50-13.00	MAR01785.003	Sediment	<1	<1	<1	<1	1.34	<1
Certified Reference Material NIST1941b (% Recovery)			76	82	91	109	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01785
Issue Version 1
Customer Reference S230232 - Ardersier Port - S13

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S13 ES1 6.50-7.00	MAR01785.001	Sediment	2.84	2.61	5.88	8.74	7100
S13 ES7 9.50-10.00	MAR01785.002	Sediment	1.78	<1	2.56	5.84	5990
S13 ES13 12.50-13.00	MAR01785.003	Sediment	<1	<1	<1	1.75	4590
Certified Reference Material NIST1941b (% Recovery)			84	57	76	69	91~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01785
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S13

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	N*	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S13 ES1 6.50-7.00	MAR01785.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			54	104	89	91	98	92	80
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

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	MAR01785
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S13

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S13 ES7 9.50-10.00	MAR01785.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S13 ES13 12.50-13.00	MAR01785.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			103	105	128	107	105	102	95
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

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 MAR01785
Issue Version 1
Customer Reference S230232 - Ardersier Port - S13

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01785.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01785.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01785.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01785.001-002	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR01785.001	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 (PCB28) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01785.001-003	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 (BAA, NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01785.001-002	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	MAR01785.001-002	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01785
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S13

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01781

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S27

Date Sampled: 15-Mar-23

Date Samples Received: 20-Mar-23

Test Report Date: 12-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01781
Issue Version 1
Customer Reference S230232 - Ardersier Port - S27

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S27 ES1 6.50-7.00m	MAR01781.001	Sediment	21.0	79.0	0.00	96.41	3.59	NAIIS
S27 ES7 9.50-10.00m	MAR01781.002	Sediment	27.8	72.2	0.43	92.74	6.83	NAIIS
S27 ES13 12.50-13.00m	MAR01781.003	Sediment	20.9	79.1	0.00	93.02	6.98	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01781
Issue Version 1
Customer Reference S230232 - Ardersier Port - S27

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S27 ES1 6.50-7.00m	MAR01781.001	Sediment	2.7	<0.04	17.5	11.1	<0.01	12.2	4.2	43.7
S27 ES7 9.50-10.00m	MAR01781.002	Sediment	2.6	<0.04	18.7	12.2	<0.01	12.4	4.0	39.6
S27 ES13 12.50-13.00m	MAR01781.003	Sediment	2.6	0.14	18.9	12.2	0.03	12.6	4.6	43.9
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01781
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S27

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S27 ES1 6.50-7.00m	MAR01781.001	Sediment	<1	<1
S27 ES7 9.50-10.00m	MAR01781.002	Sediment	<5	<5
S27 ES13 12.50-13.00m	MAR01781.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			74	75
QC Blank			<1	<1

* See Report Notes

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 MAR01781
Issue Version 1
Customer Reference S230232 - Ardersier Port - S27

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S27 ES1 6.50-7.00m	MAR01781.001	Sediment	<1	<1	1.31	2.71	2.88	2.26
S27 ES7 9.50-10.00m	MAR01781.002	Sediment	<1	<1	1.21	2.23	2.28	2.02
S27 ES13 12.50-13.00m	MAR01781.003	Sediment	<1	<1	2.66	4.19	4.09	3.55
Certified Reference Material NIST1941b (% Recovery)			72	98	70	65	61	86
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01781
Issue Version 1
Customer Reference S230232 - Ardersier Port - S27

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S27 ES1 6.50-7.00m	MAR01781.001	Sediment	2.32	3.35	3.07	<1	6.45	<1
S27 ES7 9.50-10.00m	MAR01781.002	Sediment	1.61	2.32	2.63	<1	5.00	<1
S27 ES13 12.50-13.00m	MAR01781.003	Sediment	2.60	4.59	4.78	<1	10.4	<1
Certified Reference Material NIST1941b (% Recovery)			86	85	86	128	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01781
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S27

			Units	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/303/306
			Limit of Detection	1	1	1	1	100
			Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**		**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S27 ES1 6.50-7.00m	MAR01781.001	Sediment		1.73	1.02	4.44	8.93	15400
S27 ES7 9.50-10.00m	MAR01781.002	Sediment		1.03	<1	2.60	6.66	5260
S27 ES13 12.50-13.00m	MAR01781.003	Sediment		2.21	1.11	5.90	11.5	4460
Certified Reference Material NIST1941b (% Recovery)				93	61	77	71	100~
QC Blank				<1	<1	<1	<1	<100

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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	MAR01781
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S27

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	N*	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S27 ES1 6.50-7.00m	MAR01781.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S27 ES7 9.50-10.00m	MAR01781.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S27 ES13 12.50-13.00m	MAR01781.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			54	104	89	91	98	92	80
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

*See report notes

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 MAR01781
Issue Version 1
Customer Reference S230232 - Ardersier Port - S27

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01781.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01781.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01781.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01781.002-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR01781.001-003	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 (PCB28) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01781.001-003	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	MAR01781.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01781
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S27

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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 MAR01780

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S26

Date Sampled: 16-Mar-23

Date Samples Received: 20-Mar-23

Test Report Date: 12-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01780
Issue Version 1
Customer Reference S230232 - Ardersier Port - S26

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S26 ES1 6.50-7.00m	MAR01780.001	Sediment	28.3	71.7	0.95	94.40	4.65	NAIIS
S26 ES7 9.50-10.00m	MAR01780.002	Sediment	18.9	81.1	1.15	94.79	4.06	NAIIS
S26 ES13 12.50-13.00m	MAR01780.003	Sediment	21.8	78.2	0.19	91.12	8.69	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01780
Issue Version 1
Customer Reference S230232 - Ardersier Port - S26

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S26 ES1 6.50-7.00m	MAR01780.001	Sediment	3.3	<0.04	19.0	12.3	<0.01	13.5	3.9	44.5
S26 ES7 9.50-10.00m	MAR01780.002	Sediment	3.5	<0.04	20.2	13.3	<0.01	15.3	3.8	50.1
S26 ES13 12.50-13.00m	MAR01780.003	Sediment	3.4	<0.04	17.9	11.9	0.03	12.1	4.3	56.6
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01780
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S26

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S26 ES1 6.50-7.00m	MAR01780.001	Sediment	<5	<5
S26 ES7 9.50-10.00m	MAR01780.002	Sediment	<1	<1
S26 ES13 12.50-13.00m	MAR01780.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			74	75
QC Blank			<1	<1

* See Report Notes

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 MAR01780
Issue Version 1
Customer Reference S230232 - Ardersier Port - S26

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S26 ES1 6.50-7.00m	MAR01780.001	Sediment	<1	<1	<1	1.73	1.98	1.80
S26 ES7 9.50-10.00m	MAR01780.002	Sediment	<1	<1	<1	1.20	1.51	1.10
S26 ES13 12.50-13.00m	MAR01780.003	Sediment	<1	<1	<1	1.36	1.56	1.58
Certified Reference Material NIST1941b (% Recovery)			72	98	70	65	61	86
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01780
Issue Version 1
Customer Reference S230232 - Ardersier Port - S26

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S26 ES1 6.50-7.00m	MAR01780.001	Sediment	1.82	1.63	2.09	<1	4.02	<1
S26 ES7 9.50-10.00m	MAR01780.002	Sediment	1.63	1.57	1.55	<1	3.17	<1
S26 ES13 12.50-13.00m	MAR01780.003	Sediment	1.21	1.83	1.64	<1	3.21	<1
Certified Reference Material NIST1941b (% Recovery)			86	85	86	128	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01780
Issue Version 1
Customer Reference S230232 - Ardersier Port - S26

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S26 ES1 6.50-7.00m	MAR01780.001	Sediment	<1	<1	2.11	5.05	6610
S26 ES7 9.50-10.00m	MAR01780.002	Sediment	1.18	<1	1.83	4.21	10100
S26 ES13 12.50-13.00m	MAR01780.003	Sediment	1.06	<1	1.30	4.28	5850
Certified Reference Material NIST1941b (% Recovery)			93	61	77	71	100~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01780
Issue Version 1
Customer Reference S230232 - Ardersier Port - S26

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	N*	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S26 ES1 6.50-7.00m	MAR01780.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S26 ES7 9.50-10.00m	MAR01780.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S26 ES13 12.50-13.00m	MAR01780.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			54	104	89	91	98	92	80
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
*See report notes

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 MAR01780
Issue Version 1
Customer Reference S230232 - Ardersier Port - S26

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01780.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01780.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01780.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01780.001& .003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR01780.001-003	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 (PCB28) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01780.001-003	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	MAR01780.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01780
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S26

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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	**MAR01779**
Issue Version:	1
Customer:	Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA
Customer Reference:	S230232 - Ardersier Port - S25
Date Sampled:	16-Mar-23
Date Samples Received:	20-Mar-23
Test Report Date:	12-Apr-23
Condition of samples:	Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by:	Jane Colbourne
Position:	Customer Service Specialist

UKAS TESTING
1252

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	MAR01779
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S25

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S25 ES1 6.50-7.00m	MAR01779.001	Sediment	29.1	70.9	4.47	83.63	11.90	NAIIS
S25 ES7 9.50-10.00m	MAR01779.002	Sediment	21.4	78.6	3.89	87.58	8.53	NAIIS
S25 ES13 12.50-13.00m	MAR01779.003	Sediment	21.0	79.0	5.98	86.87	7.15	NAIIS

* See Report Notes

NAIIS - No Asbestos Identified In Sample

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	MAR01779
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S25

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S25 ES1 6.50-7.00m	MAR01779.001	Sediment	4.3	0.05	20.2	12.8	<0.01	13.1	5.0	40.2
S25 ES7 9.50-10.00m	MAR01779.002	Sediment	3.7	<0.04	16.6	12.8	<0.01	12.8	4.2	35.7
S25 ES13 12.50-13.00m	MAR01779.003	Sediment	3.8	0.07	20.5	14.0	<0.01	14.9	4.1	43.1
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01779
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S25

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S25 ES1 6.50-7.00m	MAR01779.001	Sediment	<5	<5
S25 ES7 9.50-10.00m	MAR01779.002	Sediment	<5	<5
S25 ES13 12.50-13.00m	MAR01779.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			74	75
QC Blank			<1	<1

* See Report Notes

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 MAR01779
Issue Version 1
Customer Reference S230232 - Ardersier Port - S25

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S25 ES1 6.50-7.00m	MAR01779.001	Sediment	<1	<1	1.86	3.23	3.73	3.52
S25 ES7 9.50-10.00m	MAR01779.002	Sediment	<1	1.00	9.82	12.2	12.6	8.58
S25 ES13 12.50-13.00m	MAR01779.003	Sediment	<1	<1	<1	<1	1.28	1.03
Certified Reference Material NIST1941b (% Recovery)			72	98	70	65	61	86
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01779
Issue Version 1
Customer Reference S230232 - Ardersier Port - S25

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S25 ES1 6.50-7.00m	MAR01779.001	Sediment	3.39	3.87	3.88	<1	7.51	1.09
S25 ES7 9.50-10.00m	MAR01779.002	Sediment	6.86	11.2	11.9	1.14	30.9	1.08
S25 ES13 12.50-13.00m	MAR01779.003	Sediment	1.99	1.51	1.03	<1	1.75	<1
Certified Reference Material NIST1941b (% Recovery)			86	85	86	128	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01779
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S25

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S25 ES1 6.50-7.00m	MAR01779.001	Sediment	2.39	1.16	4.73	8.27	7570
S25 ES7 9.50-10.00m	MAR01779.002	Sediment	6.27	<1	11.3	26.4	5150
S25 ES13 12.50-13.00m	MAR01779.003	Sediment	<1	<1	1.18	3.11	8040
Certified Reference Material NIST1941b (% Recovery)			93	61	77	71	100~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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	MAR01779
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S25

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	N*	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S25 ES1 6.50-7.00m	MAR01779.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S25 ES7 9.50-10.00m	MAR01779.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S25 ES13 12.50-13.00m	MAR01779.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			54	104	89	91	98	92	80
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

*See report notes

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 MAR01779
Issue Version 1
Customer Reference S230232 - Ardersier Port - S25

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01779.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01779.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01779.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01779.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR01779.001-003	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 (PCB28) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01779.001-003	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	MAR01779.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01779
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S25

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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	**MAR01778**
Issue Version:	1
Customer:	Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA
Customer Reference:	S230232 - Ardersier Port - S20
Date Sampled:	14-Mar-23
Date Samples Received:	20-Mar-23
Test Report Date:	12-Apr-23
Condition of samples:	Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by:	Jane Colbourne
Position:	Customer Service Specialist

UKAS TESTING
1252

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 MAR01778
Issue Version 1
Customer Reference S230232 - Ardersier Port - S20

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S20 ES1 6.50-7.00m	MAR01778.001	Sediment	29.4	70.6	0.00	97.23	2.77	NAIIS
S20 ES7 9.50-10.00m	MAR01778.002	Sediment	20.5	79.5	0.00	95.86	4.14	NAIIS
S20 ES13 12.50-13.00m	MAR01778.003	Sediment	26.0	74.0	0.84	94.66	4.50	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01778
Issue Version 1
Customer Reference S230232 - Ardersier Port - S20

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S20 ES1 6.50-7.00m	MAR01778.001	Sediment	1.6	0.12	21.7	9.2	0.03	15.3	3.1	33.7
S20 ES7 9.50-10.00m	MAR01778.002	Sediment	1.6	<0.04	13.0	9.5	<0.01	9.1	3.0	26.9
S20 ES13 12.50-13.00m	MAR01778.003	Sediment	1.6	<0.04	12.0	9.7	<0.01	10.0	2.9	31.6
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01778
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S20

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S20 ES1 6.50-7.00m	MAR01778.001	Sediment	<5	<5
S20 ES7 9.50-10.00m	MAR01778.002	Sediment	<1	1.71
S20 ES13 12.50-13.00m	MAR01778.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			74	75
QC Blank			<1	<1

* See Report Notes

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 MAR01778
Issue Version 1
Customer Reference S230232 - Ardersier Port - S20

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S20 ES1 6.50-7.00m	MAR01778.001	Sediment	<1	<1	1.32	4.05	4.60	5.24
S20 ES7 9.50-10.00m	MAR01778.002	Sediment	3.04	2.55	7.13	6.96	6.83	4.03
S20 ES13 12.50-13.00m	MAR01778.003	Sediment	<1	<1	<1	1.19	1.61	1.19
Certified Reference Material NIST1941b (% Recovery)			72	98	70	65	61	86
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01778
Issue Version 1
Customer Reference S230232 - Ardersier Port - S20

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S20 ES1 6.50-7.00m	MAR01778.001	Sediment	3.28	4.80	4.73	<1	8.11	<1
S20 ES7 9.50-10.00m	MAR01778.002	Sediment	3.95	6.76	7.14	<1	20.4	3.82
S20 ES13 12.50-13.00m	MAR01778.003	Sediment	1.00	1.66	1.20	<1	2.35	<1
Certified Reference Material NIST1941b (% Recovery)			86	85	86	128	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01778
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S20

			Units	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/303/306
			Limit of Detection	1	1	1	1	100
			Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**		**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S20 ES1 6.50-7.00m	MAR01778.001	Sediment		2.74	2.03	3.81	9.37	7240
S20 ES7 9.50-10.00m	MAR01778.002	Sediment		3.88	1.41	19.8	17.9	2970
S20 ES13 12.50-13.00m	MAR01778.003	Sediment		<1	<1	1.06	3.19	2700
Certified Reference Material NIST1941b (% Recovery)				93	61	77	71	100~
QC Blank				<1	<1	<1	<1	<100

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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	MAR01778
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S20

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	N*	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S20 ES1 6.50-7.00m	MAR01778.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S20 ES7 9.50-10.00m	MAR01778.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S20 ES13 12.50-13.00m	MAR01778.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			54	104	89	91	98	92	80
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

*See report notes

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 MAR01778
Issue Version 1
Customer Reference S230232 - Ardersier Port - S20

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01778.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01778.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01778.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01778.001, .003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR01778.001-003	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 (PCB28) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01778.001-003	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	MAR01778.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01778
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S20

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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 MAR01777

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S19

Date Sampled: 14-Mar-23

Date Samples Received: 20-Mar-23

Test Report Date: 12-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01777
Issue Version 1
Customer Reference S230232 - Ardersier Port - S19

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S19 ES1 6.50-7.00m	MAR01777.001	Sediment	25.5	74.5	0.00	96.85	3.15	NAIIS
S19 ES7 9.50-10.00m	MAR01777.002	Sediment	24.8	75.2	3.65	89.71	6.65	NAIIS
S19 ES13 12.50-13.00m	MAR01777.003	Sediment	18.4	81.6	1.81	92.25	5.94	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01777
Issue Version 1
Customer Reference S230232 - Ardersier Port - S19

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S19 ES1 6.50-7.00m	MAR01777.001	Sediment	2.4	0.05	16.8	10.9	0.02	13.8	3.3	31.9
S19 ES7 9.50-10.00m	MAR01777.002	Sediment	2.5	0.13	14.5	10.8	0.05	13.4	3.5	30.3
S19 ES13 12.50-13.00m	MAR01777.003	Sediment	3.7	0.21	90.9	11.6	0.03	63.5	4.0	68.2
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01777
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S19

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S19 ES1 6.50-7.00m	MAR01777.001	Sediment	<5	<5
S19 ES7 9.50-10.00m	MAR01777.002	Sediment	<5	<5
S19 ES13 12.50-13.00m	MAR01777.003	Sediment	<1	1.74
Certified Reference Material BCR-646 (% Recovery)			79	77
QC Blank			<1	<1

* See Report Notes

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 MAR01777
Issue Version 1
Customer Reference S230232 - Ardersier Port - S19

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S19 ES1 6.50-7.00m	MAR01777.001	Sediment	<1	<1	<1	1.94	2.01	1.74
S19 ES7 9.50-10.00m	MAR01777.002	Sediment	<1	<1	<1	1.53	1.69	1.88
S19 ES13 12.50-13.00m	MAR01777.003	Sediment	<1	<1	3.21	10.4	12.5	8.30
Certified Reference Material NIST1941b (% Recovery)			72	98	70	65	61	86
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01777
Issue Version 1
Customer Reference S230232 - Ardersier Port - S19

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S19 ES1 6.50-7.00m	MAR01777.001	Sediment	1.28	2.14	2.15	<1	4.60	<1
S19 ES7 9.50-10.00m	MAR01777.002	Sediment	1.32	2.14	1.76	<1	3.61	<1
S19 ES13 12.50-13.00m	MAR01777.003	Sediment	8.13	10.6	11.0	1.28	22.8	<1
Certified Reference Material NIST1941b (% Recovery)			86	85	86	128	78	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
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As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01777
Issue Version 1
Customer Reference S230232 - Ardersier Port - S19

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S19 ES1 6.50-7.00m	MAR01777.001	Sediment	1.20	3.51	3.65	4.55	3260
S19 ES7 9.50-10.00m	MAR01777.002	Sediment	1.11	<1	1.91	4.45	4950
S19 ES13 12.50-13.00m	MAR01777.003	Sediment	7.47	<1	5.87	21.7	4810
Certified Reference Material NIST1941b (% Recovery)			93	61	77	71	100~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01777
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S19

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	N*	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S19 ES1 6.50-7.00m	MAR01777.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S19 ES7 9.50-10.00m	MAR01777.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S19 ES13 12.50-13.00m	MAR01777.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			54	104	89	91	98	92	80
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

*See report notes

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 MAR01777
Issue Version 1
Customer Reference S230232 - Ardersier Port - S19

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01777.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01777.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01777.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01777.001-002	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR01777.001-003	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 (PCB28) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01777.001-003	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	MAR01777.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01777
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S19

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01776

Issue Version: 2

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S18

Date Sampled: 14-Mar-23

Date Samples Received: 17-Mar-23

Test Report Date: 12-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

This is a revised report and replaces all previously issued versions

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01776
Issue Version 2
Customer Reference S230232 - Ardersier Port - S18

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S18 ES1 6.50-7.00m	MAR01776.001	Sediment	32.1	67.9	0.34	90.57	9.09	NAIIS
S18 ES7 9.50-10.00m	MAR01776.002	Sediment	32.7	67.3	0.00	92.30	7.70	NAIIS
S18 ES13 12.50-13.00m	MAR01776.003	Sediment	31.2	68.8	0.00	91.43	8.57	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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	MAR01776
Issue Version	2
Customer Reference	S230232 - Ardersier Port - S18

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S18 ES1 6.50-7.00m	MAR01776.001	Sediment	2.7	0.14	19.7	12.3	0.03	14.0	4.8	48.4
S18 ES7 9.50-10.00m	MAR01776.002	Sediment	2.0	0.12	19.2	12.5	0.02	13.0	4.2	40.8
S18 ES13 12.50-13.00m	MAR01776.003	Sediment	2.4	0.17	20.7	12.0	0.03	15.4	4.6	42.8
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01776
Issue Version	2
Customer Reference	S230232 - Ardersier Port - S18

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S18 ES1 6.50-7.00m	MAR01776.001	Sediment	<5	<5
S18 ES7 9.50-10.00m	MAR01776.002	Sediment	<5	<5
S18 ES13 12.50-13.00m	MAR01776.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			79	77
QC Blank			<1	<1

* See Report Notes

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 MAR01776
Issue Version 2
Customer Reference S230232 - Ardersier Port - S18

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S18 ES1 6.50-7.00m	MAR01776.001	Sediment	1.16	<1	2.73	6.31	6.81	4.96
S18 ES7 9.50-10.00m	MAR01776.002	Sediment	1.09	<1	2.80	6.55	7.42	5.67
S18 ES13 12.50-13.00m	MAR01776.003	Sediment	3.06	<1	5.32	9.57	9.97	6.67
Certified Reference Material NIST1941b (% Recovery)			73	101	70	66	67	98
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

Certificate of Analysis

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Test Report ID MAR01776
Issue Version 2
Customer Reference S230232 - Ardersier Port - S18

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S18 ES1 6.50-7.00m	MAR01776.001	Sediment	4.02	5.83	6.52	<1	16.3	<1
S18 ES7 9.50-10.00m	MAR01776.002	Sediment	5.40	6.45	7.42	<1	15.7	<1
S18 ES13 12.50-13.00m	MAR01776.003	Sediment	5.86	7.66	10.2	<1	22.1	2.64
Certified Reference Material NIST1941b (% Recovery)			91	93	86	124	79	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01776
Issue Version	2
Customer Reference	S230232 - Ardersier Port - S18

			Units	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/303/306
			Limit of Detection	1	1	1	1	100
			Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**		**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S18 ES1 6.50-7.00m	MAR01776.001	Sediment		4.29	1.55	8.23	15.0	6230
S18 ES7 9.50-10.00m	MAR01776.002	Sediment		5.38	1.49	7.42	16.6	6030
S18 ES13 12.50-13.00m	MAR01776.003	Sediment		5.37	1.87	19.3	23.4	3940
Certified Reference Material NIST1941b (% Recovery)				88	61	77	70	95~
QC Blank				<1	<1	<1	<1	<100

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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	MAR01776
Issue Version	2
Customer Reference	S230232 - Ardersier Port - S18

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S18 ES1 6.50-7.00m	MAR01776.001	Sediment	0.17	0.19	0.18	0.19	<0.08	0.11	0.15
S18 ES7 9.50-10.00m	MAR01776.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S18 ES13 12.50-13.00m	MAR01776.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			55	103	95	92	95	94	87
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

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 MAR01776
Issue Version 2
Customer Reference S230232 - Ardersier Port - S18

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01776.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01776.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01776.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01776.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01776.001-003	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	MAR01776.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01776
Issue Version	2
Customer Reference	S230232 - Ardersier Port - S18

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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 MAR01775

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S16

Date Sampled: 09-Mar-23

Date Samples Received: 20-Mar-23

Test Report Date: 12-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01775
Issue Version 1
Customer Reference S230232 - Ardersier Port - S16

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S16 ES1 6.50-7.00m	MAR01775.001	Sediment	22.9	77.1	0.00	79.91	20.09	NAIIS
S16 ES7 9.50-10.00m	MAR01775.002	Sediment	19.7	80.3	0.00	92.71	7.29	NAIIS
S16 ES13 12.50-13.00m	MAR01775.003	Sediment	20.5	79.5	1.30	91.86	6.84	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01775
Issue Version 1
Customer Reference S230232 - Ardersier Port - S16

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S16 ES1 6.50-7.00m	MAR01775.001	Sediment	3.6	<0.04	21.8	13.7	0.04	17.8	8.3	57.3
S16 ES7 9.50-10.00m	MAR01775.002	Sediment	2.3	0.16	20.3	12.8	0.04	20.8	5.5	55.4
S16 ES13 12.50-13.00m	MAR01775.003	Sediment	2.8	0.23	19.8	11.2	0.03	17.0	3.8	64.9
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01775
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S16

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S16 ES1 6.50-7.00m	MAR01775.001	Sediment	<5	11.3
S16 ES7 9.50-10.00m	MAR01775.002	Sediment	<1	2.37
S16 ES13 12.50-13.00m	MAR01775.003	Sediment	<1	<1
Certified Reference Material BCR-646 (% Recovery)			79	77
QC Blank			<1	<1

* See Report Notes

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 MAR01775
Issue Version 1
Customer Reference S230232 - Ardersier Port - S16

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S16 ES1 6.50-7.00m	MAR01775.001	Sediment	1.95	<1	3.08	7.13	9.24	9.02
S16 ES7 9.50-10.00m	MAR01775.002	Sediment	<1	<1	1.06	2.99	3.75	3.54
S16 ES13 12.50-13.00m	MAR01775.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			73	101	70	66	67	98
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01775
Issue Version 1
Customer Reference S230232 - Ardersier Port - S16

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S16 ES1 6.50-7.00m	MAR01775.001	Sediment	7.86	9.14	8.26	1.42	14.9	1.73
S16 ES7 9.50-10.00m	MAR01775.002	Sediment	2.34	3.32	3.42	<1	6.35	<1
S16 ES13 12.50-13.00m	MAR01775.003	Sediment	1.05	<1	<1	<1	1.20	<1
Certified Reference Material NIST1941b (% Recovery)			91	93	86	124	79	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01775
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S16

			Units	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/303/306
			Limit of Detection	1	1	1	1	100
			Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**		**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S16 ES1 6.50-7.00m	MAR01775.001	Sediment		8.92	1.64	11.2	18.4	14500
S16 ES7 9.50-10.00m	MAR01775.002	Sediment		2.57	<1	2.41	7.41	6210
S16 ES13 12.50-13.00m	MAR01775.003	Sediment		<1	<1	<1	1.96	7100
Certified Reference Material NIST1941b (% Recovery)				88	61	77	70	95~
QC Blank				<1	<1	<1	<1	<100

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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 MAR01775
Issue Version 1
Customer Reference S230232 - Ardersier Port - S16

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S16 ES1 6.50-7.00m	MAR01775.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S16 ES7 9.50-10.00m	MAR01775.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S16 ES13 12.50-13.00m	MAR01775.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			60	101	86	82	113	96	69
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.

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 MAR01775
Issue Version 1
Customer Reference S230232 - Ardersier Port - S16

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01775.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01775.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01775.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01775.001	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01775.001-002	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	MAR01775.001-002	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01775
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S16

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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 MAR01774

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S15

Date Sampled: 17-Mar-23

Date Samples Received: 20-Mar-23

Test Report Date: 12-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01774
Issue Version 1
Customer Reference S230232 - Ardersier Port - S15

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S15 ES1 6.50-7.00m	MAR01774.001	Sediment	36.7	63.3	2.33	66.36	31.32	NAIIS
S15 ES7 9.50-10.00m	MAR01774.002	Sediment	29.3	70.7	1.09	77.79	21.11	NAIIS
S15 ES13 12.50-13.00m	MAR01774.003	Sediment	30.5	69.5	1.84	86.99	11.18	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01774
Issue Version 1
Customer Reference S230232 - Ardersier Port - S15

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S15 ES1 6.50-7.00m	MAR01774.001	Sediment	3.5	<0.04	15.0	12.0	0.07	10.0	9.1	55.3
S15 ES7 9.50-10.00m	MAR01774.002	Sediment	5.8	0.05	25.9	21.7	0.05	16.8	13.6	127
S15 ES13 12.50-13.00m	MAR01774.003	Sediment	2.8	<0.04	13.8	9.3	0.02	9.3	3.8	34.0
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01774
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S15

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S15 ES1 6.50-7.00m	MAR01774.001	Sediment	<5	<5
S15 ES7 9.50-10.00m	MAR01774.002	Sediment	<5	<5
S15 ES13 12.50-13.00m	MAR01774.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			79	77
QC Blank			<1	<1

* See Report Notes

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 MAR01774
Issue Version 1
Customer Reference S230232 - Ardersier Port - S15

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S15 ES1 6.50-7.00m	MAR01774.001	Sediment	3.73	1.93	7.11	22.1	26.0	27.6
S15 ES7 9.50-10.00m	MAR01774.002	Sediment	1.02	<1	2.15	8.02	11.3	10.8
S15 ES13 12.50-13.00m	MAR01774.003	Sediment	<1	<1	2.84	5.49	7.24	6.24
Certified Reference Material NIST1941b (% Recovery)			73	101	70	66	67	98
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01774
Issue Version 1
Customer Reference S230232 - Ardersier Port - S15

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S15 ES1 6.50-7.00m	MAR01774.001	Sediment	23.9	26.5	23.0	4.82	45.3	3.59
S15 ES7 9.50-10.00m	MAR01774.002	Sediment	9.98	11.1	8.75	1.78	15.0	1.16
S15 ES13 12.50-13.00m	MAR01774.003	Sediment	4.99	6.42	6.01	<1	10.80	<1
Certified Reference Material NIST1941b (% Recovery)			91	93	86	124	79	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01774
Issue Version 1
Customer Reference S230232 - Ardersier Port - S15

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S15 ES1 6.50-7.00m	MAR01774.001	Sediment	26.4	3.95	26.2	48.5	41100
S15 ES7 9.50-10.00m	MAR01774.002	Sediment	10.2	1.23	6.61	19.2	20900
S15 ES13 12.50-13.00m	MAR01774.003	Sediment	5.46	<1	3.96	11.2	10200
Certified Reference Material NIST1941b (% Recovery)			88	61	77	70	95~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01774
Issue Version 1
Customer Reference S230232 - Ardersier Port - S15

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S15 ES1 6.50-7.00m	MAR01774.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S15 ES7 9.50-10.00m	MAR01774.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S15 ES13 12.50-13.00m	MAR01774.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			60	101	86	82	113	96	69
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.

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 MAR01774
Issue Version 1
Customer Reference S230232 - Ardersier Port - S15

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01774.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01774.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01774.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01774.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01774.001-003	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	MAR01774.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01774
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S15

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01773

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S11

Date Sampled: 16-Mar-23

Date Samples Received: 20-Mar-23

Test Report Date: 12-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01773
Issue Version 1
Customer Reference S230232 - Ardersier Port - S11

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S11 ES1 6.50-7.00m	MAR01773.001	Sediment	28.2	71.8	0.00	83.17	16.83	NAIIS
S11 ES7 9.50-10.00m	MAR01773.002	Sediment	39.3	60.7	0.00	81.88	18.12	NAIIS
S11 ES13 12.50-13.00m	MAR01773.003	Sediment	37.2	62.8	0.57	89.70	9.72	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01773
Issue Version 1
Customer Reference S230232 - Ardersier Port - S11

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S11 ES1 6.50-7.00m	MAR01773.001	Sediment	6.9	0.17	30.7	31.2	0.05	20.9	17.8	212
S11 ES7 9.50-10.00m	MAR01773.002	Sediment	5.4	<0.04	22.0	28.5	0.03	15.9	14.0	209
S11 ES13 12.50-13.00m	MAR01773.003	Sediment	4.8	<0.04	21.0	26.7	0.03	14.0	12.7	196
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01773
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S11

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S11 ES1 6.50-7.00m	MAR01773.001	Sediment	<5	<5
S11 ES7 9.50-10.00m	MAR01773.002	Sediment	<5	<5
S11 ES13 12.50-13.00m	MAR01773.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			79	77
QC Blank			<1	<1

* See Report Notes

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 MAR01773
Issue Version 1
Customer Reference S230232 - Ardersier Port - S11

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S11 ES1 6.50-7.00m	MAR01773.001	Sediment	1.90	1.85	4.87	30.3	33.1	35.2
S11 ES7 9.50-10.00m	MAR01773.002	Sediment	3.40	2.12	4.38	18.9	32.6	33.4
S11 ES13 12.50-13.00m	MAR01773.003	Sediment	4.57	1.22	4.81	15.5	20.0	18.2
Certified Reference Material NIST1941b (% Recovery)			73	101	70	66	67	98
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01773
Issue Version 1
Customer Reference S230232 - Ardersier Port - S11

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S11 ES1 6.50-7.00m	MAR01773.001	Sediment	25.1	31.2	40.1	4.81	74.6	1.78
S11 ES7 9.50-10.00m	MAR01773.002	Sediment	28.5	33.3	26.1	6.42	33.8	2.51
S11 ES13 12.50-13.00m	MAR01773.003	Sediment	14.5	18.5	16.7	2.75	31.5	3.45
Certified Reference Material NIST1941b (% Recovery)			91	93	86	124	79	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01773
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S11

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S11 ES1 6.50-7.00m	MAR01773.001	Sediment	27.7	<1	32.6	65.2	24000
S11 ES7 9.50-10.00m	MAR01773.002	Sediment	32.2	2.06	14.6	55.0	67700
S11 ES13 12.50-13.00m	MAR01773.003	Sediment	15.0	1.83	18.1	34.6	23100
Certified Reference Material NIST1941b (% Recovery)			88	61	77	70	95~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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	MAR01773
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S11

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S11 ES1 6.50-7.00m	MAR01773.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S11 ES7 9.50-10.00m	MAR01773.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S11 ES13 12.50-13.00m	MAR01773.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			60	101	86	82	113	96	69
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

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 MAR01773
Issue Version 1
Customer Reference S230232 - Ardersier Port - S11

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01773.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01773.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01773.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01773.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01773.001-003	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	MAR01773.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01773
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S11

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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 MAR01772

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S05

Date Sampled: 09-Mar-23

Date Samples Received: 17-Mar-23

Test Report Date: 12-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01772
Issue Version 1
Customer Reference S230232 - Ardersier Port - S05

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S05 ES1 6.50-7.00m	MAR01772.001	Sediment	43.1	56.9	0.00	71.48	28.52	NAIIS
S05 ES7 9.50-10.00m	MAR01772.002	Sediment	31.2	68.8	0.00	90.98	9.02	NAIIS
S05 ES13 12.50-13.00m	MAR01772.003	Sediment	31.7	68.3	0.00	91.86	8.14	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01772
Issue Version 1
Customer Reference S230232 - Ardersier Port - S05

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S05 ES1 6.50-7.00m	MAR01772.001	Sediment	3.7	0.12	20.4	12.6	0.05	14.8	11.9	59.6
S05 ES7 9.50-10.00m	MAR01772.002	Sediment	2.9	<0.04	17.1	10.5	0.03	18.0	5.1	43.7
S05 ES13 12.50-13.00m	MAR01772.003	Sediment	4.1	0.1	19.8	12.0	0.03	19.5	5.1	50.4
Certified Reference Material SETOC 768 (% Recovery)			95	119	98	106	124	100	102	96
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01772
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S05

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S05 ES1 6.50-7.00m	MAR01772.001	Sediment	<5	20.7
S05 ES7 9.50-10.00m	MAR01772.002	Sediment	<5	<5
S05 ES13 12.50-13.00m	MAR01772.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			79	77
QC Blank			<1	<1

* See Report Notes

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 MAR01772
Issue Version 1
Customer Reference S230232 - Ardersier Port - S05

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S05 ES1 6.50-7.00m	MAR01772.001	Sediment	9.37	3.37	16.1	42.7	55.7	54.7
S05 ES7 9.50-10.00m	MAR01772.002	Sediment	<1	<1	<1	2.09	2.77	2.88
S05 ES13 12.50-13.00m	MAR01772.003	Sediment	<1	<1	<1	<1	1.33	1.22
Certified Reference Material NIST1941b (% Recovery)			73	101	70	66	67	98
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01772
Issue Version 1
Customer Reference S230232 - Ardersier Port - S05

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S05 ES1 6.50-7.00m	MAR01772.001	Sediment	49.7	55.5	46.5	10.4	84.5	8.13
S05 ES7 9.50-10.00m	MAR01772.002	Sediment	2.10	2.64	2.61	<1	4.02	<1
S05 ES13 12.50-13.00m	MAR01772.003	Sediment	1.37	1.03	1.26	<1	1.92	<1
Certified Reference Material NIST1941b (% Recovery)			91	93	86	124	79	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01772
Issue Version 1
Customer Reference S230232 - Ardersier Port - S05

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S05 ES1 6.50-7.00m	MAR01772.001	Sediment	56.8	4.83	50.1	89.2	62200
S05 ES7 9.50-10.00m	MAR01772.002	Sediment	2.24	<1	1.83	4.67	8140
S05 ES13 12.50-13.00m	MAR01772.003	Sediment	<1	<1	1.19	2.80	8170
Certified Reference Material NIST1941b (% Recovery)			88	61	77	70	95~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01772
Issue Version 1
Customer Reference S230232 - Ardersier Port - S05

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S05 ES1 6.50-7.00m	MAR01772.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	0.10	<0.08
S05 ES7 9.50-10.00m	MAR01772.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S05 ES13 12.50-13.00m	MAR01772.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			60	101	86	82	113	96	69
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.

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 MAR01772
Issue Version 1
Customer Reference S230232 - Ardersier Port - S05

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01772.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01772.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01772.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01772.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01772.001-003	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	MAR01772.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01772
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S05

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01771

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S21

Date Sampled: 14-Mar-23

Date Samples Received: 17-Mar-23

Test Report Date: 11-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01771
Issue Version 1
Customer Reference S230232 - Ardersier Port - S21

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S21 ES1 6.50-7.00	MAR01771.001	Sediment	23.3	76.7	0.33	76.91	22.76	NAIIS
S21 ES7 9.50-10.00	MAR01771.002	Sediment	26.6	73.4	1.31	92.13	6.56	NAIIS
S21 ES13 12.50-13.00	MAR01771.003	Sediment	28.5	71.5	0.00	95.14	4.86	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01771
Issue Version 1
Customer Reference S230232 - Ardersier Port - S21

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S21 ES1 6.50-7.00	MAR01771.001	Sediment	2.4	0.19	16.6	11.3	0.20	11.4	5.1	43.7
S21 ES7 9.50-10.00	MAR01771.002	Sediment	3.7	0.26	19.7	11.1	0.35	14.0	4.5	50.2
S21 ES13 12.50-13.00	MAR01771.003	Sediment	3.1	0.27	15.8	10.3	0.26	13.3	3.9	54.1
Certified Reference Material SETOC 768 (% Recovery)			97	84	94	103	91	92	91	93
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01771
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S21

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S21 ES1 6.50-7.00	MAR01771.001	Sediment	<5	<5
S21 ES7 9.50-10.00	MAR01771.002	Sediment	<5	<5
S21 ES13 12.50-13.00	MAR01771.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			76	75
QC Blank			<1	<1

* See Report Notes

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 MAR01771
Issue Version 1
Customer Reference S230232 - Ardersier Port - S21

		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	UKAS	UKAS	N*	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S21 ES1 6.50-7.00	MAR01771.001	Sediment	<1	<1	2.75	5.81	6.70	6.32
S21 ES7 9.50-10.00	MAR01771.002	Sediment	<1	<1	<1	1.44	1.99	1.68
S21 ES13 12.50-13.00	MAR01771.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			68	104	67	63	65	94
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01771
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S21

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S21 ES1 6.50-7.00	MAR01771.001	Sediment	5.66	6.63	6.41	<1	12.1	1.18
S21 ES7 9.50-10.00	MAR01771.002	Sediment	2.31	2.08	1.65	<1	2.98	<1
S21 ES13 12.50-13.00	MAR01771.003	Sediment	<1	<1	<1	<1	1.13	<1
Certified Reference Material NIST1941b (% Recovery)			74	85	89	110	76	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01771
Issue Version 1
Customer Reference S230232 - Ardersier Port - S21

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S21 ES1 6.50-7.00	MAR01771.001	Sediment	4.55	1.15	7.52	13.4	11400
S21 ES7 9.50-10.00	MAR01771.002	Sediment	1.50	<1	2.64	3.94	7960
S21 ES13 12.50-13.00	MAR01771.003	Sediment	<1	<1	<1	1.55	3530
Certified Reference Material NIST1941b (% Recovery)			80	56	75	69	86~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01771
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S21

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S21 ES1 6.50-7.00	MAR01771.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S21 ES7 9.50-10.00	MAR01771.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S21 ES13 12.50-13.00	MAR01771.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			61	110	96	93	100	100	66
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

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 MAR01771
Issue Version 1
Customer Reference S230232 - Ardersier Port - S21

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01771.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01771.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01771.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01771.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01771.001-003	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 (BAA, NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01771.001-002	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	MAR01771.001-002	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01771
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S21

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01770

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S10

Date Sampled: 13-Mar-23

Date Samples Received: 17-Mar-23

Test Report Date: 11-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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 MAR01770
Issue Version 1
Customer Reference S230232 - Ardersier Port - S10

			Units	%	%	%	%	%	N/A
			Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
			Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
			Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S10 ES1 6.50-7.00	MAR01770.001	Sediment	19.5	80.5	7.50	87.12	5.38	NAIIS
S10 ES7 9.50-10.00	MAR01770.002	Sediment	18.1	81.9	2.15	89.99	7.86	NAIIS
S10 ES13 12.50-13.00	MAR01770.003	Sediment	19.7	80.3	0.00	97.21	2.79	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01770
Issue Version 1
Customer Reference S230232 - Ardersier Port - S10

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S10 ES1 6.50-7.00	MAR01770.001	Sediment	2.4	0.14	17.4	16.1	0.02	13.6	6.4	101
S10 ES7 9.50-10.00	MAR01770.002	Sediment	2.4	0.12	17.5	17.4	0.02	13.5	7.6	115
S10 ES13 12.50-13.00	MAR01770.003	Sediment	1.9	0.19	11.9	11.4	0.07	9.5	4.3	60.4
Certified Reference Material SETOC 768 (% Recovery)			97	84	94	103	91	92	91	93
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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	MAR01770
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S10

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S10 ES1 6.50-7.00	MAR01770.001	Sediment	<5	<5
S10 ES7 9.50-10.00	MAR01770.002	Sediment	<5	<5
S10 ES13 12.50-13.00	MAR01770.003	Sediment	<1	<1
Certified Reference Material BCR-646 (% Recovery)			76	75
QC Blank			<1	<1

* See Report Notes

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 MAR01770
Issue Version 1
Customer Reference S230232 - Ardersier Port - S10

		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	UKAS	UKAS	N*	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S10 ES1 6.50-7.00	MAR01770.001	Sediment	3.28	<1	1.75	3.76	4.30	3.20
S10 ES7 9.50-10.00	MAR01770.002	Sediment	<1	<1	1.00	2.27	2.86	2.01
S10 ES13 12.50-13.00	MAR01770.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			68	104	67	63	65	94
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01770
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S10

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S10 ES1 6.50-7.00	MAR01770.001	Sediment	2.80	5.04	4.79	<1	9.06	1.91
S10 ES7 9.50-10.00	MAR01770.002	Sediment	2.16	2.47	2.76	<1	5.75	<1
S10 ES13 12.50-13.00	MAR01770.003	Sediment	<1	<1	<1	<1	1.28	<1
Certified Reference Material NIST1941b (% Recovery)			74	85	89	110	76	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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 MAR01770
Issue Version 1
Customer Reference S230232 - Ardersier Port - S10

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S10 ES1 6.50-7.00	MAR01770.001	Sediment	2.52	<1	6.34	8.51	6540
S10 ES7 9.50-10.00	MAR01770.002	Sediment	1.77	<1	4.05	6.54	7580
S10 ES13 12.50-13.00	MAR01770.003	Sediment	<1	<1	1.05	1.66	5240
Certified Reference Material NIST1941b (% Recovery)			80	56	75	69	86~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01770
Issue Version 1
Customer Reference S230232 - Ardersier Port - S10

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S10 ES1 6.50-7.00	MAR01770.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S10 ES7 9.50-10.00	MAR01770.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S10 ES13 12.50-13.00	MAR01770.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			57	108	94	95	110	86	80
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.

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 MAR01770
Issue Version 1
Customer Reference S230232 - Ardersier Port - S10

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01770.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01770.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01770.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01770.001-002	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01770.001-003	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 (BAA, NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01770.001-002	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	MAR01770.001-002	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01770
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S10

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR01769

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S06

Date Sampled: 13-Mar-23

Date Samples Received: 17-Mar-23

Test Report Date: 11-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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	MAR01769
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S06

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S06 ES1 6.50-7.00	MAR01769.001	Sediment	28.9	71.1	0.00	94.53	5.47	NAIIS
S06 ES7 9.50-10.00	MAR01769.002	Sediment	21.8	78.2	0.00	95.48	4.52	NAIIS
S06 ES13 12.50-13.00	MAR01769.003	Sediment	21.2	78.8	0.55	93.21	6.24	NAIIS

* See Report Notes

NAIIS - No Asbestos Identified In Sample

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 MAR01769
Issue Version 1
Customer Reference S230232 - Ardersier Port - S06

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S06 ES1 6.50-7.00	MAR01769.001	Sediment	1.9	0.13	15.4	13.4	0.02	14.6	4.0	37.9
S06 ES7 9.50-10.00	MAR01769.002	Sediment	1.8	0.14	16.0	14.0	0.02	15.2	3.4	36.2
S06 ES13 12.50-13.00	MAR01769.003	Sediment	3.5	0.18	18.0	12.5	0.02	16.4	3.5	44.6
Certified Reference Material SETOC 768 (% Recovery)			97	84	94	103	91	92	91	93
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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 MAR01769
Issue Version 1
Customer Reference S230232 - Ardersier Port - S06

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S06 ES1 6.50-7.00	MAR01769.001	Sediment	<5	<5
S06 ES7 9.50-10.00	MAR01769.002	Sediment	<5	<5
S06 ES13 12.50-13.00	MAR01769.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			76	75
QC Blank			<1	<1

* See Report Notes

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Test Report ID MAR01769
Issue Version 1
Customer Reference S230232 - Ardersier Port - S06

		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	UKAS	UKAS	N*	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S06 ES1 6.50-7.00	MAR01769.001	Sediment	<1	<1	1.09	2.24	2.54	1.90
S06 ES7 9.50-10.00	MAR01769.002	Sediment	<1	<1	<1	<1	<1	<1
S06 ES13 12.50-13.00	MAR01769.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			68	104	67	63	65	94
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01769
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S06

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S06 ES1 6.50-7.00	MAR01769.001	Sediment	1.66	2.87	2.67	<1	5.10	<1
S06 ES7 9.50-10.00	MAR01769.002	Sediment	<1	1.15	<1	<1	1.59	<1
S06 ES13 12.50-13.00	MAR01769.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			74	85	89	110	76	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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 MAR01769
Issue Version 1
Customer Reference S230232 - Ardersier Port - S06

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S06 ES1 6.50-7.00	MAR01769.001	Sediment	1.35	<1	2.40	5.57	4720
S06 ES7 9.50-10.00	MAR01769.002	Sediment	<1	<1	1.17	2.00	3980
S06 ES13 12.50-13.00	MAR01769.003	Sediment	<1	<1	<1	1.04	4100
Certified Reference Material NIST1941b (% Recovery)			80	56	75	69	86~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01769
Issue Version 1
Customer Reference S230232 - Ardersier Port - S06

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S06 ES1 6.50-7.00	MAR01769.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S06 ES7 9.50-10.00	MAR01769.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S06 ES13 12.50-13.00	MAR01769.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			61	110	96	93	100	100	66
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.

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 MAR01769
Issue Version 1
Customer Reference S230232 - Ardersier Port - S06

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01769.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01769.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01769.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01769.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01769.001-003	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 (BAA, NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01769.001-002	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	MAR01769.001	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01769
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S06

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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 MAR01768

Issue Version: 1

Customer: Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA

Customer Reference: S230232 - Ardersier Port - S12

Date Sampled: 10-Mar-23

Date Samples Received: 17-Mar-23

Test Report Date: 11-Apr-23

Condition of samples: Ambient Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditaion
The results reported relate only to the sample tested
The results apply to the sample as received

<Redacted>

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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	MAR01768
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S12

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S12 ES1 6.50-7.00	MAR01768.001	Sediment	40.7	59.3	0.00	42.09	57.19	NAIIS
S12 ES7 9.50-10.00	MAR01768.002	Sediment	29.3	70.7	0.00	90.36	9.64	NAIIS
S12 ES13 12.50-13.00	MAR01768.003	Sediment	25.2	74.8	0.56	92.14	7.30	NAIIS

* See Report Notes

NAIIS - No Asbestos Identified In Sample

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 MAR01768
Issue Version 1
Customer Reference S230232 - Ardersier Port - S12

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S12 ES1 6.50-7.00	MAR01768.001	Sediment	6.0	0.17	22.2	16.3	0.09	14.2	13.5	63.6
S12 ES7 9.50-10.00	MAR01768.002	Sediment	3.5	0.08	18.6	12.3	0.04	15.0	4.8	44.7
S12 ES13 12.50-13.00	MAR01768.003	Sediment	3.1	0.25	21.2	13.9	0.03	16.4	4.5	45.3
Certified Reference Material SETOC 768 (% Recovery)			97	84	94	103	91	92	91	93
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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 MAR01768
Issue Version 1
Customer Reference S230232 - Ardersier Port - S12

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S12 ES1 6.50-7.00	MAR01768.001	Sediment	<5	<5
S12 ES7 9.50-10.00	MAR01768.002	Sediment	<5	<5
S12 ES13 12.50-13.00	MAR01768.003	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			76	79
QC Blank			<1	<1

* See Report Notes

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	MAR01768
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S12

		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	UKAS	UKAS	N*	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S12 ES1 6.50-7.00	MAR01768.001	Sediment	3.76	3.66	8.45	22.3	29.5	28.6
S12 ES7 9.50-10.00	MAR01768.002	Sediment	<1	<1	<1	2.15	2.54	3.43
S12 ES13 12.50-13.00	MAR01768.003	Sediment	<1	<1	<1	<1	<1	<1
Certified Reference Material NIST1941b (% Recovery)			68	104	67	63	65	94
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01768
Issue Version 1
Customer Reference S230232 - Ardersier Port - S12

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S12 ES1 6.50-7.00	MAR01768.001	Sediment	29.2	28.4	24.8	5.67	50.1	4.68
S12 ES7 9.50-10.00	MAR01768.002	Sediment	2.50	4.32	2.97	<1	4.96	<1
S12 ES13 12.50-13.00	MAR01768.003	Sediment	<1	1.30	1.22	<1	1.97	<1
Certified Reference Material NIST1941b (% Recovery)			74	85	89	110	76	50
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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 MAR01768
Issue Version 1
Customer Reference S230232 - Ardersier Port - S12

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	N*	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S12 ES1 6.50-7.00	MAR01768.001	Sediment	28.7	3.41	30.0	47.3	42500
S12 ES7 9.50-10.00	MAR01768.002	Sediment	2.08	<1	2.56	6.54	10900
S12 ES13 12.50-13.00	MAR01768.003	Sediment	<1	<1	<1	2.34	4460
Certified Reference Material NIST1941b (% Recovery)			80	56	75	69	86~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01768
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S12

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S12 ES1 6.50-7.00	MAR01768.001	Sediment	<0.08	<0.08	0.09	<0.08	0.15	0.10	<0.08
S12 ES7 9.50-10.00	MAR01768.002	Sediment	0.24	0.40	0.44	0.50	0.61	0.41	0.34
S12 ES13 12.50-13.00	MAR01768.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST1941b (% Recovery)			61	110	96	93	100	100	66
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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

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 MAR01768
Issue Version 1
Customer Reference S230232 - Ardersier Port - S12

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01768.001-003	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01768.001-003	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01768.001-003	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01768.001-003	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01768.001-003	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 (BAA, NAPTH) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01768.001-003	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	MAR01768.001-003	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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

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	MAR01768
Issue Version	1
Customer Reference	S230232 - Ardersier Port - S12

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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	**MAR01755**
Issue Version	2
Customer	Solmek Ltd, 12-16 Yarm Road, Stockton on Tees, TS18 3NA
Customer Reference	S230232 - Marine Scotland Sediment Analysis
Date Sampled	06-08-Mar-23
Date Received	13-Mar-23
Date Reported	14-Apr-23
Condition of samples	Frozen Unsatisfactory

Plastic containers damaged in transit for samples 002 & 010.

<Redacted>

Authorised by:	Jane Colbourne
Position:	Customer Service Specialist

Any additional opinions or interpretations found in this report, are outside the scope of UKAS accreditation.

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 MAR01755
Issue Version 2
Customer Reference S230232 - Marine Scotland Sediment Analysis

		Units	%	%	%	%	%	N/A
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SUB_02*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**Gravel (>2mm)**	**Sand (63-2000 µm)**	**Silt (<63 µm)**	**Asbestos**
S01 - 1 - 6.50-7.00m	MAR01755.001	Sediment	12.6	87.4	0.00	97.11	2.89	NAIIS
S01 - 7 - 9.50-10.00m	MAR01755.002	Sediment	22.0	78.0	0.00	92.86	7.14	NAIIS
S01 - 13 - 12.50-13.00m	MAR01755.003	Sediment	18.7	81.3	60.70	14.96	24.35	NAIIS
S02 - 1 - 6.50-7.00m	MAR01755.004	Sediment	22.8	77.2	0.00	80.68	19.32	NAIIS
S02 - 7 - 9.50-10.00m	MAR01755.005	Sediment	24.4	75.6	0.00	95.71	4.29	NAIIS
S02 - 13 - 12.50-13.00m	MAR01755.006	Sediment	26.4	73.6	0.34	94.04	5.62	NAIIS
S03 - 1 - 6.50-7.00m	MAR01755.007	Sediment	40.9	59.1	0.00	83.21	16.79	NAIIS
S03 - 7 - 9.50-10.00m	MAR01755.008	Sediment	28.2	71.8	0.00	94.22	5.78	NAIIS
S03 - 13 - 15.50-13.00m	MAR01755.009	Sediment	17.2	82.8	0.00	90.51	9.49	NAIIS
S04 - 1 - 6.50-7.00m	MAR01755.010	Sediment	55.9	44.1	0.00	61.80	38.20	NAIIS
S04 - 7 - 9.50-1.00m	MAR01755.011	Sediment	25.3	74.7	0.34	94.48	5.18	NAIIS
S04 - 13 - 12.50-13.00m	MAR01755.012	Sediment	24.3	75.7	0.38	94.98	4.65	NAIIS
S07 - 1 - 6.50-7.00m	MAR01755.013	Sediment	20.0	80.0	0.00	96.43	3.57	NAIIS
S07 - 7 - 9.50-10.00m	MAR01755.014	Sediment	24.1	75.9	2.90	92.97	4.13	NAIIS
S07 - 13 - 12.50-13.00m	MAR01755.015	Sediment	29.6	70.4	0.00	84.85	15.15	NAIIS
S08 - 1 - 6.50-7.00m	MAR01755.016	Sediment	29.9	70.1	0.00	57.09	42.91	NAIIS
S08 - 7 - 9.50-10.00m	MAR01755.017	Sediment	30.0	70.0	9.01	79.97	11.01	NAIIS
S08 - 13 - 12.50-13.00m	MAR01755.018	Sediment	23.8	76.2	0.00	85.69	14.31	NAIIS

* See Report Notes
NAIIS - No Asbestos Identified In Sample

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 MAR01755
Issue Version 2
Customer Reference S230232 - Marine Scotland Sediment Analysis

		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	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Mercury**	**Nickel**	**Lead**	**Zinc**
S01 - 1 - 6.50-7.00m	MAR01755.001	Sediment	1.1	<0.04	10.0	7.7	0.02	8.2	2.3	24.6
S01 - 7 - 9.50-10.00m	MAR01755.002[D5]	Sediment	1.7	<0.04	5.5	4.8	0.01	5.0	1.3	15.1
S01 - 13 - 12.50-13.00m	MAR01755.003	Sediment	1.2	<0.04	13.6	8.1	0.01	11.6	2.9	30.1
S02 - 1 - 6.50-7.00m	MAR01755.004	Sediment	1.4	<0.04	4.4	4.4	0.06	4.8	1.7	16.5
S02 - 7 - 9.50-10.00m	MAR01755.005	Sediment	1.2	<0.04	4.4	5.3	0.02	4.2	1.1	11.7
S02 - 13 - 12.50-13.00m	MAR01755.006	Sediment	2.2	<0.04	6.8	4.6	0.01	5.7	1.7	19.4
S03 - 1 - 6.50-7.00m	MAR01755.007	Sediment	2.5	<0.04	6.9	7.9	0.02	5.5	4.4	36.9
S03 - 7 - 9.50-10.00m	MAR01755.008	Sediment	2.4	<0.04	16.4	10	0.01	14.6	3.1	30.0
S03 - 13 - 15.50-13.00m	MAR01755.009	Sediment	3.3	<0.04	18.3	10.8	0.01	15.6	3.5	42.0
S04 - 1 - 6.50-7.00m	MAR01755.010[D5]	Sediment	6.2	<0.04	27.6	21.4	0.08	16.2	11.1	89.5
S04 - 7 - 9.50-1.00m	MAR01755.011	Sediment	2.4	<0.04	11.9	8.3	0.02	11.5	2.3	21.9
S04 - 13 - 12.50-13.00m	MAR01755.012	Sediment	2.2	<0.04	15.4	8.9	0.01	13.9	2.9	28.0
S07 - 1 - 6.50-7.00m	MAR01755.013	Sediment	2.3	<0.04	14.8	8.6	0.01	11.9	2.3	20.5
S07 - 7 - 9.50-10.00m	MAR01755.014	Sediment	3.2	<0.04	16.3	10.4	0.01	15.0	2.8	27.4
S07 - 13 - 12.50-13.00m	MAR01755.015	Sediment	2.5	<0.04	18.0	11.1	0.01	16.4	3.9	33.4
S08 - 1 - 6.50-7.00m	MAR01755.016	Sediment	9.9	<0.04	27.9	23.2	0.06	17.6	19.2	125
S08 - 7 - 9.50-10.00m	MAR01755.017	Sediment	5.2	<0.04	17.7	11.1	0.02	13.9	5.9	44.0
S08 - 13 - 12.50-13.00m	MAR01755.018	Sediment	4.0	<0.04	23.1	13.3	0.03	18.2	5.6	51.4
Certified Reference Material SETOC 768 (% Recovery)			104	85	101	102	100	99	104	115
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes
D5 - Plastic tub damaged in transit. See Report Notes & Deviating Sample page.

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	MAR01755
Issue Version	2
Customer Reference	S230232 - Marine Scotland Sediment Analysis

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S01 - 1 - 6.50-7.00m	MAR01755.001	Sediment	<5	<5
S01 - 7 - 9.50-10.00m	MAR01755.002	Sediment	<5	<5
S01 - 13 - 12.50-13.00m	MAR01755.003	Sediment	<1	<1
S02 - 1 - 6.50-7.00m	MAR01755.004	Sediment	<5	<5
S02 - 7 - 9.50-10.00m	MAR01755.005	Sediment	<1	<1
S02 - 13 - 12.50-13.00m	MAR01755.006	Sediment	<5	<5
S03 - 1 - 6.50-7.00m	MAR01755.007	Sediment	<5	<5
S03 - 7 - 9.50-10.00m	MAR01755.008	Sediment	<5	<5
S03 - 13 - 15.50-13.00m	MAR01755.009	Sediment	<1	<1
Certified Reference Material BCR-646 (% Recovery)			55	63
QC Blank			<1	<1

* See Report Notes

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	MAR01755
Issue Version	2
Customer Reference	S230232 - Marine Scotland Sediment Analysis

		Units	µg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
S04 - 1 - 6.50-7.00m	MAR01755.010	Sediment	13.3	16.9
S04 - 7 - 9.50-1.00m	MAR01755.011	Sediment	<5	<5
S04 - 13 - 12.50-13.00m	MAR01755.012	Sediment	<1	<1
S07 - 1 - 6.50-7.00m	MAR01755.013	Sediment	<5	<5
S07 - 7 - 9.50-10.00m	MAR01755.014	Sediment	<1	<1
S07 - 13 - 12.50-13.00m	MAR01755.015	Sediment	<5	<5
S08 - 1 - 6.50-7.00m	MAR01755.016	Sediment	10.3	18.4
S08 - 7 - 9.50-10.00m	MAR01755.017	Sediment	<5	<5
S08 - 13 - 12.50-13.00m	MAR01755.018	Sediment	<5	<5
Certified Reference Material BCR-646 (% Recovery)			80	87
QC Blank			<1	<1

* See Report Notes

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 MAR01755
Issue Version 2
Customer Reference S230232 - Marine Scotland Sediment Analysis

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S01 - 1 - 6.50-7.00m	MAR01755.001	Sediment	<5	<5	<5	<5	<5	<5
S01 - 7 - 9.50-10.00m	MAR01755.002	Sediment	<5	<5	<5	<5	<5	<5
S01 - 13 - 12.50-13.00m	MAR01755.003	Sediment	<1	<1	<1	<1	<1	<1
S02 - 1 - 6.50-7.00m	MAR01755.004	Sediment	<1	<1	<1	2.97	4.35	4.68
S02 - 7 - 9.50-10.00m	MAR01755.005	Sediment	<1	<1	<1	1.72	2.12	1.27
S02 - 13 - 12.50-13.00m	MAR01755.006	Sediment	<5	<5	<5	<5	<5	<5
S03 - 1 - 6.50-7.00m	MAR01755.007	Sediment	<5	<5	<5	10.4	16.8	16.5
S03 - 7 - 9.50-10.00m	MAR01755.008	Sediment	<5	<5	<5	<5	<5	<5
S03 - 13 - 15.50-13.00m	MAR01755.009	Sediment	<1	<1	<1	<1	1.06	1.10
Certified Reference Material NIST 1941b (% Recovery)			88	97	65	77	75	94
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01755
Issue Version	2
Customer Reference	S230232 - Marine Scotland Sediment Analysis

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S01 - 1 - 6.50-7.00m	MAR01755.001	Sediment	<5	<5	<5	<5	<5	<5
S01 - 7 - 9.50-10.00m	MAR01755.002	Sediment	<5	<5	<5	<5	<5	<5
S01 - 13 - 12.50-13.00m	MAR01755.003	Sediment	<1	<1	<1	<1	<1	<1
S02 - 1 - 6.50-7.00m	MAR01755.004	Sediment	3.18	5.81	3.59	<1	6.38	<1
S02 - 7 - 9.50-10.00m	MAR01755.005	Sediment	1.16	2.02	2.03	<1	3.79	<1
S02 - 13 - 12.50-13.00m	MAR01755.006	Sediment	<5	<5	<5	<5	<5	<5
S03 - 1 - 6.50-7.00m	MAR01755.007	Sediment	11.3	19.6	14.8	<5	21.8	<5
S03 - 7 - 9.50-10.00m	MAR01755.008	Sediment	<5	<5	<5	<5	<5	<5
S03 - 13 - 15.50-13.00m	MAR01755.009	Sediment	1.06	1.34	1.44	<1	1.78	<1
Certified Reference Material NIST 1941b (% Recovery)			77	88	98	103	89	54
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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 MAR01755
Issue Version 2
Customer Reference S230232 - Marine Scotland Sediment Analysis

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S01 - 1 - 6.50-7.00m	MAR01755.001	Sediment	<5	<5	<5	<5	9980
S01 - 7 - 9.50-10.00m	MAR01755.002	Sediment	<5	<5	<5	<5	6180
S01 - 13 - 12.50-13.00m	MAR01755.003	Sediment	<1	<1	<1	1.05	8970
S02 - 1 - 6.50-7.00m	MAR01755.004	Sediment	3.36	<1	2.39	7.35	8640
S02 - 7 - 9.50-10.00m	MAR01755.005	Sediment	1.10	<1	2.30	3.61	1990
S02 - 13 - 12.50-13.00m	MAR01755.006	Sediment	<5	<5	<5	<5	25500
S03 - 1 - 6.50-7.00m	MAR01755.007	Sediment	12.6	<5	<5	33.3	36800
S03 - 7 - 9.50-10.00m	MAR01755.008	Sediment	<5	<5	<5	<5	34900
S03 - 13 - 15.50-13.00m	MAR01755.009	Sediment	<1	<1	<1	2.70	6030
Certified Reference Material NIST 1941b (% Recovery)			80	60	77	80	89~
QC Blank			<1	<1	<1	<1	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
*See report notes

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	MAR01755
Issue Version	2
Customer Reference	S230232 - Marine Scotland Sediment Analysis

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**
S04 - 1 - 6.50-7.00m	MAR01755.010	Sediment	<5	<5	11.8	50.7	66.8	74.0
S04 - 7 - 9.50-1.00m	MAR01755.011	Sediment	<5	<5	<5	<5	<5	<5
S04 - 13 - 12.50-13.00m	MAR01755.012	Sediment	<5	<5	<5	<5	<5	<5
S07 - 1 - 6.50-7.00m	MAR01755.013	Sediment	<5	<5	<5	<5	<5	<5
S07 - 7 - 9.50-10.00m	MAR01755.014	Sediment	<5	<5	<5	<5	<5	<5
S07 - 13 - 12.50-13.00m	MAR01755.015	Sediment	<5	<5	<5	<5	<5	<5
S08 - 1 - 6.50-7.00m	MAR01755.016	Sediment	<5	<5	<5	19.8	30.3	26.8
S08 - 7 - 9.50-10.00m	MAR01755.017	Sediment	<5	<5	<5	<5	<5	<5
S08 - 13 - 12.50-13.00m	MAR01755.018	Sediment	<5	<5	<5	<5	<5	<5
Certified Reference Material NIST 1941b (% Recovery)			83	112	65	62	57	85
QC Blank			<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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 MAR01755
Issue Version 2
Customer Reference S230232 - Marine Scotland Sediment Analysis

		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	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BENZGHIP**	**BKF***	**CHRYSENE ***	**DBENZAH**	**FLUORANT**	**FLUORENE**
S04 - 1 - 6.50-7.00m	MAR01755.010	Sediment	47.6	79.4	64.2	<5	98.3	<5
S04 - 7 - 9.50-1.00m	MAR01755.011	Sediment	<5	<5	<5	<5	<5	<5
S04 - 13 - 12.50-13.00m	MAR01755.012	Sediment	<5	<5	<5	<5	<5	<5
S07 - 1 - 6.50-7.00m	MAR01755.013	Sediment	<5	<5	<5	<5	<5	<5
S07 - 7 - 9.50-10.00m	MAR01755.014	Sediment	<5	<5	<5	<5	<5	<5
S07 - 13 - 12.50-13.00m	MAR01755.015	Sediment	<5	<5	<5	<5	<5	<5
S08 - 1 - 6.50-7.00m	MAR01755.016	Sediment	24.5	37.0	26.8	<5	41.1	<5
S08 - 7 - 9.50-10.00m	MAR01755.017	Sediment	<5	<5	<5	<5	9.77	<5
S08 - 13 - 12.50-13.00m	MAR01755.018	Sediment	<5	<5	<5	<5	<5	<5
Certified Reference Material NIST 1941b (% Recovery)			73	79	83	86	82	53
QC Blank			<1	<1	<1	<1	<1	<1

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Issue Version 2
Customer Reference S230232 - Marine Scotland Sediment Analysis

		Units	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/303/306
		Limit of Detection	1	1	1	1	100
		Accreditation	UKAS	UKAS	UKAS	UKAS	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**	**THC**
S04 - 1 - 6.50-7.00m	MAR01755.010	Sediment	53.7	<5	47.8	110	54000
S04 - 7 - 9.50-1.00m	MAR01755.011	Sediment	<5	<5	<5	<5	4260
S04 - 13 - 12.50-13.00m	MAR01755.012	Sediment	<5	<5	<5	<5	4180
S07 - 1 - 6.50-7.00m	MAR01755.013	Sediment	<5	<5	<5	<5	2840
S07 - 7 - 9.50-10.00m	MAR01755.014	Sediment	<5	<5	<5	<5	4130
S07 - 13 - 12.50-13.00m	MAR01755.015	Sediment	<5	<5	<5	<5	10200
S08 - 1 - 6.50-7.00m	MAR01755.016	Sediment	20.6	<5	16.9	58.7	54900
S08 - 7 - 9.50-10.00m	MAR01755.017	Sediment	<5	<5	<5	10.9	8510
S08 - 13 - 12.50-13.00m	MAR01755.018	Sediment	<5	<5	<5	<5	9380
Certified Reference Material NIST 1941b (% Recovery)			74	59	74	70	95~
QC Blank			<1	<1	<1	<1	<100

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Test Report ID	MAR01755
Issue Version	2
Customer Reference	S230232 - Marine Scotland Sediment Analysis

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	N*	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S01 - 1 - 6.50-7.00m	MAR01755.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S01 - 7 - 9.50-10.00m	MAR01755.002	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S01 - 13 - 12.50-13.00m	MAR01755.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S02 - 1 - 6.50-7.00m	MAR01755.004	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S02 - 7 - 9.50-10.00m	MAR01755.005	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S02 - 13 - 12.50-13.00m	MAR01755.006	Sediment	0.09	0.09	0.13	0.24	0.17	0.16	0.22
S03 - 1 - 6.50-7.00m	MAR01755.007	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S03 - 7 - 9.50-10.00m	MAR01755.008	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S03 - 13 - 15.50-13.00m	MAR01755.009	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST 1941b (% Recovery)			54	80	87	101	91	84	101
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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*See report notes

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Test Report ID	MAR01755
Issue Version	2
Customer Reference	S230232 - Marine Scotland Sediment Analysis

		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)
		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	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	N*	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB28**	**PCB52**	**PCB101**	**PCB118**	**PCB138**	**PCB153**	**PCB180**
S04 - 1 - 6.50-7.00m	MAR01755.010	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.10
S04 - 7 - 9.50-1.00m	MAR01755.011	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S04 - 13 - 12.50-13.00m	MAR01755.012	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S07 - 1 - 6.50-7.00m	MAR01755.013	Sediment	0.10	0.15	0.19	0.32	0.08	0.19	0.26
S07 - 7 - 9.50-10.00m	MAR01755.014	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S07 - 13 - 12.50-13.00m	MAR01755.015	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S08 - 1 - 6.50-7.00m	MAR01755.016	Sediment	<0.08	<0.08	<0.08	<0.08	0.10	0.09	<0.08
S08 - 7 - 9.50-10.00m	MAR01755.017	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
S08 - 13 - 12.50-13.00m	MAR01755.018	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certified Reference Material NIST 1941b (% Recovery)			63	84	88	99	93	83	105
QC Blank			<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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Certificate of Analysis

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Test Report ID MAR01755
Issue Version 2
Customer Reference S230232 - Marine Scotland Sediment Analysis

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
ICPMSS*	MAR01755.001-018	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SUB_01*	MAR01755.001-018	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR01755.001-018	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR01755.001, .002, .004, .006-008, .011, .013, .015, .017-018	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR01755.001-018	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 (PCB153) . These circumstances should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR01755.001, .002, .006-008, .010-018	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR01755.001-018	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	MAR01755.001-018	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved. It is believed Triphenylene is present in these samples therefore it is suggested that the Chrysene results should be taken as a Chrysene (inc. Triphenylene).This should be taken into consideration when utilising the data.

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	MAR01755.002 & 010	Plastic tub damaged in transit. Sample transferred to suitable container on arrival.
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

Certificate of Analysis

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Test Report ID	MAR01755
Issue Version	2
Customer Reference	S230232 - Marine Scotland Sediment Analysis

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Metals	Air dried and seived to <63µm	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	Solvent extraction and clean up followed by GC-FID analysis.
Polychlorinated Biphenyls (PCBs)	Air dried and seived 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-Hexachlorcyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorcyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorcyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	DDD	p,p'-Dichlorodiphenyldichloroethane
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichlorodiphenyldichloroethylene
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichlorodiphenyltrichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		