Your Ref: 00040-33

Our Ref: 541771

Date: 3<sup>rd</sup> December 2020

STRUCTURAL SOILS LTD

Argyll & Bute Council Kilmory, Lochgilphead, Argyll, PA31 8RT

For the attention of SOPHIE PAICE.

Dear Sirs/Madam,

# SITE INVESTIGATION SOIL, ROCK & MATERIAL TESTING GEOTECHNICAL CONSULTANCY CONTAMINATED LAND ASSESSMENT

# SEABED SEDIMENT ANALYSIS IONA AND FIONNPHORT

### Introduction

We write to report on the findings of the ground investigation carried out by Structural Soils Limited (SSL) at the above site on the instructions of Argyll and Bute Council.

The works undertaken included 6 seabed sediment cores and 12 grab samples of the seabed sediment, laboratory testing and the preparation of this report. The report contains a description of the site and the works carried out, the exploratory hole logs, in-situ and laboratory testing results.

The ground investigation has been carried out in accordance with the contract specification, the general requirements of BS 5930:2015 and other relevant standards.

### **Site Description**

The site is located in the Sound of Iona, situated off the west coast of the Isle of Mull, and between the Isle of Iona. The British National Grid References of the sites are NM298234 and NM286240. The site comprises 2 areas on either side of the Sound of Iona; one location just off the jetty at Fionnphort on the south west coast of Mull, and one area off the slipway at Baile Mòr on the isle of Iona. All investigation positions were over water, and coring was carried out from a survey boat.

The sites are both approximately 200 m by 150 m in size and set at sea level.



STRUCTURAL SOILS LIMITED 65 SUSSEX STREET GLASGOW SCOTLAND, G41 1DX Tel: 0141 4180471

ask@soils.co.uk www.soils.co.uk

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Wigan

### Page 2

# SEABED SEDIMENT ANALYSIS IONA & FIONNPHORT

### Geology

Information on the geology of the site was obtained from the following sources published by the British Geological Survey (BGS):

- BGS map (sheet 43S, scale 1:50,000, published 1999).
- The BGS digital geology map, which utilises the most up to date names for geological units (www.bgs.ac.uk/data).
- The BGS Lexicon of Named Rock Units, which provides typical descriptions for most geological units (www.bgs.ac.uk/lexicon).

The Fionnphort site is shown to have marine beach deposits of sand underlain by the Ross of Mull pluton comprising monzogranite with calc-alkaline dyke suites including microgranite. The lona site is shown to have marine beach deposits of sand, and raised marine deposits of gravels, sands and silt. This is shown to be underlain by the lona group of metasandstone and metamudstone, with some dyke intrusions (part of the lona – Ross of Mull dyke swarm comprising Camptonite and Monchiquite igneous rocks.

### **Fieldwork**

The ground investigation was carried out by SSL on 4<sup>th</sup> and 5<sup>th</sup> November 2020. The following works were completed:

- 6 sediment cores to 0.65 m depth.
- 12 grab samples of the seabed sediment.

The exploratory hole logs and in-situ test results are enclosed. These provide information including the equipment and methods used, samples taken, tests carried out, water observations and descriptions of the strata encountered. Explanation of the terms and abbreviations used on the logs is given in the Key to Exploratory Hole Records which is also enclosed.

The investigation was supervised by an engineer from SSL. The scope of works and positions were selected by Argyll & Bute Council, set out by SSL and Ecospan and adjusted where necessary to take account of sea floor conditions or other restrictions. The exploratory hole and in-situ test locations are shown on the enclosed Exploratory Hole Location Plan.

The holes were logged by an engineer in general accordance with the recommendations of BS 5930:2015 (which incorporates the requirements of BS EN ISO 14688-1, 14688-2 and 14689-1). Detailed descriptions, together with relevant comments, are given on the logs.

### **Laboratory Testing**

Samples for potential geotechnical testing were returned to MATtest Limited UKAS accredited laboratory, and those for potential geoenvironmental testing were sent to SOCOTEC Limited, a MCERTS and UKAS accredited testing laboratory. Laboratory tests were scheduled by Argyll and Bute Council. The test results are enclosed, and the test methods are quoted on the results sheets.

# Page 3 SEABED SEDIMENT ANALYSIS IONA & FIONNPHORT

### **Closing Remarks**

All information, comments and opinions given in this report are based on the ground conditions encountered during the site work, and on the results of laboratory and field tests performed during the investigation. Whilst every attempt is made to record full details of the strata encountered in the exploratory holes, techniques of hole formation and sampling will inevitably lead to disturbance, mixing or loss of material in some soils and rocks. However, there may be conditions at the site that have not been taken into account, such as unpredictable soil strata, contaminant concentrations and water conditions between or below exploratory holes.

This report was prepared by SSL for the sole and exclusive use of Argyll and Bute Council in response to particular instructions. Any other parties using the information contained in this report do so at their own risk and any duty of care to those parties is excluded. No liability will be accepted after a period of 5 years from the date of the report.

This concludes our work on this project. If you have any queries, please do not hesitate to contact us.

Yours sincerely, STRUCTURAL SOILS LIMITED

<Redacted> <Redacted>

Laura Blair MGeol FGS

Jon Bassett BSc (Hons) MSc CGeol

### Page 4

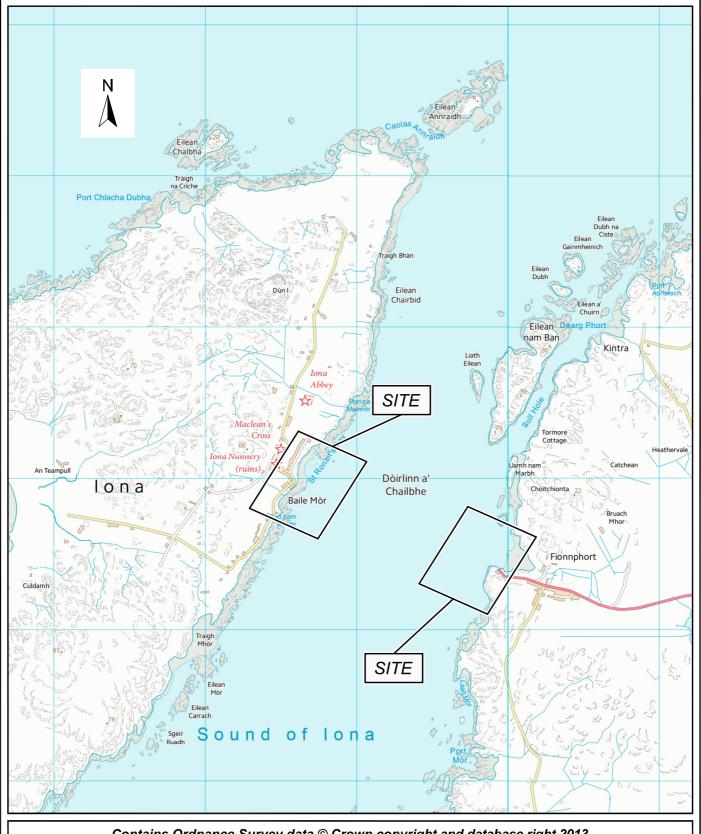
### **SEABED SEDIMENT ANALYSIS IONA & FIONNPHORT**

### References:

- BS 5930:2015 Code of practice for ground investigations
   British Geological Survey sheet 43S scale 1:50000, published 1996

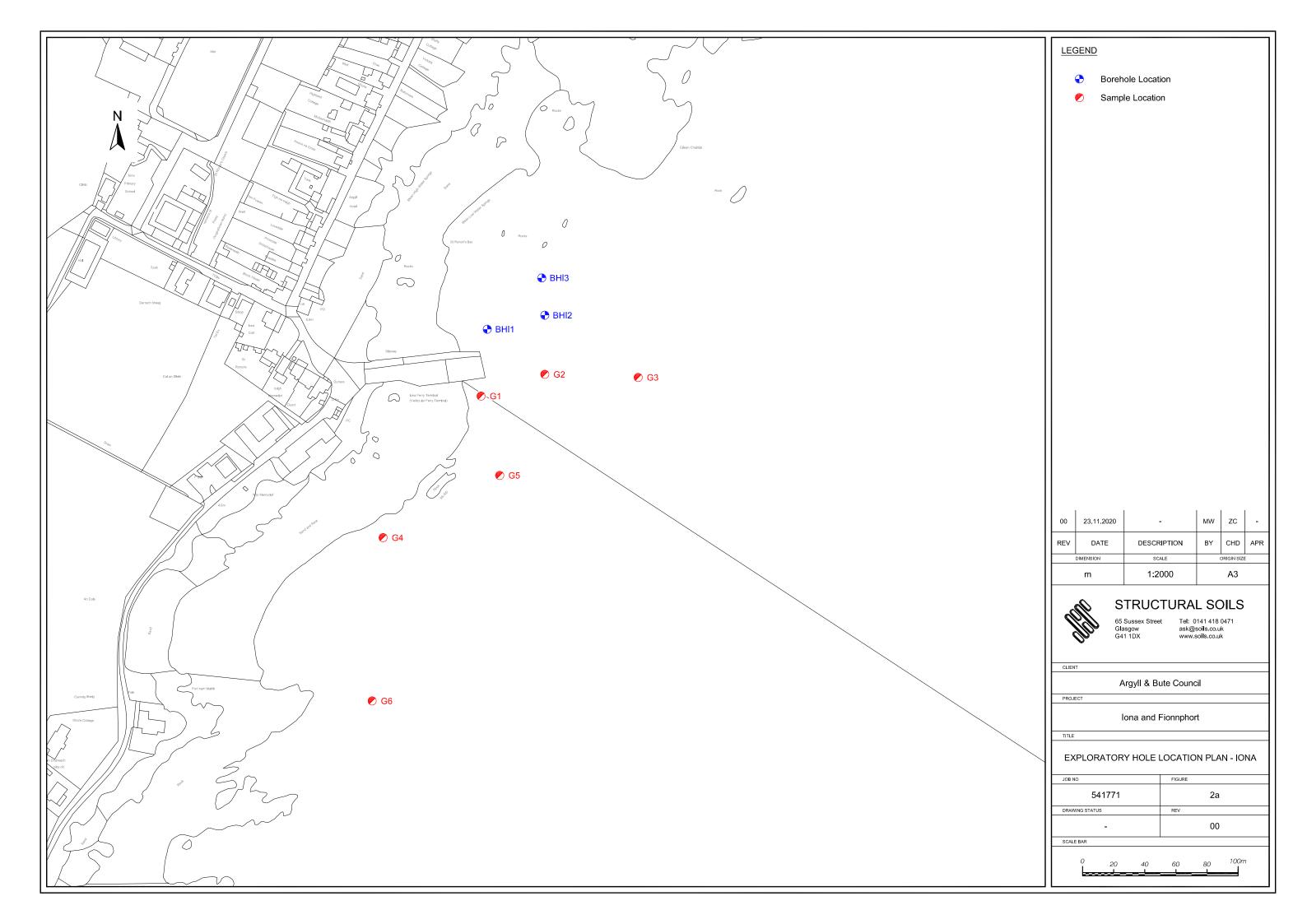
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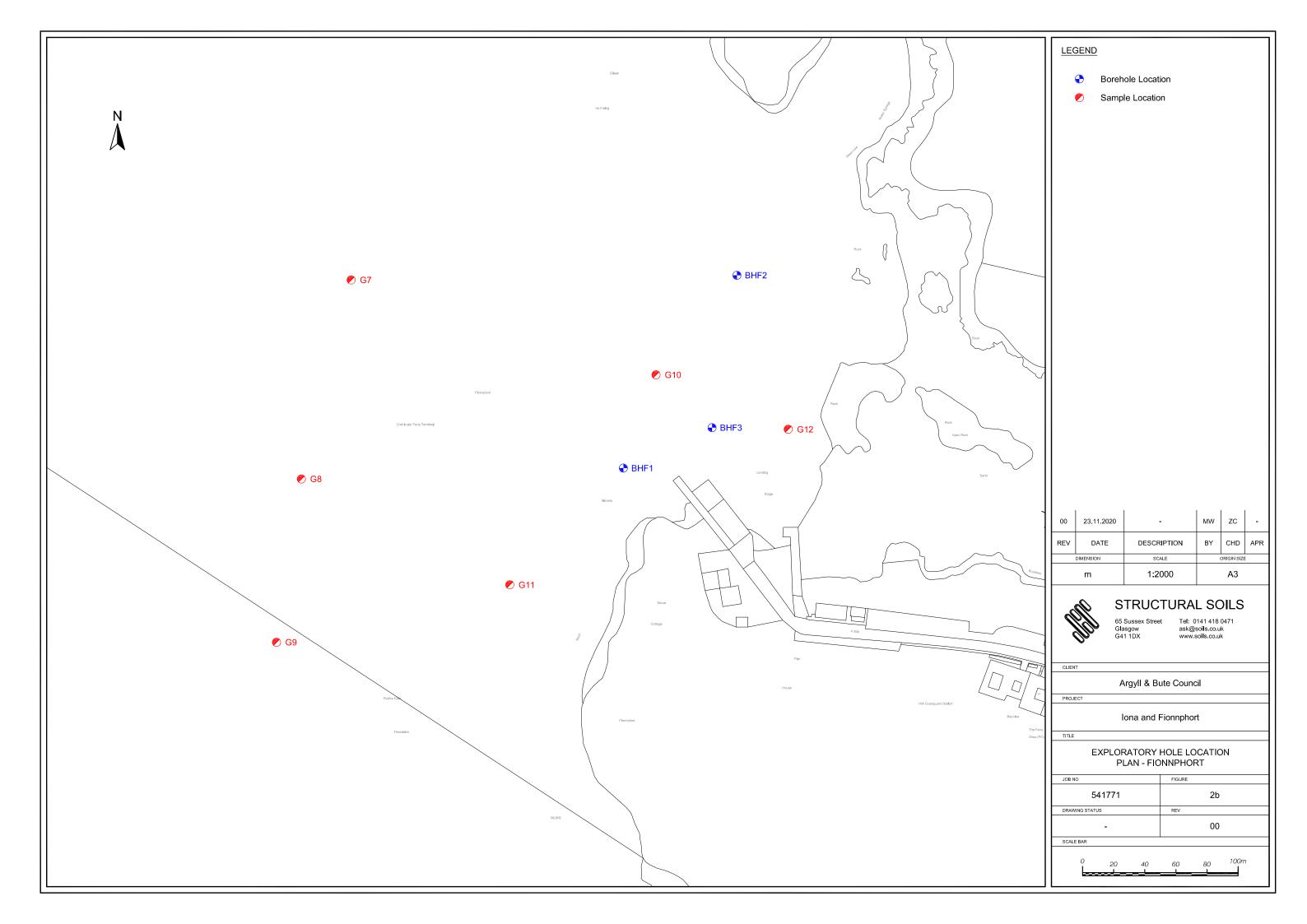
- Site Location Map
   Exploratory Hole Location Plan
   Key to Exploratory Hole Logs
   Borehole Logs
   Trial Pit Logs
   Laboratory Test Verification Certificate
   Geotechnical Laboratory Test Results
   SOCOTEC Test Verification Certificate



### Contains Ordnance Survey data © Crown copyright and database right 2013

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Contract Reference: 541771

### **KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF ABBREVIATIONS**

### **SAMPLING**

Sample type codes

= Bulk disturbed sample.

ES Soil sample for environmental testing.

### **ADDITIONAL NOTES**

- 1. All soil and rock descriptions and legends in general accordance with BS EN ISO 14688-1, 14688-2, 14689-1, and BS5930:2015.
- 2. Material types divided by a broken line (- - ) indicates an unclear boundary.3. Fracture spacings (If) quoted in the Description of Strata for specific strata or specific fracture sets are also quoted in mm, e.g. (25/80/230) referring to (Min/Avg/Max).
- 4. The data on any sheet within the report showing the AGS icon is available in the AGS format.

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### KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF GRAPHIC SYMBOLS

### MATERIAL GRAPHIC LEGENDS

Gravelly SAND



SAND



Sandy gravelly SILT



Gravelly silty SAND



Silty gravelly SAND

### **INSTRUMENTATION SYMBOLS**



Backfill



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	5417				04.11	.20				E:129859.0 N:723457.0		1	of <b>2</b>
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							_ fragn ∖lithold	nents. Gravel ogies.	is subai	atly gravelly fine to coarse SAND ingular to subrounded fine to coarse as scheduled. Obstruction noted at the	of mixed	- 0.50	
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	Boring Pr	ogress and	Water Ob	servations			Co	noral	Remarks		
Date	Time	Borehole	Casing	Borehole Diameter	Water		GE	nerai	Remarks		
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Contract:		Client:		Borehole:		
Iona and Fio	nnphort	Argy	/II & Bute Council		BH	F-1
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BHF1 0.00 - 0.50m





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Contract:								Client:			Boreho	ole:	
	loi	na an	d Fio	nnph	ort			A	rgy	/II & Bute Council		E	3HF-2
Contract Re	f:			Start:	04.11	.20	Grour	nd Level:		National Grid Co-ordinate:	Sheet:		
Į.	5417	771		End:	04.11	.20				E:129932.0 N:723581.0		1	of <b>2</b>
Depth (m)	541771         End:         04.11.2           Depth (m)         No         Type         Results         Type					Water			I	Description of Strata		Depth (Thick ness)	Material Graphic Legend
- 0.00-0.15 - 0.20-0.58	101 102	ES ES					fragn mixed Light	nents. Gravel is red lithologies.  grey speckled v	are vhite	slightly gravelly fine to medium SAND wi subangular to subrounded fine to med and orange slightly gravelly fine to r ts. Gravel is subangular to subrounded	dium of medium	0.45	•

Terminated at 0.58m depth due to encountering repeated obstruction.

coarse of mixed lithologies.

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Method Used: Vibrocore Plant Used: Bespoke Rig Drilled By: Mark Field By: ZCockburn By: acted



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Contract:								Client:			Boreho	ole:	
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		Sample	s & Test	ting	■	Į.						Depth	Material
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-			fragme litholog	grey speckled white slightly gravelly fine to coarse SAND with shel nents. Gravel is subangular to subrounded fine to coarse of mixed ogies.	
-			Termir	inated at 0.50m depth due to repeated obstruction.	-
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	Boring Pro	ogress and	Water Ob					Go	noral	Remarks		
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		Depth	Depth	(mm)	Depth	2. 2 inc	h diamet	en to recover er barrel used ed due to rock		to 0.70m depth.		
						P	All dimens	sions in metre	s	Scale:	1:50	
Method Used:							Drilled By:	Mark Field	Logged By:	ZCockburn	Checked By:	<red ags<="" td=""></red>

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Structural Soils Lid, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.soils.co.uk, Email: ask@soils.co.uk. | 04/12/20 - 16:43 | LB9 |



Contract:		Client:		Borehole:			
Iona and Fio	nnphort	Argy	/II & Bute Council		ŀ	BH	I-1
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BHI1 0.00 - 070m





Method	Plant	Drilled	Logged	Checked < Red By: acted AGS
Used: <b>Vibrocore</b>	Used: <b>Bespoke Rig</b>	By: <b>Mark Field</b>	By: <b>ZCockburn</b>	



Contract: lona and Fionnphort														
Contract:								Client:				Boreho	le:	
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5	417	771		End:	05.11	.20				E:128719.0	0 N:724038	.0	1	of <b>2</b>
Depth (m)	No	Samples Type			Backfill	Water			I	Description of Stra	ata		Depth (Thick ness)	Material Graphic Legend
0.00-0.15	Samples & Testing   Samp				fragm ∫litholo ∫a	nents. Gra ogies. at 0.20m de	vel is suba epth becom	slightly gravelly fine angular to subroun nes speckled white. In due to obstruction	ded fine to coar	ID with shell se of mixed	0.45	0 :- 0 :- E		

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	Boring Pro	ogress and	Water Ob	servatio	ons				Co	noral	Domorko			
Date	Time	Borehole	Casing	Boreho Diamet	ter	Water			Ge	nerai	Remarks			
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BHI2 0.00 - 0.45m





Method Used: Vibrocore Plant Used: Bespoke Rig Drilled By: Mark Field By: ZCockburn By: acted AGS



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Į.	5417	771		End:	05.11	.20				E:128717.0 N:724062	.0	1	of <b>2</b>
		Sample	s & Tes	ting	J≣	p						Depth	Material
Depth (m)	No	Туре	Res	sults	Backfill	Water				Description of Strata		(Thick ness)	Graphic Legend
0.00-0.15 0.15-0.40	101 102	ES ES					_			ne to medium SAND with shell fraç es grey speckled white.	gments.	(0.65)	
0.40-0.65	103	ES										0.65	
	0.00-0.15 101 ES 0.15-0.40 102 ES						Telli	iii lateu at 0.0	Sin depui	due to repeated obstruction.			

) case C		Davis - Da		10/-4-	Ol										
egow. oo	Date	Time	Borehole	Casi	ing	Borehole Diameter	Water Depth			Ge	neral	Remarks			
Olls Etta, Digitori Cirico - Cra		Depth Depth (mm) D						2. 2 inc	th diamet	er barrel used		to 0.65m depth.			
3 -	Method			1	 Plant			<i>F</i>	All dimen Drilled	sions in metre	s Logged	Scale:	1:50	<red< td=""><td>m</td></red<>	m
ž	Used:						espoke Rig	I	By:	Mark Field	By:	ZCockburn	By:	acted	

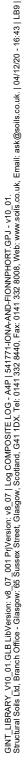
GINT\_LIBRARY\_V10\_01.GLB LibVersion; v8\_07\_001 PrjVersion; v8\_07 | Log COMPOSITE LOG - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Lid, Branch Office - Glasgow; 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:43 | LB9 |



Contract:		Client:		Borehole:			
Iona and Fio	nnphort	Argy	/II & Bute Council		I	ВН	I-3
Contract Ref:	Start: <b>05.11.20</b> Grou	und Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>05.11.20</b>		E:128717.0 N:724062.0		2 (	of	2

BHI3 0.00 - 0.65m





Method Used: Vibrocore Plant Used: Bespoke Rig Drilled By: Mark Field By: ZCockburn Checked < Red By: acted AGS



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Contract:								Client:			Tria	al Pit	:		
	lo	na an	d Fio	nnph	ort				Argy	/II & Bute Council				G	<b>;1</b>
Contract Re	f:			Start:	05.1	1.20	Groun	id Level:		National Grid Co-ordinate:	Sh	eet:			
,	<b>541771</b> End				05.1	1.20				E:128678.0 N:723986	.0		1	of 2	2
Sam	Samples and In-situ Tests				ater	Backfill				Description of Strata			Depth (Thick	Mate	
Depth	1 71			sults	🕺	Bac			'	Description of Strata			ness)	Lege	
0.00-0.15	0.00-0.15 1 B					Light	t grey spec	kled white	fine to coarse SAND with shell frag	ments.		0.15			

Depth	No	Туре	Results	- Wal	Back	Description of	or otrata		(Thick ness)	Legen
0.00-0.15	1	В				Light grey speckled white fine to coarse	e SAND with shell	fragments.	0.15	
						Trial pit terminated at 0.15m depth.			-	
· _										
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						General Remarks				
1. Grab sa	ample	retrieved	d from seabed	l level t	o 0.15r	m depth.				
_						All dimensions in metres	Scale:	1:25		
Method			Plan	ıt.		Logged		Checked	<redact< td=""><td></td></redact<>	

# General Remarks

	All dimens	sions in metres	Scale:	1:2	25
Method Used: <b>Hand dug</b>	Plant Used: Hand tools	Logged By:	ZCockburn	Checked By:	<redact< td=""></redact<>



Contract:		Client:		Trial Pit:			
Iona and Fi	onnphort	Argy	yll & Bute Council				G1
Contract Ref:	Start: <b>05.11.20</b> Gr	ound Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>05.11.20</b>		E:128678.0 N:723986.0		2	of	2

### G1 0.00-0.15m



GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method Used: Hand dug Plant Logged Checked <red by:="" ed="" zcockburn=""></red>
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Contract:					Client:			Trial Pi	t:		
Iona and Fio	nnph	ort				Argy	/II & Bute Council				G2
Contract Ref:	Start:	05.1	1.20	Groun	d Level:		National Grid Co-ordinate:	Sheet:			
541771	End:	05.1	1.20				E:128719.0 N:724000.0		1	of	2
Samples and In-situ Tests	3	ater	Kfill				Description of Strata		Depth		aterial

	)4 I <i>i</i>	<i>/</i> / I	Ena:	U5.11	.20	E. 120/ 13.0 N. / 24000.0	ı	or <b>Z</b>
	_		tu Tests	Water	Backfill	Description of Strata	Depth (Thick	Material Graphic
Depth	No	Type	Results	>	Ω		ness)	Legend
0.00-0.15	1	В				Light grey speckled white gravelly fine to coarse SAND with shell fragments. Gravel is subangular to subrounded fine to coarse of mixed lithologies.  Trial pit terminated at 0.15m depth.	- 0.15	
							- - - - -	
							- - - - -	
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							-	
							-	

### General Remarks

1. Grab sample retrieved from seabed level to 0.15m depth.

All dimensions in metresScale:1:25Method<br/>Used:Plant<br/>Used:Logged<br/>By:Checked<br/>ZCockburnChecked<br/>By:Redact<br/>By:





Contract:		Client:		Trial Pit:			
lona and F	ionnphort	A	rgyll & Bute Council				G2
Contract Ref:	Start: <b>05.11.20</b> Gr	round Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>05.11.20</b>		E:128719.0 N:724000.0		2	of	2

### G2 0.00-0.15m



GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method Used: Hand dug Plant Used: Hand tools Logged By: ZCockburn Checked < Redact By: Adv



Contract:								Client:						Trial Pi	t:	
		na an	d Fio							rgy	II & Bute C					G3
Contract Re							Groun	nd Level:	:		National Grid C			Sheet:		
	5417	771		End:	05.1	1.20			-		E:128779	9.0 N:72	3998.0		1	of <b>2</b>
	1		tu Tests Res		Water	Backfill				[	Description of S	Strata			Depth (Thick	Material Graphic Legend
Sam  Depth  0.00-0.15	ples a	Type B		sults	Water	Backfill	fragr \lithol	ments. ( logies.	Gravel is	d whi	Description of Ste gravelly fine angular to subrom depth.	to coarse	e SAND vito coarse	with shell of mixed	Depth (Thick ness)	Material Graphic Legend
															-	
	1		I		1	1	1									

# General Remarks

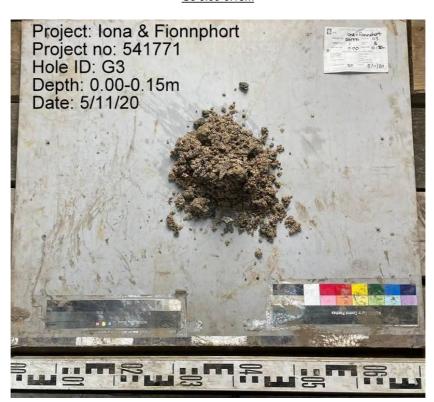
1. Grab sample retrieved from seabed level to 0.15m depth.





Contract:		Client:		Trial Pit:			
Iona and Fio	nnphort	Arg	gyll & Bute Council				G3
Contract Ref:	Start: <b>05.11.20</b>	Ground Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>05.11.20</b>		E:128779.0 N:723998.0		2	of	2

### G3 0.00-0.15m



GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method		Plant		Logged		Checked < Redacted >
Used:	Hand dug	Used:	Hand tools	By:	ZCockburn	Ву:



Contract:								Client:					Tri	ial Pit:	
	lo	na an	d Fio	nnph	ort				Argy	yll & Bute	e Counc	il			G4
Contract Re						1.20	Groun	d Level:		National Gri			Sh	neet:	
	5417	771		End:	04.1	1.20				E:1286	615.0 N:	723895	5.0	1	of <b>2</b>
	_	and In-si			Water	Backfill		Description of Strata  Light grey speckled white fine to medium SAND with shell fragments.					Depth (Thick	Graphic	
Depth 0.00-0.15	No 1	Type B	Res	sults	>		Liaht						agments	ness)	Legend
-   	'						X .	pit termina					agiriorito.	0.15	1
- - L														-	

# General Remarks

1. Grab sample retrieved from seabed level to 0.15m depth.

All dimensions in metres Scale: 1:25

Method Used: Hand dug Plant Used: Hand tools Scale: Checked <Redacted>
By: ZCockburn By:



Contract:		Client:		Trial Pit:			
lona and F	ionnphort	Ar	gyll & Bute Council				G4
Contract Ref:	Start: <b>04.11.20</b> G	round Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:128615.0 N:723895.0		2	of	2

### G4 0.00-0.15m



GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method Used: <b>Hand dug</b>	Plant Used: <b>Hand tools</b>	Logged By: ZCockburn	Checked < Redacted > By:
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Contract:		Client:		Trial Pit:			
Iona and Fio	nnphort		Argyll & Bute Council				G5
Contract Ref:	Start: <b>04.11.20</b>	Ground Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:128690.0 N:723935.0		1	of	2

•	)4 I <i>I</i>	<i>,</i> , ,	⊏na.	04.11	.20	E. 120030.0 N. 723333.0	ı	or <b>Z</b>
			tu Tests	Water	Backfill	Description of Strata	Depth (Thick	Material Graphic
Depth	No	Туре	Results	>	ä		ness)	Legend
0.00-0.15	1	В				Light grey speckled white slightly gravelly fine to coarse SAND with shell fragments. Gravel is subangular to subrounded fine to medium of mixed lithologies.  Trial pit terminated at 0.15m depth.	0.15	
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# General Remarks

- Grab sample retrieved from seabed level to 0.15m depth.
   Repeat attempts to recover sediment due to rock on seabed.

			All dimension	ons in metres	Scale:	1:25
Method Used:	Hand dug	Plant Used:	Hand tools	Logged By: Z	ZCockburn .	Checked < Redacted > By:





Contract:		Client:		Trial Pit:				
lona and	Fionnphort		Argyll & Bute Council				G	5
Contract Ref:	Start: <b>04.11.20</b> G	round Level:	National Grid Co-ordinate:	Sheet:				
541771	End: <b>04.11.20</b>		E:128690.0 N:723935.0		2	of	2	

### G5 0.00-0.15m



GINT\_LIBRARY V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow: Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008. Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method		Plant		Logged		Checked < Redacted>	Ì
Used:	Hand dug	Used:	Hand tools	Ву:	ZCockburn	By:	



Contract:		Client:		Trial Pit:			
Iona and Fi	onnphort	Arg	yll & Bute Council				G6
Contract Ref:	Start: <b>04.11.20</b>	Ground Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:128608.0 N:723790.0		1	of	2

	<u>541</u>	//1	End:	04.11.	.20		E:128608.0 N:723790.0		1	of <b>2</b>
San Depth	nples a	nd In-sit	tu Tests Results	Water	Backfill		Description of Strata		Depth (Thick ness)	Material Graphic Legend
0.00-0.15	1	В	rtoouito	-	_ >>>>	Light grev speckled white	e fine to medium SAND with shell fragme	ents	Hess)	Logona
		_				Trial pit terminated at 0.19			0.15	
						mai pit terminated at 0. is	этт аерит.			
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### General Remarks

1. Grab sample retrieved from seabed level to 0.15m depth.

 Method Used:
 Plant Used:
 Logged By:
 Checked < Redacted > By:

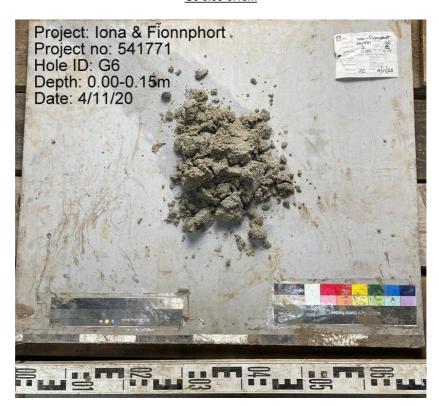
 Hand dug
 Hand tools
 By:
 ZCockburn





Contract:		Client:		Trial Pit:			
Iona and Fi	onnphort	Argy	/II & Bute Council				G6
Contract Ref:	Start: <b>04.11.20</b> Gro	ound Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:128608.0 N:723790.0		2	of	2

### G6 0.00-0.15m



GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method Used: Hand dug Plant Used: Hand tools Logged By: ZCockburn Checked <Redacted>By: ZCockburn



Contract:		Client:		Trial Pit:			
Iona and Fig	nnphort	Arg	gyll & Bute Council				G7
Contract Ref:	Start: <b>04.11.20</b>	Ground Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:129684.0 N:723578.0		1	of	2

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	_		tu Tests	Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic
Depth	No		Results	>	Δ.		ness)	Legend
0.00-0.15	1	В				Light grey speckled white fine to medium SAND with shell fragments and occasional maerl fragments.  Trial pit terminated at 0.15m depth.	0.15	
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### General Remarks

1. Grab sample retrieved from seabed level to 0.15m depth.

Method Used: Hand dug Plant Used: Hand tools Scale: Scale: 1:25

All dimensions in metres Scale: 1:25

Logged By: ZCockburn By:







Contract:		Client:		Trial Pit:			
lona and F	ionnphort	Α	rgyll & Bute Council				G7
Contract Ref:	Start: <b>04.11.20</b> G	Ground Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:129684.0 N:723578.0		2	of	2

### G7 0.00-0.15m



GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method	Logged	Checked <redacted></redacted>
Used: <b>Hand dug</b>	By: <b>ZCockburn</b>	By:



Contract:								Client:			Trial I	Pit:	
	lo	na an	d Fio	nnph	ort				Argy	/II & Bute Council			G8
Contract Ref	:			Start:	04.1	1.20	Groun	d Level:		National Grid Co-ordinate:	Shee	t:	
<b>541771</b> End: <b>04.11.20</b>								E:129652.0 N:723450.	0	1	of <b>2</b>		
Samples and In-situ Tests  Depth No Type Results  Samples and In-situ Tests  Depth No Type Results  No Type Results				December of Charts					Material Graphic				
Depth	No	Туре	Res	sults	×	Wa		Description of Strata				(Thick ness)	Legend

	T ! !	7 1	⊏Hu.	U <del>T.</del> 1	1.20	L. 123032.0 N. 723430.0		UI <b>Z</b>
Samples and In-situ Tests		Water	Backfill	Description of Strata	Depth (Thick	Material Graphic		
Depth	No	Type	Results	Š	Ba	Bescription of Strata	ness)	Legend
0.00-0.15	1	В				Light grey speckled white fine to medium SAND with shell fragments.	0.15	
					*****	Trial pit terminated at 0.15m depth.	-	
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# General Remarks

1. Grab sample retrieved from seabed level to 0.15m depth.

GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PrjVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Lid, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

	1:25					
Method Used:	Hand dug	Plant Used:	Hand tools	Logged By:	ZCockburn .	Checked <redacted></redacted>



Contract:		Client:		Trial Pit:			
Iona and Fi	onnphort	Argy	/II & Bute Council				G8
Contract Ref:	Start: <b>04.11.20</b> Gro	ound Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:129652.0 N:723450.0		2	of	2

G8 0.00-0.15m



GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method Used: <b>Hand dug</b>	Plant Used: <b>Hand tools</b>	Logged By: ZCockburn	Checked < Redacted > By:
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Contract:								Client:					Trial Pit		
OUTHIAGE.	la:	aa ara	4 Eic:	nnnh	ort			Olief It.	۸ras	di 9 Duta	Council		IIIaiPil		G9
Contract Ref		na and	a FIOI			1 20	Group	d Level:	Argy	/II & Bute National Grid			Sheet:		<b>G9</b>
	5417	774					Jiouii	G LEVEI.			36.0 N:7		Gricet.	1	of <b>2</b>
				l.	04.1		I			□ □. 1230	30.0 N.7	23343.0			1
	_	nd In-siti			Water	Backfill				Description of	f Strata			Depth (Thick	Material Graphic
Depth  0.00-0.15	No 1	Type B	Res	sults	Wa	Baci	∖ shell ∖mixe	t grey spe I fragments ed lithologie pit termina	eckled whit s. Gravel i	e slightly grav s subangular	elly fine to	medium SA ed fine to d	AND with coarse of	(Thick ness)	Graphic Legend
- <del> </del>														-	

### General Remarks

1. Grab sample retrieved from seabed level to 0.15m depth.

Method Used: Hand dug Plant Used: Hand tools Scale: Scale: 1:25

All dimensions in metres Scale: 1:25

Logged Sy: ZCockburn Checked < Redacted > By: ZCockburn





Contract:		Client:		Trial Pit:			
lona and F	ionnphort	Arg	gyll & Bute Council				G9
Contract Ref:	Start: <b>04.11.20</b> G	round Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:129636.0 N:723345.0		2	of	2

### G9 0.00-0.15m



GINT\_LIBRARY V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow: Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008. Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method Used:	Hand dug	Plant Used:	Hand tools	Logged By:	ZCockburn	Checked < Redacted > By:
		-				



Contract:						Client:		Trial Pit:					
	lor	na an	d Fionnp	hort		Arg	yll & Bute Council		G	10			
Contract Re	f:		Start	04.1	1.20	Ground Level:	National Grid Co-ordinate:	Sheet:					
į	5417	771	End:	04.1	1.20		E:129880.0 N:723517.0						
Sam Depth	ples a	nd In-sit	tu Tests Results	Water	Backfill		Description of Strata						
	1	В	results			Light grey speckled what fragments. Gravel is predominantly fine to med Trial pit terminated at 0.1	ite gravelly fine to coarse SAND wi subangular to subrounded fine to dium of mixed lithologies. 5m depth.	th shell	,	gend 2s			

### General Remarks

1. Grab sample retrieved from seabed level to 0.15m depth.

Method Used: Hand dug Plant Used: Hand tools Scale: 1:25

All dimensions in metres Scale: 1:25

Logged Sy: ZCockburn Checked < Redacted > By: ZCockburn Sy: Checked < Redacted > By: Checked < Redac





Contract:		Client:		Trial Pit:			
Iona and Fi	onnphort	A	rgyll & Bute Council			C	<b>310</b>
Contract Ref:	Start: <b>04.11.20</b> G	Ground Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:129880.0 N:723517.0		2	of	2

### G10 0.00-0.15m



GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method Used: <b>Hand dug</b>	Plant Used: <b>Hand tools</b>	Logged By: ZCockburn	Checked < Redacted > By:
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Contract:		Client:		Trial Pit:	:		
Iona and Fig	onnphort	Ar	gyll & Bute Council			(	G11
Contract Ref:	Start: <b>04.11.20</b>	Ground Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:129786.0 N:723382.0		1	of	2

5	5417	771	End:	04.11	1.20		E:129786.0 N:723382.0	1	of <b>2</b>
Samp Depth	oles a	nd In-sit	tu Tests Results	Water	Backfill	De	escription of Strata	Dept (This	th Materia Ck Graphi Legend
0.00-0.15	1	В				Light grey speckled white fir	ne to medium SAND with shell fragmen	ts	7. 7. 7.
					*****	Trial pit terminated at 0.15m	n depth.	0.18	<u> </u>
								-	
								-	
								-	
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								-	
								-	
								-	

### General Remarks

1. Grab sample retrieved from seabed level to 0.15m depth.

		All dimension	ons in metres	Scale:	1:25
Method Used: <b>Hand dug</b>	Plant Used:	Hand tools	Logged By: <b>Z</b>	Cockburn	Checked < Redacted > By:





Contract:		Client:		Trial Pit:			
Iona and Fi	onnphort	Ar	gyll & Bute Council			C	<b>311</b>
Contract Ref:	Start: <b>04.11.20</b> G	Ground Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:129786.0 N:723382.0		2	of	2

### G11 0.00-0.15m



GINT\_LIBRARY V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow: Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008. Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:46 | LB9 |

Method Used: Hand dug Plant Used: Hand tools Logged By: ZCockburn Checked By:	ked <redacted></redacted>
---	---------------------------



### GRABIOG

0													.00
Contract:							CI	lient:			Trial	Pit:	
	lo	na an	d Fio	nnph	ort			Ar	gyll & But	e Council			G12
Contract Re	f:			Start:	04.1	1.20	Ground L	_evel:	National G	rid Co-ordinate:	Shee	t:	
	541	771		End:	04.1	1.20			E:129	965.0 N:72348	2.0	1	of <b>2</b>
Sam	ples a	and In-si	tu Tests	i	Water	Backfill			Description	of Strata		Depth (Thick	Material Graphic
Depth	No	Type	Res	sults	\$	Ba			Docomption	or otrata		ness)	Legend
0.00-0.15	1	В					Light g fragmer		s subangular	fine to coarse SAN to subrounded fin		0 4 5	: 0:

Берш	INO	* * *	CSUILS	>	ш		ness)	Lege
0.00-0.15	1	В				Light grey speckled white gravelly fine to coarse SAND with shell fragments. Gravel is subangular to subrounded fine to coarse	0.15	·o ·
					XXXXXX	predominantly fine to medium of mixed lithologies.	- 0.13	· . <i>O</i> .
						Trial pit terminated at 0.15m depth.		
						mai pit terminated at 0.10m deptin.		
•								
							-	
-								
							[	
							[	
•							[	
							[	
							[	
						General Remarks		
1. Grab s	ample	e retrieved fro	m seabed l	level t	o 0.15ı	m depth.		
						All dimensions in metres Scale: 1:25		
Method Used:		and dug	Plant Used			All dimensions in metres Scale: 1:25  Logged Checked <red 1:25="" <red="" all="" by:="" by:<="" checked="" dimensions="" in="" metres="" scale:="" td="" zcockburn=""><td>dacted:</td><td>&gt;   A(</td></red>	dacted:	>   A(

### General Remarks





Contract:		Client:		Trial Pit:			
Iona and Fi	onnphort	Ar	gyll & Bute Council			(	<b>312</b>
Contract Ref:	Start: <b>04.11.20</b>	Ground Level:	National Grid Co-ordinate:	Sheet:			
541771	End: <b>04.11.20</b>		E:129965.0 N:723482.0		2	of	2

### G12 0.00-0.15m



GINT\_LIBRARY\_V10\_01.GLB LibVersion: v8\_07\_001 PŋVersion: v8\_07 | Log TRIAL PIT LOG - NO PLAN - A4P | 541771-IONA-AND-FIONNPHORT.GPJ - v10\_01.
Structural Solis Litd, Branch Office - Glasgow: 65 Sussex Street, Glasgow, Scotland, G41 1DX. Tel: 0141 332 8440, Fax: 0141 332 8008, Web: www.solis.co.uk, Email: ask@solis.co.uk. | 04/12/20 - 16:47 | LB9 |

Method Used: <b>Hand dug</b>	Plant Used:	Hand tools	Logged By:	ZCockburn	Checked < Redacted > By:
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### LABORATORY TEST CERTIFICATE



10 Queenslie Point Queenslie Industrial Estate 120 Stepps Road Glasgow

Tel: 0141 774 4032

G33 3NQ

email: info@mattest.org Website: www.mattest.org

Certificate No : 20/1077 - 01

Client : Structural Soils Ltd.

65 Sussex Street Glasgow

Zoe Cockburn

G41 1DX

Dear Sirs,

To:

#### LABORATORY TESTING OF SOIL

#### Introduction

We refer to samples taken from Iona & Fionnphort and delivered to our laboratory on 13th November 2020.

#### **Material & Source**

Sample Reference : See Report Plates

Sampled By : Client

Sampling Certificate : Not Supplied

Location : See Report Plates

Description : See Page 2

Date Sampled : Not Supplied

Date Tested : 13th November 2020 Onwards

Source : 541771 - Iona & Fionnphort

### Test Results;

As Detailed On Page 2 to Page 17 inclusive

### Comments:

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. This report should not be reproduced except in full without the written approval of the laboratory. All remaining samples for this project will be disposed of 28 days after issue of this test certificate.

### Remarks;

Approved for Issue		
	Date	27/11/2020
T McLelland (Director)	_	



Issue No. 01 Page 1 of 17



BOREHOLE	SAMPLE	DEPTH (m)	SAMPLE DESCRIPTION
G1	B1	0.00-0.15	Grey fine to medium SAND.
G2	B1	0.00-0.15	Grey fine to coarse SAND and GRAVEL with organic fibres. Gravel is fine to coarse.
G3	B1	0.00-0.15	Brown fine to coarse SAND and GRAVEL.
G4	B1	0.00-0.15	Grey slightly clayey fine to coarse SAND.
G5	B1	0.00-0.15	Grey gravelly fine to coarse SAND with shell fragments. Gravel is fine to medium.
G6	B1	0.00-0.15	Grey slightly gravelly fine to coarse SAND with shell fragments. Gravel is fine to medium.
<b>G</b> 7	B1	0.00-0.15	Grey slightly gravelly fine to coarse SAND with shell fragments. Gravel is fine.
G8	B1	0.00-0.15	Grey slightly gravelly fine to coarse SAND. Gravel is fine.
G9	B1	0.00-0.15	Grey gravelly fine to coarse SAND. Gravel is fine to medium.
G10	B1	0.00-0.15	Grey fine to coarse SAND and GRAVEL with shell fragments and seaweed.
G11	B1	0.00-0.15	Brown / grey fine to coarse SAND.
G12	B1	0.00-0.15	Grey fine to coarse SAND.

### **SUMMARY OF SAMPLE DESCRIPTIONS**

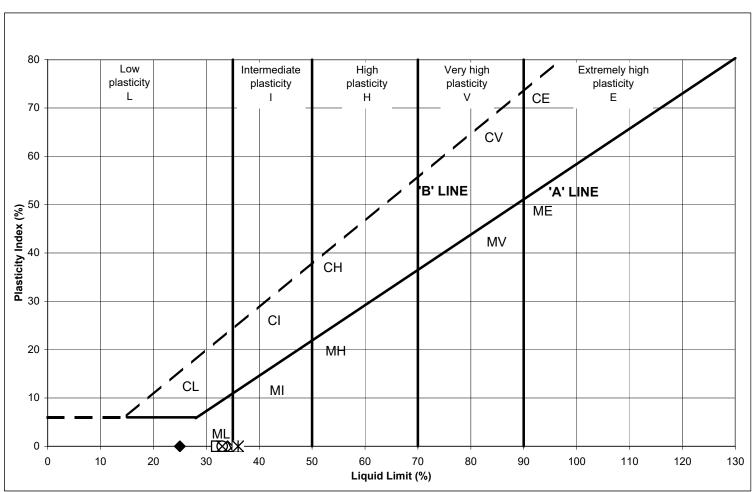


BOREHOLE	SAMPLE	DEPTH (m)	MOISTURE CONTENT (%)
G1	B1	0.00-0.15	31
G2	B1	0.00-0.15	23
G3	B1	0.00-0.15	17
G4	B1	0.00-0.15	31
G5	B1	0.00-0.15	27
G6	B1	0.00-0.15	29
G7	B1	0.00-0.15	32
G8	B1	0.00-0.15	30
G9	B1	0.00-0.15	31
G10	B1	0.00-0.15	16
G11	B1	0.00-0.15	35
G12	B1	0.00-0.15	30

Tested in accordance with BS 1377: Part 2: 1990: Clause 3

### **SUMMARY OF MOISTURE CONTENT TEST RESULTS**



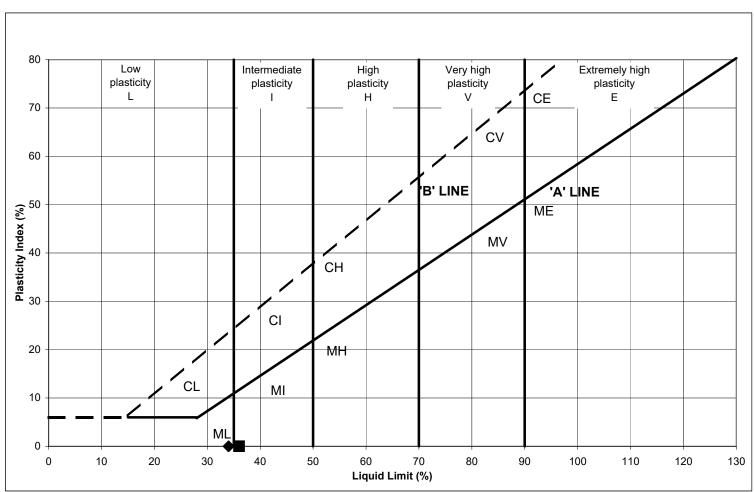


Symbol	Borehole	Sample	Depth	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% Passing 0.425mm Sieve	Remarks
	G1	B1	0.00-0.15	31	36	Non Plastic	Non Plastic	99	
•	G2	B1	0.00-0.15	23	25	Non Plastic	Non Plastic	49	
<b>A</b>	G3	B1	0.00-0.15	17	32	Non Plastic	Non Plastic	30	
•	G4	B1	0.00-0.15	31	32	Non Plastic	Non Plastic	98	
	G5	B1	0.00-0.15	27	32	Non Plastic	Non Plastic	81	
<b>\langle</b>	G6	B1	0.00-0.15	29	34	Non Plastic	Non Plastic	83	
Δ	G7	B1	0.00-0.15	32	34	Non Plastic	Non Plastic	43	
0	G8	B1	0.00-0.15	30	33	Non Plastic	Non Plastic	45	
×	G9	B1	0.00-0.15	31	33	Non Plastic	Non Plastic	68	
Ж	G10	B1	0.00-0.15	16	36	Non Plastic	Non Plastic	26	

All samples were tested in accordance with BS 1377 : Part 2 : 1990 Clause 4.4, 5.3 and 5.4. All samples were washed on a 0.425mm test sieve prior to test.

### **SUMMARY OF ATTERBERG LIMITS TEST RESULTS**





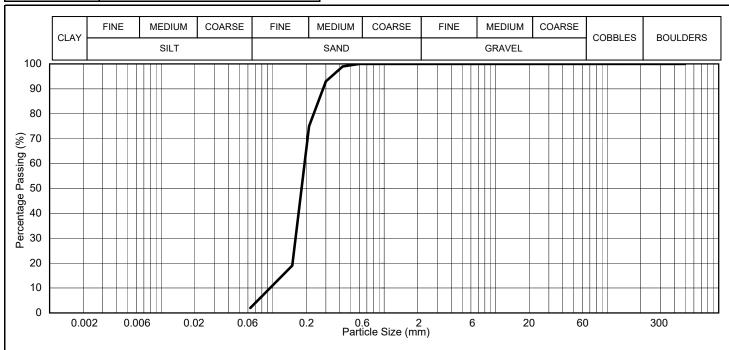
Symbol	Borehole	Sample	Depth	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% Passing 0.425mm Sieve	Remarks
	G11	B1	0.00-0.15	35	36	Non Plastic	Non Plastic	62	
•	G12	B1	0.00-0.15	30	34	Non Plastic	Non Plastic	99	
<b>A</b>									
•									
$\Diamond$									
Δ									
0									
×									
*									

All samples were tested in accordance with BS 1377 : Part 2 : 1990 Clause 4.4, 5.3 and 5.4. All samples were washed on a 0.425 mm test sieve prior to test.

### **SUMMARY OF ATTERBERG LIMITS TEST RESULTS**



Borehole	G1
Sample	B1
Depth (m)	0.00-0.15

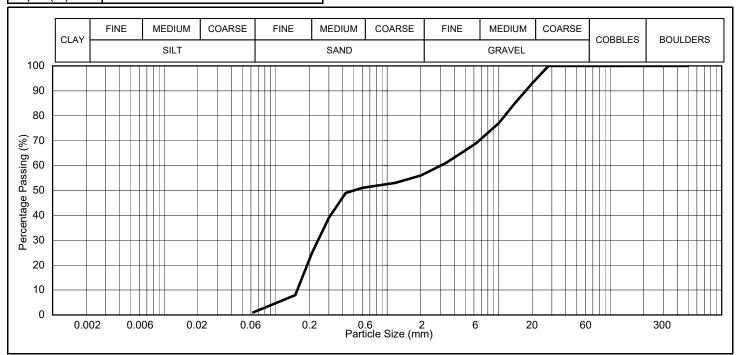


	SIEVING				S	EDIMENT	ATION	
	Percentage Passing	Specif	Specification					
Sieve Size (mm)	(%)	Not Applicable		Particle Size (mm)		າ) F	Percentage	Passing (%)
	(70)	Lower %	Upper %					
500.0	100	-	-		0.020			
300.0	100	-	-		0.006			
125.0	100	-	-		0.002			
90.0	100	-	-					
75.0	100	-	-	GRAI	DING CLA	SSIFICATI	ON (SHW	TABLE 6/2)
63.0	100	-	-					
50.0	100	-	-			-		
37.5	100	-	-					e relevant grading
28.0	100	-	-		•	r testing may	be required to	assess
20.0	100	-	-	compliance with SHW.				
14.0	100	-	-					
10.0	100	-	-		PERC	ENTAGE S	SOIL TYPE	S
6.30	100	-	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES
5.00	100	-	-	CLAI	SILI T	SAND	GRAVEL	COBBLES
3.35	100	-	-	1	2	98	0	0
2.00	100	-	-					
1.18	100	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)
0.600	100	-	-		10	<b>D</b>	60	
0.425	99	-	-	D10		ט	00	Specification
0.300	93	-	-		-		-	
0.212	75	-	-	UNIFORMITY COEFFICIEN		FICIENT	-	-
0.150	19	-	-					
0.063	2	-	-					

### Remarks



Borehole	G2
Sample	B1
Depth (m)	0.00-0.15

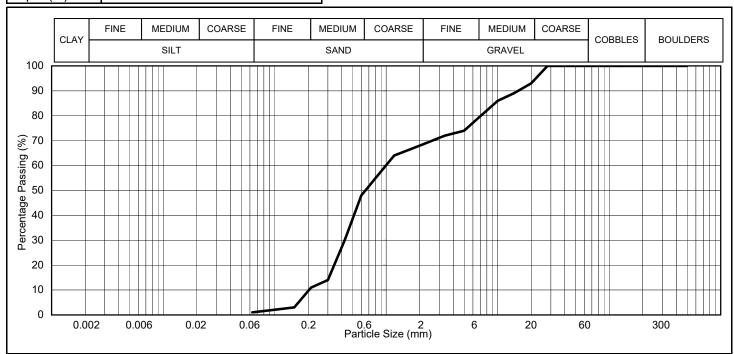


SIEVING				SEDIMENTATION				
	Percentage Passing	Specif	ication					
Sieve Size (mm)	(%)		plicable	Particl	Particle Size (mm)		Percentage Passing (%)	
	(70)	Lower %	Upper %					
500.0	100	•	-		0.020			
300.0	100	•	-		0.006			
125.0	100	•	-		0.002			
90.0	100	•	-					
75.0	100	•	-	GRAI	DING CLAS	SSIFICATI	ON (SHW	TABLE 6/2)
63.0	100	•	-					
50.0	100	•	-			-		
37.5	100	•	-					e relevant grading
28.0	100	-	-		,	r testing may	be required to	assess
20.0	93	-	-	compliance v	WITH SHVV.			
14.0	85	-	-					
10.0	77	-	-		PERC	ENTAGE S	SOIL TYPE	S
6.30	69	•	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES
5.00	66	•	-	CLAI	SILI T	SAND	GRAVEL	COBBLES
3.35	61	•	-	1	1	55	44	0
2.00	56	•	-					
1.18	53	•	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	<b>LE 6/1 NOTE 5)</b>
0.600	51	-	-	D40 DC0				
0.425	49	-	-	D10 D60 Spec			<b>Specification</b>	
0.300	39	•	-			-		
0.212	25	•	-	UNIFORM	IITY COEF	FICIENT	-	-
0.150	8	•	-					
0.063	1	-	-					

### Remarks



Borehole	G3
Sample	B1
Depth (m)	0.00-0.15

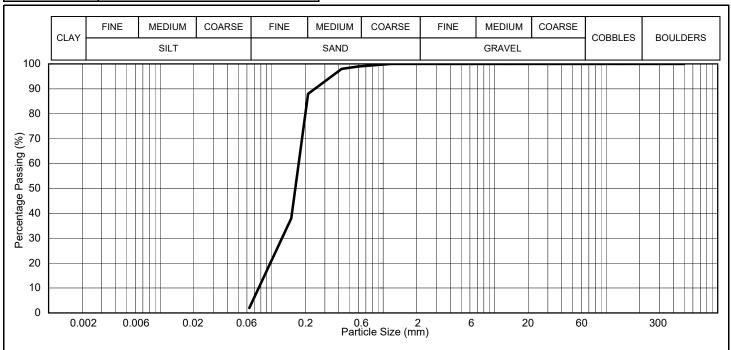


SIEVING				SEDIMENTATION				
	Percentage Passing	•	ication					
Sieve Size (mm)	(%)		plicable		Particle Size (mm)		Percentage Passing (%)	
	(70)	Lower %	Upper %					
500.0	100	•	-		0.020			
300.0	100	•	-		0.006			
125.0	100	•	-		0.002			
90.0	100	-	-					
75.0	100	-	-	GRAI	DING CLA	SSIFICATI	ON (SHW	TABLE 6/2)
63.0	100	-	-					
50.0	100	-	-			•		
37.5	100	-	-					e relevant grading
28.0	100	-	-		,	r testing may	be required to	assess
20.0	93	-	-	compliance v	with SHVV.			
14.0	89	-	-					
10.0	86	-	-		PERC	ENTAGE S	<b>SOIL TYPE</b>	S
6.30	78	-	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES
5.00	74	-	-	CLAT	SILI T	SAND	GRAVEL	COBBLES
3.35	72	-	-	1	1	67	32	0
2.00	68	-	-					
1.18	64	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)
0.600	48	-	-	D40 DC0				
0.425	30	-	-	D10 D60 Spec			Specification	
0.300	14	-	-			-		
0.212	11	-	-	UNIFORM	IITY COEF	FICIENT	-	-
0.150	3	-	-					
0.063	1	-	_					

### Remarks



Borehole	G4
Sample	B1
Depth (m)	0.00-0.15

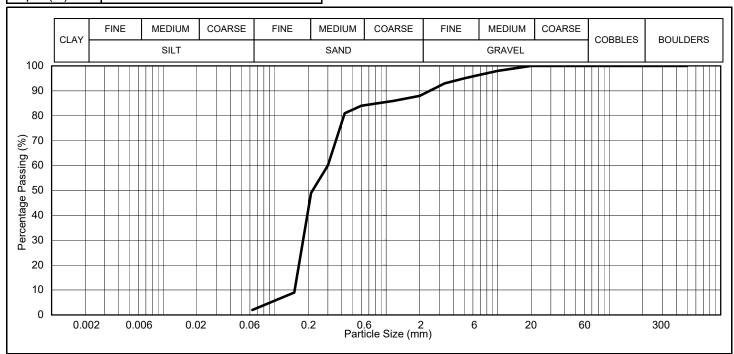


SIEVING				SEDIMENTATION				
	Percentage Passing	Specif	ication					
Sieve Size (mm)		Not Ap	plicable	Particle Size (mm)		n) F	Percentage	Passing (%)
	(%)	Lower %	Upper %					
500.0	100	•	-		0.020			
300.0	100	•	-		0.006			
125.0	100	-	-		0.002			
90.0	100	-	-					
75.0	100	-	-	GRAI	DING CLA	SSIFICATI	ON (SHW	TABLE 6/2)
63.0	100	-	-					
50.0	100	-	-			-		
37.5	100	-	-					e relevant grading
28.0	100	-	-		,	r testing may	be required to	assess
20.0	100	-	-	compliance v	vith SHW.			
14.0	100	-	-					
10.0	100	-	-		PERC	ENTAGE S	SOIL TYPE	S
6.30	100	-	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES
5.00	100	-	-	CLAT	SILI T	SAND	GRAVEL	COBBLES
3.35	100	-	-	1	2	98	0	0
2.00	100	-	-					
1.18	100	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)
0.600	99	-	-	D40 DC0				
0.425	98	•	-	D10		u	D60 Specifi	
0.300	93	•	-	-			-	
0.212	88	•	-	UNIFORM	ITY COEF	FICIENT	-	-
0.150	38	•	-					
0.063	2	-	-					

### Remarks



Borehole	G5
Sample	B1
Depth (m)	0.00-0.15

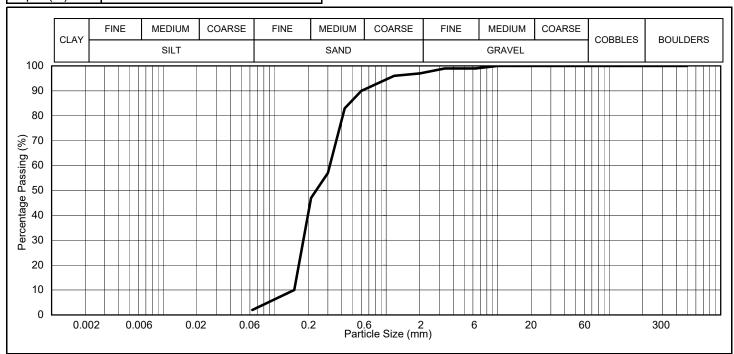


SIEVING				SEDIMENTATION					
	Percentage Passing	Specif	ication						
Sieve Size (mm)	(%)		plicable	Particl	e Size (mn	າ) F	Percentage Passing		
	(70)	Lower %	Upper %						
500.0	100	-	-		0.020				
300.0	100	-	-		0.006				
125.0	100	-	-		0.002				
90.0	100	-	-						
75.0	100	-	-	GRAI	DING CLAS	SSIFICATI	ON (SHW	TABLE 6/2)	
63.0	100	-	-						
50.0	100	-	-			-			
37.5	100	-	-					e relevant grading	
28.0	100	-	-		•	r testing may	be required to	assess	
20.0	100	-	-	compliance v	vith SHW.				
14.0	99	-	-						
10.0	98	-	-		PERC	ENTAGE S	SOIL TYPE	S	
6.30	96	-	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES	
5.00	95	-	-	CLAI	SILI T	SAND	GRAVEL	COBBLES	
3.35	93	-	-	1	2	86	12	0	
2.00	88	-	-						
1.18	86	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)	
0.600	84	-	-	D40 DC0					
0.425	81	-	-	D10 D60 Spe			Specification		
0.300	60	-	-	-			-		
0.212	49	-	-	UNIFORM	ITY COEF	FICIENT	-	-	
0.150	9	-	-						
0.063	2	-	-						

### Remarks



Borehole	G6
Sample	B1
Depth (m)	0.00-0.15

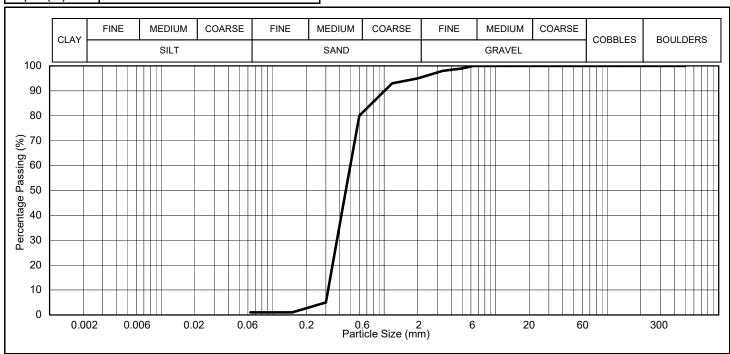


SIEVING					S	EDIMENT	ATION	
	Percentage Passing	Specif	ication					
Sieve Size (mm)	(%)		plicable	Particl	Particle Size (mm)		Percentage Passing (%)	
	(70)	Lower %	Upper %					
500.0	100	•	-		0.020			
300.0	100	•	-		0.006			
125.0	100	•	-		0.002			
90.0	100	•	-					
75.0	100	•	-	GRAI	DING CLAS	SSIFICATI	ON (SHW	TABLE 6/2)
63.0	100	•	-					
50.0	100	•	-			-		
37.5	100	•	-					e relevant grading
28.0	100	•	-		,	r testing may	be required to	assess
20.0	100	-	-	compliance v	WITH SHVV.			
14.0	100	-	-					
10.0	100	-	-		PERC	ENTAGE S	SOIL TYPE	S
6.30	99	•	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES
5.00	99	•	-	CLAI	SILI T	SAND	GRAVEL	COBBLES
3.35	99	•	-	1	2	95	3	0
2.00	97	•	-					
1.18	96	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)
0.600	90	-	-	D40 DC0				
0.425	83	-	-	D10 D60 Spe		Specification		
0.300	57	•	-			-		
0.212	47	•	-	UNIFORM	IITY COEF	FICIENT	-	-
0.150	10	•	-					
0.063	2	•	-					

### Remarks



Borehole	G7
Sample	B1
Depth (m)	0.00-0.15

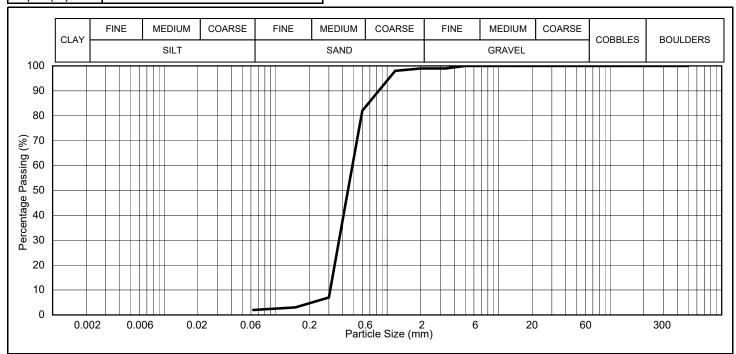


SIEVING				SEDIMENTATION					
	Percentage Passing	Specif	ication						
Sieve Size (mm)		Not Ap	plicable	Particl	e Size (mn	n) F	Percentage Passing (%)		
	(%)	Lower %	Upper %						
500.0	100	-	-		0.020				
300.0	100	-	-		0.006				
125.0	100	-	-		0.002				
90.0	100	-	-			•			
75.0	100	-	-	GRAI	DING CLA	SSIFICATI	ON (SHW	TABLE 6/2)	
63.0	100	-	-						
50.0	100	-	-			-			
37.5	100	-	-					e relevant grading	
28.0	100	-	-		,	r testing may	be required to	assess	
20.0	100	-	-	compliance v	vith SHW.				
14.0	100	-	-						
10.0	100	-	-		PERC	ENTAGE S	SOIL TYPE	S	
6.30	100	-	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES	
5.00	99	-	-	CLAT	SILI +	SAND	GRAVEL	COBBLES	
3.35	98	-	-	1	1	94	5	0	
2.00	95	-	-						
1.18	93	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)	
0.600	80	-	-	D40 D00					
0.425	43	-	-	D10 D60 Spec			Specification		
0.300	5	-	-						
0.212	3	-	-	UNIFORM	ITY COEF	FICIENT	-	-	
0.150	1	-	-						
0.063	1	•	-						

### Remarks



Borehole	G8
Sample	B1
Depth (m)	0.00-0.15

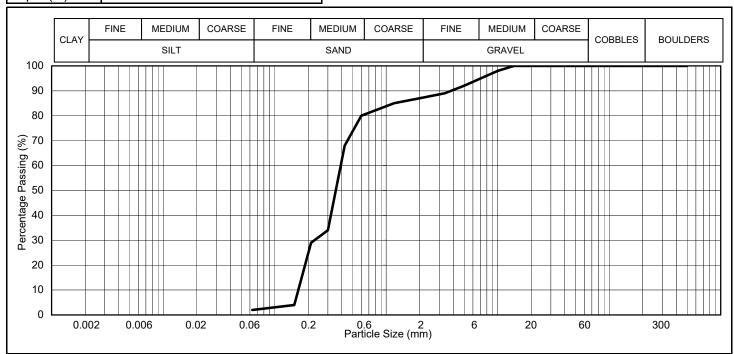


SIEVING				SEDIMENTATION					
	Percentage Passing		ication						
Sieve Size (mm)	(%)		plicable	Particle Size (mm)		n) F	Percentage	Passing (%)	
	(70)	Lower %	Upper %						
500.0	100	•	-		0.020				
300.0	100	•	-		0.006				
125.0	100	•	-		0.002				
90.0	100	-	-						
75.0	100	-	-	GRAI	DING CLA	SSIFICATI	ON (SHW '	TABLE 6/2)	
63.0	100	-	-						
50.0	100	-	-			-			
37.5	100	-	-					e relevant grading	
28.0	100	-	-		•	r testing may	be required to	assess	
20.0	100	-	-	compliance v	with SHW.				
14.0	100	-	-						
10.0	100	-	-		PERC	ENTAGE S	SOIL TYPE	S	
6.30	100	-	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES	
5.00	100	-	-	CLAT	SILI +	SAND	GRAVEL	COBBLES	
3.35	99	-	-	1	2	97	1	0	
2.00	99	-	-		-	-			
1.18	98	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)	
0.600	82	-	-	D40 D00					
0.425	45	-	-	- D10 D60		80	Specification		
0.300	7	-	-	-			-		
0.212	5	-	-	UNIFORM	IITY COEF	FICIENT	-	-	
0.150	3	-	-						
0.063	2	-	-						

### Remarks



Borehole	G9
Sample	B1
Depth (m)	0.00-0.15

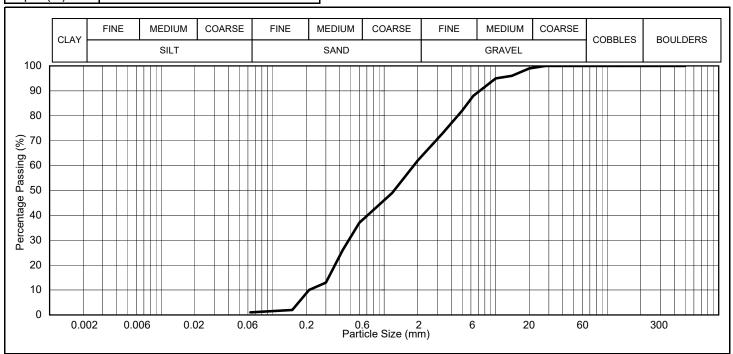


SIEVING					S	EDIMENT	ATION	
	Percentage Passing	Percentage Passing Specification						
Sieve Size (mm)	(%)		plicable	Particle Size (mm)		n) F	Percentage	Passing (%)
	(70)	Lower %	Upper %		, ,			
500.0	100	•	-		0.020			
300.0	100	•	-		0.006			
125.0	100	-	-		0.002			
90.0	100	-	-					
75.0	100	-	-	GRAI	DING CLA	SSIFICATI	ON (SHW	TABLE 6/2)
63.0	100	-	-					
50.0	100	-	-			-		
37.5	100	-	-					e relevant grading
28.0	100	-	-		,	r testing may	be required to	assess
20.0	100	-	-	compliance v	vith SHW.			
14.0	100	-	-					
10.0	98	-	-		PERC	ENTAGE S	SOIL TYPE	S
6.30	94	-	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES
5.00	92	-	-	CLAT	SILI T	SAND	GRAVEL	COBBLES
3.35	89	-	-	1	2	85	13	0
2.00	87	-	-					
1.18	85	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)
0.600	80	-	-					-
0.425	68	-	-	D10		ט	00	Specification
0.300	34	-	-	-			-	
0.212	29	-	-	UNIFORM	ITY COEF	FICIENT	-	-
0.150	4	-	-					
0.063	2	-	-					

### Remarks



Borehole	G10
Sample	B1
Depth (m)	0.00-0.15

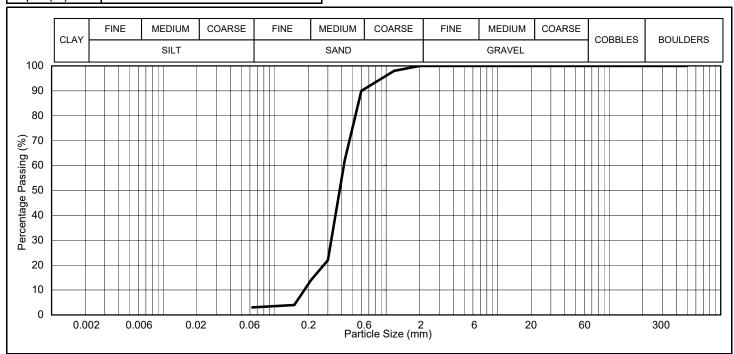


SIEVING					S	EDIMENT	ATION	
	Percentage Passing	•	ication					
Sieve Size (mm)	(%)		plicable		Particle Size (mm)		Percentage Passing (%)	
	(70)	Lower %	Upper %					
500.0	100	•	-		0.020			
300.0	100	•	-		0.006			
125.0	100	•	-		0.002			
90.0	100	•	-					
75.0	100	•	-	GRAI	DING CLAS	SSIFICATI	ON (SHW '	TABLE 6/2)
63.0	100	•	-					
50.0	100	•	-			-		
37.5	100	•	-					e relevant grading
28.0	100	•	-		,	r testing may	be required to	assess
20.0	99	-	-	compliance v	WITH SHVV.			
14.0	96	-	-					
10.0	95	-	-		PERC	ENTAGE S	SOIL TYPE	S
6.30	88	•	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES
5.00	82	•	-	CLAI	SILI T	SAND	GRAVEL	COBBLES
3.35	73	•	-	1	1	61	38	0
2.00	62	•	-					
1.18	49	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	_E 6/1 NOTE 5)
0.600	37	-	-	D40 DC0				
0.425	26	-	-	- D10 D60 s		Specification		
0.300	13	•	-			-		
0.212	10	•	-	UNIFORM	IITY COEF	FICIENT	-	-
0.150	2	•	-					
0.063	1	-	-					

### Remarks



Borehole	G11
Sample	B1
Depth (m)	0.00-0.15

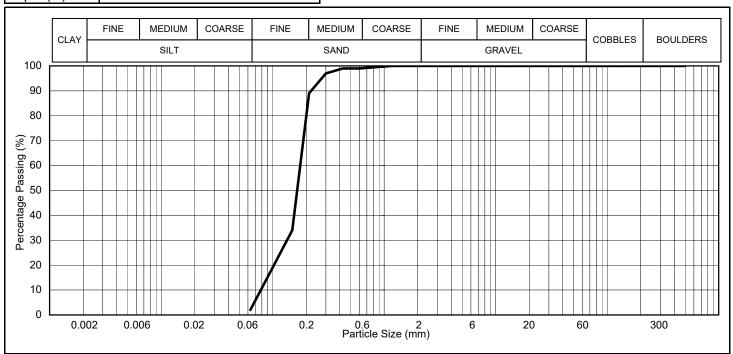


SIEVING					S	EDIMENT	ATION	
	Percentage Passing	Specif	ication					
Sieve Size (mm)	(%)		plicable	Particl	Particle Size (mm)		Percentage Passing (%)	
	(70)	Lower %	Upper %					
500.0	100	•	-		0.020			
300.0	100	•	-		0.006			
125.0	100	-	-		0.002			
90.0	100	-	-					
75.0	100	-	-	GRAI	DING CLA	SSIFICATI	ON (SHW	TABLE 6/2)
63.0	100	-	-					
50.0	100	-	-			-		
37.5	100	-	-					e relevant grading
28.0	100	-	-		,	r testing may	be required to	assess
20.0	100	-	-	compliance v	with SHW.			
14.0	100	-	-					
10.0	100	-	-		PERC	ENTAGE S	SOIL TYPE	S
6.30	100	-	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES
5.00	100	-	-	CLAT	SILI +	SAND	GRAVEL	COBBLES
3.35	100	-	-	1	3	97	0	0
2.00	100	-	-					
1.18	98	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)
0.600	90	-	-					
0.425	62	-	-	- D10 D60		Specification		
0.300	22	-	-	-			-	
0.212	14	-	-	UNIFORM	IITY COEF	FICIENT	-	-
0.150	4	-	-					
0.063	3	-	_					

### Remarks



Borehole	G12
Sample	B1
Depth (m)	0.00-0.15



SIEVING				SEDIMENTATION					
	Percentage Passing	Specif	ication						
Sieve Size (mm)		Not Ap	plicable	Particl	Particle Size (mm)		Percentage Passing (%)		
	(%)	Lower %	Upper %						
500.0	100	-	-		0.020				
300.0	100	-	-		0.006				
125.0	100	-	-		0.002				
90.0	100	-	-			•			
75.0	100	-	-	GRAI	DING CLA	SSIFICATI	ON (SHW	TABLE 6/2)	
63.0	100	-	-						
50.0	100	-	-			-			
37.5	100	-	-					e relevant grading	
28.0	100	-	-		,	r testing may	be required to	assess	
20.0	100	-	-	compliance v	vith SHW.				
14.0	100	-	-						
10.0	100	-	-		PERC	ENTAGE S	SOIL TYPE	S	
6.30	100	-	-	CLAY	SILT Ŧ	SAND	GRAVEL	COBBLES	
5.00	100	-	-	CLAT	SILI T	SAND	GRAVEL	COBBLES	
3.35	100	-	-	1	2	98	0	0	
2.00	100	-	-						
1.18	100	-	-	UNIFORM	IITY COEF	FICIENT (	SHW TABI	E 6/1 NOTE 5)	
0.600	99	-	-	D10 D60					
0.425	99	•	-	D10			00	Specification	
0.300	97	•	-	-			-		
0.212	89	•	-	UNIFORM	ITY COEF	FICIENT	-	-	
0.150	34	•	-						
0.063	2	-	-						

### Remarks



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

Test Report ID	MAR00820	)
Issue Version	1	
Customer	Structural Sc	oils Ltd, 65 Sussex Street, Glasgow, G41 1DX
Customer Reference	Iona & Fionn	phort
Date Sampled	04-05/11/20	20
Date Received	09-Nov-20	
Date Reported	30-Nov-20	
Condition of samples	Cold	Satisfactory

### <Redacted>

Authorised by: Marya Hubbard

Position: Laboratory Manager

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



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

Test Report ID MAR00820

Issue Version

1

Customer Reference

Iona & Fionnphort

		Units	%	%	%	%	%	Mg/m3
		Method No	ASC/SOP/303	ASC/SOP/303	SUB_01*	SUB_01*	SUB_01*	SOCOTEC Doncaster*
		Limit of Detection	0.2	0.2	N/A	N/A	N/A	N/A
		Accreditation	UKAS	UKAS	N	N	N	N
Client Reference:	SOCOTEC Ref:	Matrix	Total Moisture @ 120°C	Total Solids	Gravel (>2mm)	Sand (63-2000 µm)	Silt (<63 µm)	Particle Density
BHF1 ES101 0.00-0.15m	MAR00820.001	Sediment	26.8	73.2	0.0	99.7	0.3	2.73
BHF1 ES102 0.15-0.50m	MAR00820.002	Sediment	21.0	79.0	15.7	83.3	1.0	2.69
BHF2 ES101 0.00-0.15m	MAR00820.003	Sediment	30.3	69.7	0.0	99.2	0.8	2.73
BHF2 ES102 0.20-0.58m	MAR00820.004	Sediment	23.7	76.3	50.0	48.9	1.2	2.74
BHF3 ES101 0.00-0.15m	MAR00820.005	Sediment	25.9	74.1	0.8	98.1	1.1	2.74
BHF3 ES102 0.15-0.55m	MAR00820.006	Sediment	21.5	78.5	25.3	73.1	1.6	2.74
BHI1 ES101 0.00-0.15m	MAR00820.007	Sediment	24.4	75.6	0.0	98.9	1.1	2.69
BHI1 ES102 0.20-0.70m	MAR00820.008	Sediment	25.9	74.1	2.9	93.3	3.8	2.63
BHI2 ES101 0.00-0.15m	MAR00820.009	Sediment	23.6	76.4	10.8	88.0	1.1	2.75
BHI2 ES102 0.15-0.45m	MAR00820.010	Sediment	20.9	79.1	36.8	61.5	1.7	2.70
BHI3 ES101 0.00-0.15m	MAR00820.011	Sediment	24.8	75.2	0.0	99.0	1.0	2.69
BHI3 ES102 0.15-0.40m	MAR00820.012	Sediment	22.4	77.6	0.0	98.5	1.5	2.73
BHI3 ES103 0.40-0.65m	MAR00820.013	Sediment	24.1	75.9	0.0	98.2	1.8	2.71
	Reference Material (% Recovery)		N/A	N/A	N/A	N/A	N/A	N/A
		QC Blank	N/A	N/A	N/A	N/A	N/A	N/A

<sup>\*</sup> See Report Notes

NAIIS - No Asbestos Identified In Sample



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

Test Report ID MAR00820

Issue Version

1

Customer Reference

Iona & Fionnphort

		Units	N/A	% M/M	
		Method No	SUB_02*	SOCOTEC Env Chem*	
		Limit of Detection	N/A	0.02	
		Accreditation	UKAS	UKAS	
Client Reference:	SOCOTEC Ref:	Matrix	Asbestos	TOC	
BHF1 ES101 0.00-0.15m	MAR00820.001	Sediment	NAIIS	0.29	
BHF1 ES102 0.15-0.50m	MAR00820.002	Sediment	NAIIS	0.19	
BHF2 ES101 0.00-0.15m	MAR00820.003	Sediment	NAIIS	0.24	
BHF2 ES102 0.20-0.58m	MAR00820.004	Sediment	NAIIS	0.09	
BHF3 ES101 0.00-0.15m	MAR00820.005	Sediment	NAIIS	0.26	
BHF3 ES102 0.15-0.55m	MAR00820.006	Sediment	NAIIS	0.21	
BHI1 ES101 0.00-0.15m	MAR00820.007	Sediment	NAIIS	0.24	
BHI1 ES102 0.20-0.70m	MAR00820.008	Sediment	NAIIS	0.26	
BHI2 ES101 0.00-0.15m	MAR00820.009	Sediment	NAIIS	0.21	
BHI2 ES102 0.15-0.45m	MAR00820.010	Sediment	NAIIS	0.13	
BHI3 ES101 0.00-0.15m	MAR00820.011	Sediment	NAIIS	0.20	
BHI3 ES102 0.15-0.40m	MAR00820.012	Sediment	NAIIS	0.16	
BHI3 ES103 0.40-0.65m	MAR00820.013	Sediment	NAIIS	0.18	
	Reference Material (% Recovery)				
		QC Blank	N/A	<0.02	

<sup>\*</sup> See Report Notes

NAIIS - No Asbestos Identified In Sample



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

Test Report ID MAR00820

Issue Version

Customer Reference Iona & Fionnphort

		Units				mg/Kg (D	ry Weight)			
		Method No				SOCOTEC	Env Chem*			
		Limit of Detection	0.5	0.04	0.5	0.5	0.01	0.5	0.5	2
		Accreditation	UKAS	UKAS	UKAS	UKAS	N	UKAS	UKAS	UKAS
Client Reference:	SOCOTEC Ref:	Matrix	Arsenic	Cadmium	Chromium	Copper	Mercury	Nickel	Lead	Zinc
BHF1 ES101 0.00-0.15m	MAR00820.001	Sediment	3.1	0.11	7.7	8.0	0.03	6.2	4.9	27.7
BHF1 ES102 0.15-0.50m	MAR00820.002	Sediment	2.1	0.09	4.2	5.3	0.01	4.3	2.7	6.6
BHF2 ES101 0.00-0.15m	MAR00820.003	Sediment	1.5	0.12	5.3	4.5	0.01	5.1	2.8	8.4
BHF2 ES102 0.20-0.58m	MAR00820.004	Sediment	1.7	0.09	8.4	6.6	<0.01	7.9	3.0	11.4
BHF3 ES101 0.00-0.15m	MAR00820.005	Sediment	2.1	0.13	4.9	6.2	0.03	5.0	2.8	4.9
BHF3 ES102 0.15-0.55m	MAR00820.006	Sediment	4.5	0.16	6.2	5.8	0.05	6.7	4.2	18.7
BHI1 ES101 0.00-0.15m	MAR00820.007	Sediment	1.3	0.14	4.5	4.4	0.06	4.6	2.7	4.7
BHI1 ES102 0.20-0.70m	MAR00820.008	Sediment	1.2	0.20	5.2	4.5	0.04	5.2	4.4	11.8
BHI2 ES101 0.00-0.15m	MAR00820.009	Sediment	1.2	0.14	4.9	5.2	0.02	5.3	2.9	9.4
BHI2 ES102 0.15-0.45m	MAR00820.010	Sediment	2.0	0.18	8.9	13.1	0.02	13.4	3.5	18.4
BHI3 ES101 0.00-0.15m	MAR00820.011	Sediment	1.3	0.14	7.6	6.2	0.02	6.3	2.6	10.4
BHI3 ES102 0.15-0.40m	MAR00820.012	Sediment	0.9	0.15	7.9	4.9	0.03	6.1	3.1	12.8
BHI3 ES103 0.40-0.65m	MAR00820.013	Sediment	1.1	0.17	7.4	5.0	0.03	5.8	4.2	11.2
Certified	d Reference Material SET	TOC 774 (% Recovery)	100	110	105	107	103	103	101	103
		QC Blank	<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

<sup>\*</sup> See Report Notes



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

Test Report ID MAR00820

Issue Version

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Customer Reference

Iona & Fionnphort

		Units	μg/Kg (D	ry Weight)
		Method No	ASC/S	OP/301
		Limit of Detection	1	1
		Accreditation	UKAS	UKAS
Client Reference:	SOCOTEC Ref:	Matrix	Dibutyltin (DBT)	Tributyltin (TBT)
BHF1 ES101 0.00-0.15m	MAR00820.001	Sediment	<5	7.00
BHF1 ES102 0.15-0.50m	MAR00820.002	Sediment	<5	6.81
BHF2 ES101 0.00-0.15m	MAR00820.003	Sediment	<5	11.3
BHF2 ES102 0.20-0.58m	MAR00820.004	Sediment	<5	<5
BHF3 ES101 0.00-0.15m	MAR00820.005	Sediment	<5	<5
BHF3 ES102 0.15-0.55m	MAR00820.006	Sediment	<5	<5
BHI1 ES101 0.00-0.15m	MAR00820.007	Sediment	<5	<5
BHI1 ES102 0.20-0.70m	MAR00820.008	Sediment	<5	7.18
BHI2 ES101 0.00-0.15m	MAR00820.009	Sediment	<5	<5
BHI2 ES102 0.15-0.45m	MAR00820.010	Sediment	<5	<5
BHI3 ES101 0.00-0.15m	MAR00820.011	Sediment	<5	<5
BHI3 ES102 0.15-0.40m	MAR00820.012	Sediment	<5	<5
BHI3 ES103 0.40-0.65m	MAR00820.013	Sediment	<5	8.32
C	ertified Reference Material B	CR-646 (% Recovery)	80	72
<u> </u>	<u>-                                    </u>	QC Blank	<1	<1

<sup>\*</sup> See Report Notes



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

Test Report ID MAR00820

Issue Version

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Customer Reference

Iona & Fionnphort

		Units	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
BHF1 ES101 0.00-0.15m	MAR00820.001	Sediment	<1	<1	<1	<1	<1	<1
BHF1 ES102 0.15-0.50m	MAR00820.002	Sediment	<1	<1	<1	<1	<1	<1
BHF2 ES101 0.00-0.15m	MAR00820.003	Sediment	<1	<1	<1	<1	<1	<1
BHF2 ES102 0.20-0.58m	MAR00820.004	Sediment	<1	<1	<1	<1	<1	<1
BHF3 ES101 0.00-0.15m	MAR00820.005	Sediment	<1	<1	<1	<1	<1	<1
BHF3 ES102 0.15-0.55m	MAR00820.006	Sediment	<1	<1	<1	<1	<1	1.20
BHI1 ES101 0.00-0.15m	MAR00820.007	Sediment	<1	<1	<1	<1	<1	<1
BHI1 ES102 0.20-0.70m	MAR00820.008	Sediment	<1	<1	<1	1.03	1.47	1.92
BHI2 ES101 0.00-0.15m	MAR00820.009	Sediment	<1	<1	1.52	1.50	<1	1.15
BHI2 ES102 0.15-0.45m	MAR00820.010	Sediment	<1	<1	<1	<1	<1	<1
BHI3 ES101 0.00-0.15m	MAR00820.011	Sediment	<1	<1	<1	<1	<1	<1
BHI3 ES102 0.15-0.40m	MAR00820.012	Sediment	<1	<1	<1	<1	<1	<1
BHI3 ES103 0.40-0.65m	MAR00820.013	Sediment	<1	<1	<1	<1	<1	1.21
Ce	rtified Reference Material QPF	1098MS (% Recovery)	100	120	110	110	98	100
		QC Blank	<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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

 $<sup>\</sup>sim$  Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.



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

Test Report ID MAR00820

Issue Version

1

Customer Reference

Iona & Fionnphort

		Units	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
BHF1 ES101 0.00-0.15m	MAR00820.001	Sediment	<1	<1	<1	<1	<1	<1
BHF1 ES102 0.15-0.50m	MAR00820.002	Sediment	<1	<1	<1	<1	<1	<1
BHF2 ES101 0.00-0.15m	MAR00820.003	Sediment	<1	<1	<1	<1	<1	<1
BHF2 ES102 0.20-0.58m	MAR00820.004	Sediment	<1	<1	<1	<1	<1	<1
BHF3 ES101 0.00-0.15m	MAR00820.005	Sediment	<1	<1	<1	<1	<1	<1
BHF3 ES102 0.15-0.55m	MAR00820.006	Sediment	<1	<1	<1	<1	1.78	<1
BHI1 ES101 0.00-0.15m	MAR00820.007	Sediment	<1	<1	<1	<1	<1	<1
BHI1 ES102 0.20-0.70m	MAR00820.008	Sediment	1.70	<1	1.44	<1	1.17	<1
BHI2 ES101 0.00-0.15m	MAR00820.009	Sediment	1.25	<1	1.83	<1	2.02	<1
BHI2 ES102 0.15-0.45m	MAR00820.010	Sediment	<1	<1	<1	<1	<1	<1
BHI3 ES101 0.00-0.15m	MAR00820.011	Sediment	<1	<1	<1	<1	<1	<1
BHI3 ES102 0.15-0.40m	MAR00820.012	Sediment	<1	<1	<1	<1	<1	<1
BHI3 ES103 0.40-0.65m	MAR00820.013	Sediment	<1	<1	<1	<1	1.16	<1
Cer	rtified Reference Material QPI	1098MS (% Recovery)	90	85	110	98	100	120
		QC Blank	<1	<1	<1	<1	<1	<1

For full analyte name see method summaries

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Test Report ID MAR00820

Issue Version

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Customer Reference

Iona & Fionnphort

		Units	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
BHF1 ES101 0.00-0.15m	MAR00820.001	Sediment	<1	<1	<1	<1	6630
BHF1 ES102 0.15-0.50m	MAR00820.002	Sediment	<1	<1	<1	<1	988
BHF2 ES101 0.00-0.15m	MAR00820.003	Sediment	<1	<1	<1	<1	2630
BHF2 ES102 0.20-0.58m	MAR00820.004	Sediment	<1	<1	<1	<1	1360
BHF3 ES101 0.00-0.15m	MAR00820.005	Sediment	<1	<1	<1	<1	6100
BHF3 ES102 0.15-0.55m	MAR00820.006	Sediment	<1	<1	2.60	2.68	4600
BHI1 ES101 0.00-0.15m	MAR00820.007	Sediment	<1	<1	<1	<1	2660
BHI1 ES102 0.20-0.70m	MAR00820.008	Sediment	1.46	<1	1.53	2.37	5720
BHI2 ES101 0.00-0.15m	MAR00820.009	Sediment	<1	<1	1.37	2.60	3090
BHI2 ES102 0.15-0.45m	MAR00820.010	Sediment	<1	<1	<1	1.16	1510
BHI3 ES101 0.00-0.15m	MAR00820.011	Sediment	<1	<1	<1	<1	2750
BHI3 ES102 0.15-0.40m	MAR00820.012	Sediment	<1	<1	<1	<1	1690
BHI3 ES103 0.40-0.65m	MAR00820.013	Sediment	<1	<1	1.59	1.89	3040
	Certified Reference Material QPI	1098MS (% Recovery)	74	96	99	100	102~
		QC Blank	<1	<1	<1	<1	<100

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.



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Issue Version

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Customer Reference

Iona & Fionnphort

		Units	μg/Kg (Dry Weight)						
		Method No	ASC/SOP/302						
		Limit of Detection	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		Accreditation	UKAS						
Client Reference:	SOCOTEC Ref:	Matrix	PCB28	PCB52	PCB101	PCB118	PCB138	PCB153	PCB180
BHF1 ES101 0.00-0.15m	MAR00820.001	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHF1 ES102 0.15-0.50m	MAR00820.002	Sediment	0.09	0.09	<0.08	<0.08	<0.08	<0.08	<0.08
BHF2 ES101 0.00-0.15m	MAR00820.003	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHF2 ES102 0.20-0.58m	MAR00820.004	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHF3 ES101 0.00-0.15m	MAR00820.005	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHF3 ES102 0.15-0.55m	MAR00820.006	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHI1 ES101 0.00-0.15m	MAR00820.007	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHI1 ES102 0.20-0.70m	MAR00820.008	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHI2 ES101 0.00-0.15m	MAR00820.009	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHI2 ES102 0.15-0.45m	MAR00820.010	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHI3 ES101 0.00-0.15m	MAR00820.011	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHI3 ES102 0.15-0.40m	MAR00820.012	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
BHI3 ES103 0.40-0.65m	MAR00820.013	Sediment	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Certific	ed Reference Material QOR	136 MS (% Recovery)	105	107	99	94	99	122	69
<u> </u>	·	QC Blank	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

For full analyte name see method summaries

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



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1

Customer Reference

Iona & Fionnphort

		Units	μg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	N*	UKAS
Client Reference:	SOCOTEC Ref:	Matrix	AHCH	внсн	GHCH	DIELDRIN	НСВ	DDE	DDT	DDD
BHF1 ES101 0.00-0.15m	MAR00820.001	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHF1 ES102 0.15-0.50m	MAR00820.002	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHF2 ES101 0.00-0.15m	MAR00820.003	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHF2 ES102 0.20-0.58m	MAR00820.004	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHF3 ES101 0.00-0.15m	MAR00820.005	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHF3 ES102 0.15-0.55m	MAR00820.006	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHI1 ES101 0.00-0.15m	MAR00820.007	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHI1 ES102 0.20-0.70m	MAR00820.008	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHI2 ES101 0.00-0.15m	MAR00820.009	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHI2 ES102 0.15-0.45m	MAR00820.010	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHI3 ES101 0.00-0.15m	MAR00820.011	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHI3 ES102 0.15-0.40m	MAR00820.012	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BHI3 ES103 0.40-0.65m	MAR00820.013	Sediment	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ce	ertified Reference Material QOR	136 MS (% Recovery)	96~	86~	88~	92~	64	96	138	75
		QC Blank	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

For full analyte name see method summaries

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

<sup>\*</sup> See Report Notes



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

Test Report ID MAR00820

Issue Version 1

Customer Reference Iona & Fionnphort

#### REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
SOCOTEC Env Chem*	MAR00820.001-013	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
SOCOTEC Doncaster*	MAR00820.001-013	Analysis was conducted by an internal SOCOTEC laboratory.
SUB_01*	MAR00820.001-013	Analysis was conducted by an approved subcontracted laboratory.
SUB_02*	MAR00820.001-013	Analysis was conducted by an approved subcontracted laboratory.
ASC/SOP/301	MAR00820.001-013	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	MAR00820.001-013	One of the Primary process control data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with DDT falling outside acceptable limits. DDT is a known problem compound that can breakdown into DDD and DDE . These circumstances should be taken into consideration when utilising the data and in line with our QMS policy we have removed accreditation, where applicable.
ASC/SOP/303/304	MAR00820.008-009	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	Handling Time Exceeded	N/A	N/A
D3	Sample Contaminated through Damaged Packaging	N/A	N/A
D4	Sample Contaminated through Sampling	N/A	N/A
D5	Inappropriate Container/Packaging	N/A	N/A
D6	Damaged in Transit	N/A	N/A
D7	Insufficient Quantity of Sample	N/A	N/A
D8	Inappropriate Headspace	N/A	N/A
D9	Retained at Incorrect Temperature	N/A	N/A
D10	Lack of Date & Time of Sampling	N/A	N/A
D11	Insufficient Sample Details	N/A	N/A
D12	Sample integrity compromised or not suitable for analysis	N/A	N/A



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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.
Total Organic Carbon (TOC)	Wet Sediment	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
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.
Organochlorine Pesticides (OCPs)	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'-Dichorodiphenyldichloroethane				
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	DDE	p,p'-Dichorodiphenyldicloroethylene				
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	DDT	p,p'-Dichorodiphenyltrichloroethane				
C1N	C1-naphthalenes	PHENANT	Phenanthrene		•				
C1PHEN	C1-phenanthrene	PYRENE	Pyrene	1					