



Ardersier Port Ardersier Sediment Assessment



November 2018

Ardersier Port

Ardersier Sediment Assessment

Client: CWC Group

Document number: 8478
Project number: 671549
Status: Final

Author: [Red
Reviewer: [Redact

Date of issue: 15 November 2018
Filename: CWC Group

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1 INTRODUCTION

In September 2018 EnviroCentre were commissioned by the Ardersier Port to provide technical support in relation to the proposed development at the site. The works were commissioned to build upon previous sediment assessment work undertaken at the site by EnviroCentre (as detailed in Report No 5436 dated May 2013).

This report details an update of this assessment incorporating additional information obtained from grab sampling works undertaken in November 2018.

The purpose of these samples is to provide supporting information to Marine Scotland during the licensing process on sediment quality within the proposed dredge areas. The dredging and disposal activities are regulated by Marine Scotland under the Marine (Scotland) Act 2010. The licensing conditions require representative samples to be collected and the nature (i.e. physical composition), quality and contamination status to be determined.

1.1 Report Usage

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1.2 Proposed Development

The proposed redevelopment at the Ardersier Port involves construction of new quayside with associated dredging at the berth and navigation channel along with construction facilities to cater for vessels and structures associated with normal port operations.

To cater for the envisaged sea traffic, the dredged access channel will be 120m wide with a dredge depth of - 6.5m Chart Datum. This will allow safe access at all states of tide. In addition, a minor element of dredging will be undertaken in the inner channel to a depth of -3m CD (approximately 2-3% of the total dredge).

Dredging will take place in two distinct and separate operations, an initial capital dredge to create the design channel and subsequent maintenance dredging to maintain the channel dimensions. The total volume of material dredged during the capital dredge is estimated to be 2,300,000m³ which will comprise mainly of sand with some gravel.

It is intended to use this material where possible for beneficial reuse. The main uses identified to date are the requirement for bulk fill to embankments for the proposed A96 trunk road construction material and ballast for offshore gravity base foundations for wind turbines.

1.3 Historic Dredging

Since the construction of the fabrication yard at Ardersier in 1972, dredging of the access channel has been a regular occurrence. Initial development of the yard area saw the formation of the channel with the dredged material being pumped ashore for land reclamation purposes. With the construction phase completed, subsequent channel dredging operations were carried out with dredged material being placed at the spoil ground on Whiteness Sands.

The line of the navigation channel formed was fit for purpose taking into account of the type of vessels which would be using it – in the case of McDermott Ardersier, this was for ocean going barges laden with significant structures together with attendant ocean going tugs. The line of the channel was therefore kept as straight as possible given the restricted ability of these vessels to manoeuvre in restricted waters. The frequency of use was also generally limited to finished jacket or module float out or to import of subcontracted elements of particular projects.

The channel width was nominally 100m with the dredge depth taking account of the particular vessels using the channel but dredge depth was typically to 4m below Chart Datum – Admiralty Chart 1077 indicates a dredge depth to 4.7m below Chart Datum. The frequency of channel dredging was dependant on two factors, first the float out draught requirements of the transportation barge with the completed structure and secondly the rate at which siltation in the channel had occurred since the previous dredge.

Observations on the sedimentation of the channel were that it was very much dependant on the wind direction, with the channel general being fairly static except during easterly gales when more significant change occurred. The timing of the maintenance dredges were generally to coincide with structures leaving the yard or vessels entering, and the size of these reflected the amount of material dredged.

1.4 Dredging Operations

Dredging will take place under two distinct and separate operations – firstly, an initial capital dredge will take place to form the new access channel as previously described and secondly, maintenance dredging will take place during following years to maintain the marine access channel to its designed line and level.

1.4.1 Capital Dredging

A comprehensive hydrographic survey has been carried out (June 2018) to update survey data in the area and dredge volumes calculated. On the basis of these surveys and the required channel geometry, it is estimated that 2,300,000m³ of material requires to be dredged. This survey work will be repeated immediately prior to dredging operations commencing to confirm the final volumes of dredge material.

The most appropriate form of dredging would be to use a cutter suction, given the nature and volume of material to be excavated and potentially the timeframe for carrying out the works. Final selection of the dredging plant will be subject to normal tendering processes but it is considered that cutter suction dredging as being most likely option. The cutter suction dredger is a self propelled vessel using a rotating head to loosen the sea bed with the material being connected to a suction tube. Pumps subsequently discharge the material to the disposal points by either barge or more likely in this case by pipeline. The pipelines would either be

floating or placed on the seabed or existing land, dependant on site conditions. Cutter suction dredging has been used previously at the site.

2 SEDIMENT ASSESSMENT

2.1 2013 Investigation Approach

In 2013 Port of Ardersier contracted Envirocentre Ltd. to undertake the collection of samples from 6 borehole and 18 grab sediment samples to assess the sediment condition at the site.

The purpose of these samples was to provide supporting information to Marine Scotland during the licensing process on sediment quality within the proposed dredge area.

2.1.1 Sampling Locations

Figure 1 in Appendix A details the sample locations.

Six borehole locations and 19 grab locations were located within the proposed dredge area were identified by the Client as identified in Figure 1.

The following table summarises the sample location information:

Table 2.1: Summary of Samples

Name	Easting	Northing	Comment
Grab 1	279665	859342	Retained by EnviroCentre for analysis
Grab 3	279569	859291	Retained by EnviroCentre for analysis
Grab 5	279687	859184	Retained by EnviroCentre for analysis
Grab 7	279806	859077	Retained by EnviroCentre for analysis
Grab 9	279710	859026	Retained by EnviroCentre for analysis
Grab 11	279828	858919	Retained by EnviroCentre for analysis
Grab 13	279947	858812	Retained by EnviroCentre for analysis
Grab 15	279851	858761	Retained by EnviroCentre for analysis
Grab 16	279997	858617	Retained by EnviroCentre for analysis
Grab 17	280103	858617	Retained by EnviroCentre for analysis
Grab 18	280044	858518	Retained by EnviroCentre for analysis
Grab 19	280166	858542	Retained by EnviroCentre for analysis
Grab 20	280300	858585	Retained by EnviroCentre for analysis

Grab 21	280230	858466	Retained by EnviroCentre for analysis
Grab 22	280366	858466	Retained by EnviroCentre for analysis
Grab 23	280502	858465	Retained by EnviroCentre for analysis
Grab 24	280431	858347	Retained by EnviroCentre for analysis
Grab 25	280241	858415	Retained by EnviroCentre for analysis
Grab 26	280346	858353	Retained by EnviroCentre for analysis
BH10	279982	858750	Retained by EnviroCentre for analysis
BH11	279932	858724	Retained by EnviroCentre for analysis
BH12	279982	858697	Retained by EnviroCentre for analysis
BH15	280029	858526	Retained by EnviroCentre for analysis
BH18	280172	858438	Retained by EnviroCentre for analysis
BH24	280400	858303	Retained by EnviroCentre for analysis

2.1.2 Sampling Methodology

Grab sampling was undertaken on 12th and 13th March 2013 during daylight hours. Borehole drilling was undertaken over two periods, from 5th -12th February 2013 (BH10, 11 and 12) and 11th- 13th March (BH 15, 18 and 24). The following sections detail the sampling methodology used to retrieve sediment samples from the harbour and boreholes.

2.1.3 Sampling

Grab sampling was undertaken from a boat hired from Caley Marina. Borehole drilling works was undertaken by Blake Geoservices Limited. A shell and auger drill rig was utilised for the drilling works to allow collection of samples. Sampling was undertaken by EnviroCentre Limited and Blake Geoservices under supervision of EnviroCentre Limited.

2.1.4 Navigation and Sample Location

The vessel was navigated to the sampling location using GPS equipment. Sample co-ordinates are provided in Appendix B. The borehole locations were identified on site utilising GPS equipment and staked out prior to drilling.

2.1.5 Sample Retrieval

Once on location, grab samples were procured utilising a Van Veen grab. The grab can procure 0.045m³ of sediment upon deployment.

Sampling from borehole locations was undertaken by hand.

Table 2.2: Summary of Samples

Sample Location	Sample Recovery Time	Sampled Recovery (m)	Core Length	Number of Attempts & Return Depths	Sediment Description
Grab 1	9.45am	0.1m		2	Fine to medium brown sand
Grab 3	12.30pm	0.1m		7	Medium brown sand and gravel
Grab 5	12.15pm	0.1m		2	Fine to medium sand
Grab 7	12.10pm	0.1m		1	Fine to medium sand
Grab 9	12.05pm	0.1m		1	Fine to medium sand
Grab 11	10.50am	0.1m		2	Fine to medium sand
Grab 13	10.35am	0.1m		2	Fine to medium sand
Grab 15	13.00pm	0.1m		2	Fine to medium sand
Grab 16	11.00am	0.1m		2	Fine to medium sand
Grab 17	11.15am	0.1m		2	Fine to coarse sand
Grab 19	13.20pm	0.1m		2	Medium to coarse sand
Grab 20	11.45am	0.1m		1	Fine to medium sand
Grab 21	10.40am	0.1m		1	Fine to medium sand
Grab 22	12.00pm	0.1m		1	Fine to medium sand
Grab 23	11.30am	0.1m		1	Fine to medium sand
Grab 24	11.00am	0.1m		2	Fine sand
Grab 25	10.20am	0.1m		1	Fine to medium sand
Grab 26	10.30am	0.1m		1	Fine to medium sand
BH10	05/02/13	15.00m		1	Varies from gravel to fine sand
BH11	07/02/13	15.00m		1	Fine to coarse sand

BH12	12/02/13	15.00m	1	Fine to coarse sand
BH15	11/3/13	15.00m	1	Ranging from made ground to fine sand (note made ground above mean high water spring)
BH18	13/3/13	14.00m	1	Ranging from made ground to fine sand (note made ground above mean high water spring)
BH24	12/3/13	14.50m	1	Ranging from made ground to fine sand (note made ground above mean high water spring)

2.1.6 Sample Preparation

Grabs were collected as a single sample for analysis while borehole locations were subdivided into samples from every metre. Key samples throughout the borehole core (deemed to be top, middle and bottom – 0.5m, 8.0m and 14m) were also scheduled. In addition samples at 6.0m were scheduled within boreholes BH10, BH11 and BH12 to provide further information for samples in the middle of the core.

The stainless steel (organic analysis) and plastic sampling spoons (inorganic analysis) were cleaned with seawater between samples. Once samples had been placed within appropriate containers, they were labelled and placed immediately into cool boxes with 2 x 2kg bags of ice to cool the samples prior to dispatch to ESG Scientifics for analysis.

2.2 2018 Sampling Approach

An additional round of grab sampling was undertaken in November 2018 by Blake Geoservices. Figure 2 in Appendix A details the sample locations as provided by the client.

A total of 19 grab samples were collected.

The following table summarises the sample location information:

Table 2.3: Summary of Samples

Name	Easting	Northing	Comment
Grab 27	280618	858533	Retained by Blake Geoservices for analysis
Grab 28	280756	858477	Retained by Blake Geoservices for analysis
Grab 29	280726	858438	Retained by Blake Geoservices for analysis
Grab 30	280878	858369	Retained by Blake Geoservices for analysis
Grab 31	280559	858428	Retained by Blake Geoservices for analysis

Grab 32	280665	858363	Retained by Blake Geoservices for analysis
Grab 33	280754	858304	Retained by Blake Geoservices for analysis
Grab 34	280870	858231	Retained by Blake Geoservices for analysis
Grab 35	280578	858341	Retained by Blake Geoservices for analysis
Grab 36	280696	858284	Retained by Blake Geoservices for analysis
Grab 37	280791	858225	Retained by Blake Geoservices for analysis
Grab 38	280505	858338	Retained by Blake Geoservices for analysis
Grab 39	280618	858277	Retained by Blake Geoservices for analysis
Grab 40	280707	858225	Retained by Blake Geoservices for analysis
Grab 41	280824	858158	Retained by Blake Geoservices for analysis
Grab 42	280896	858115	Retained by Blake Geoservices for analysis
Grab 43	281326	857857	Retained by Blake Geoservices for analysis
Grab 44	281399	857814	Retained by Blake Geoservices for analysis
Grab 45	281453	857887	Retained by Blake Geoservices for analysis

2.2.1 Sampling Methodology

Grab sampling was undertaken on the 12th and 13th November 2018 by Blake Geoservices.

2.2.2 Navigation and Sample Location

The vessel was navigated to the sampling location using GPS equipment. Sample co-ordinates are provided in Appendix B.

2.2.3 Sample Retrieval

Once on location, grab samples were procured utilising a Van Veen grab. The grab can procure 0.045m³ of sediment upon deployment.

Table 2.4: Summary of Samples

Sample Location	Sampled Core Recovery Length (m)	Sediment Description
Grab 27	0.1m	Brown Sand and Gravel
Grab 28	0.1m	Brown Sandy Gravel

Grab 29	0.1m	Brown Silty Sand
Grab 30	0.1m	Brown slightly silty gravelly sand
Grab 31	0.1m	Brown silty sand
Grab 32	0.1m	Brown silty sand
Grab 33	0.1m	Brown slightly silty sand
Grab 34	0.1m	Brown and black silty sand
Grab 35	0.1m	Brown silty sand
Grab 36	0.1m	Brown slightly silty sand
Grab 37	0.1m	Black and brown silty sand
Grab 38	0.1m	Black silty sand
Grab 39	0.1m	Black and brown silty sand
Grab 40	0.1m	Black and brown silty sand
Grab 41	0.1m	Black silty sand
Grab 42	0.1m	Black silty sand
Grab 43	0.1m	Black silty sand
Grab 44	0.1m	Black silty sand
Grab 45	0.1m	Black silty sand

3 ANALYTICAL RESULTS

The analytical results for both sampling periods are detailed in the following sections. The analytical results are provided within Appendix B.

3.1 Physical Analysis

3.1.1 Particle Size Distribution (PSD)

Particle Size Distribution data for each sample is included within Appendix B. Sediments sampled within the harbour are reported as being gravels to silts. Field descriptions of the sediments and accompanying comment on sedimentology are included within Appendix B within the logs. Descriptions for each of the samples are provided in Table 3.1.

Table 3.1: Particle Size Analysis Results

Sample ID	Description
Grab 1	Sand
Grab 3	Silt with gravel
Grab 5	Sand
Grab 7	Sand
Grab 9	Sand
Grab 11	Sand
Grab 13	Sand with gravel
Grab 15	Sand with gravel
Grab 16	Sand with gravel
Grab 17	Sand
Grab 19	Silt with gravel
Grab 20	Sand
Grab 21	Sand
Grab 22	Sand
Grab 23	Sand
Grab 24	Sand with gravel

Grab 25	Sand
Grab 26	Sand
BH10-0.8	Gravelly silty sand
BH10-6.0	Sand and gravel
BH10-8.0	Gravelly sand
BH10-14.0	Sand
BH11-0.5	Gravelly sand
BH11-6.0	Sand
BH11-8.0	Sand
BH11-14.0	Sand
BH12-0.5	Clayey sand and gravel
BH12-6.0	Sand
BH12-8.0	Sand
BH12-14.0	Sand
BH15-0.5	Sand
BH15-8.0	Sand
BH15-15.0	Sand
BH18-0.5	Sand with gravel
BH18-10.0	Sand
BH18-14.0	Sand
BH24-0.5	Sand with gravel
BH24-8.0	Sand
BH24-14.0	Sand
Grab 27	Brown Sand and Gravel
Grab 28	Brown Sandy Gravel
Grab 29	Brown Silty Sand
Grab 30	Brown slightly silty gravelly sand

Grab 31	Brown silty sand
Grab 32	Brown silty sand
Grab 33	Brown slightly silty sand
Grab 34	Brown and black silty sand
Grab 35	Brown silty sand
Grab 36	Brown slightly silty sand
Grab 37	Black and brown silty sand
Grab 38	Black silty sand
Grab 39	Black and brown silty sand
Grab 40	Black and brown silty sand
Grab 41	Black silty sand
Grab 42	Black silty sand
Grab 43	Black silty sand
Grab 44	Black silty sand
Grab 45	Black silty sand

3.1.2 Total Organic Carbon (TOC)

Table 3.2: TOC Results

Sample ID	Analysis*	Value¹	Units
Grab 1	TOC	0.24	%w/w
Grab 3		0.14	
Grab 5		0.11	
Grab 7		0.09	
Grab 9		0.09	
Grab 11		0.08	

Grab 13		0.08	
Grab 15		0.07	
Grab 16		0.09	
Grab 17		0.10	
Grab 19		0.08	
Grab 20		0.08	
Grab 21		0.11	
Grab 22		0.09	
Grab 23		0.14	
Grab 24		0.27	
Grab 25		0.08	
Grab 26		0.15	
BH10-0.8		0.20	
BH10-6.0		0.12	
BH10-8.0		0.12	
BH10-14.0		0.25	
BH11-0.5		0.08	
BH11-6.0		0.12	
BH11-8.0		0.09	
BH11-14.0		0.16	
BH12-0.5		0.08	
BH12-6.0		0.09	
BH12-8.0		0.10	
BH12-14.0		0.12	

BH15-0.5		0.13	
BH15-8.0		0.09	
BH15-15.0		0.08	
BH18-0.5		0.12	
BH18-10.0		0.08	
BH18-14.0		0.08	
BH24-0.5		0.5	
BH24-8.0		0.07	
BH24-14.0		0.07	
Grab 27			
Grab 28		0.2	
Grab 29		0.1	
Grab 30			
Grab 31			
Grab 32		0.6	
Grab 33		<0.1	
Grab 34		0.8	
Grab 35		<0.1	
Grab 36		<0.1	
Grab 37		0.9	
Grab 38			
Grab 39		0.4	
Grab 40		0.4	
Grab 41		0.4	
Grab 42		1.2	

Grab 43		0.3	
Grab 44		0.1	
Grab 45		0.1	

3.1.3 Moisture Content

Table 3.3: Moisture Content

Sample ID	Analysis*	Value¹	Units
Grab 1	Total Moisture	22.2	%
Grab 3		10.4	
Grab 5		17.1	
Grab 7		19.3	
Grab 9		17.7	
Grab 11		19.2	
Grab 13		16.7	
Grab 15		16.8	
Grab 16		17.4	
Grab 17		17.7	
Grab 19		14.2	
Grab 20		18.7	
Grab 21		18.5	
Grab 22		17.9	
Grab 23		20.8	
Grab 24		21.7	
Grab 25		17.2	
Grab 26		20.4	

BH10-0.8		8.5	
BH10-6.0		9.6	
BH10-8.0		11.8	
BH10-14.0		20.4	
BH11-0.5		3.7	
BH11-6.0		19.1	
BH11-8.0		16.3	
BH11-14.0		8.4	
BH12-0.5		8.3	
BH12-6.0		17.3	
BH12-8.0		16.3	
BH12-14.0		19.6	
BH15-0.5		4.6	
BH15-8.0		17.0	
BH15-15.0		12.3	
BH18-0.5		5.2	
BH18-10.0		18.5	
BH18-14.0		18.6	
BH24-0.5		4.5	
BH24-8.0		18.1	
BH24-14.0		19.3	

3.2 Chemical Analysis

Chemical analysis was only undertaken on the samples collected as part of the 2013 exercise.

For the assessment information from the borehole locations has been utilised to assess the suitability for material for placement as spit replenishment. These results represent quality information from material at depth within the harbour area and are therefore considered appropriate for this assessment.

It is recognised that the sample results date from a period of 5 years ago, however the approach to sampling and the analytical suite applied are still compliant with the approach detailed in the Marine Scotland Pre-Disposal Sampling Guidance.

As the channel was not dredged following the 2013 sampling exercise, the results are considered to still be reflective of the sediment conditions present. It is noted that the site is located in an area that does not have any active industry in the vicinity, and as such there is not considered to be a source that would have impacted the sediment quality in the period since the 2013 assessment.

The PSD and TOC results from both the 2013 and 2018 assessment indicate that the material type is similar, consisting principally of sand with limited organic material.

The results of the 2013 assessment are still considered valid and are detailed below.

3.3 Action Levels – AL1 Vs AL2

Two action levels are currently used to assess the suitability of sea based disposal of dredged sediment material Revised Action Level (RAL1) and Revised (RAL2).

Sediment with contaminant concentrations below RAL1 is generally considered to be below background levels for contamination and is suitable for disposal at sea.

For samples between RAL1 and RAL2, additional risk assessment may be required including further sampling and testing to fully identify pockets of contamination or implementation of bioassays to assess the materials suitability for sea disposal.

Material above RAL2 is generally considered to be unsuitable for disposal to sea. If the sea disposal route is to be pursued, further testing along the lines of bioassay accompanied by a robust justification for selecting sea disposal as the BPEO may be required. This would need to be supported further with additional information regarding any mitigation measures which could be put in place as part of these works. This would require further discussion and agreement with Marine Scotland.

3.3.1 Metals

A summary of the results is provided in Appendix C. One sample (Grab 24) recorded a concentration of zinc which exceeded the Action Level 1. The concentration did not exceed the Action Level 2. No other exceedances were recorded

3.3.2 Tributyl Tin (TBT)

A summary of the results is provided in Appendix C. No samples were recorded with values in excess of either Action Level 1 or Action Level 2.

3.3.3 Polyaromatic Hydrocarbons (PAHs)

A summary of the results is provided in Appendix C. The following samples recorded concentrations in exceedance of Action Level 1:

- BH10-14.0
- BH11-0.5
- BH11-8.0
- BH11-14.0
- Grab 3

There are no Action Level 2 values for PAHs.

3.3.4 Polychlorinated Biphenyls (PCBs) ICEs 7

No PCB congeners from the ICEs 7 list were recorded above AL1 in any of the samples collected.

3.3.5 Asbestos

No asbestos was identified in any of the grab samples collected.

4 SUMMARY

This report details the findings of two sediment sampling exercises undertaken at the Port of Ardersier in 2013 and 2018 to inform the application for a dredge licence for the site.

The works incorporated:

- Thirty eight grabs and six borehole cores were collected from Whiteness. The boreholes were collected up to a depth of 14m.
- The sediment material was classified as varying from gravel through to gravelly silt.

Table 5.1 summarises the results of the chemical laboratory analysis with respect to the Action Levels adopted by Marine Scotland.

Table 4.1: Chemical Analysis Screening Summary

Sample ID	Metals		TBT		PAHs	PCBs	
Action Level	AL1	AL2	AL1	AL2	AL1	AL1	AL2
Grab 1	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 3	Pass	Pass	Pass	Pass	Exceedance for a few PAHs	Pass	Pass
Grab 5	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 7	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 9	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 11	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 13	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 15	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 16	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 17	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 19	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 20	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 21	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 22	Pass	Pass	Pass	Pass	Pass	Pass	Pass

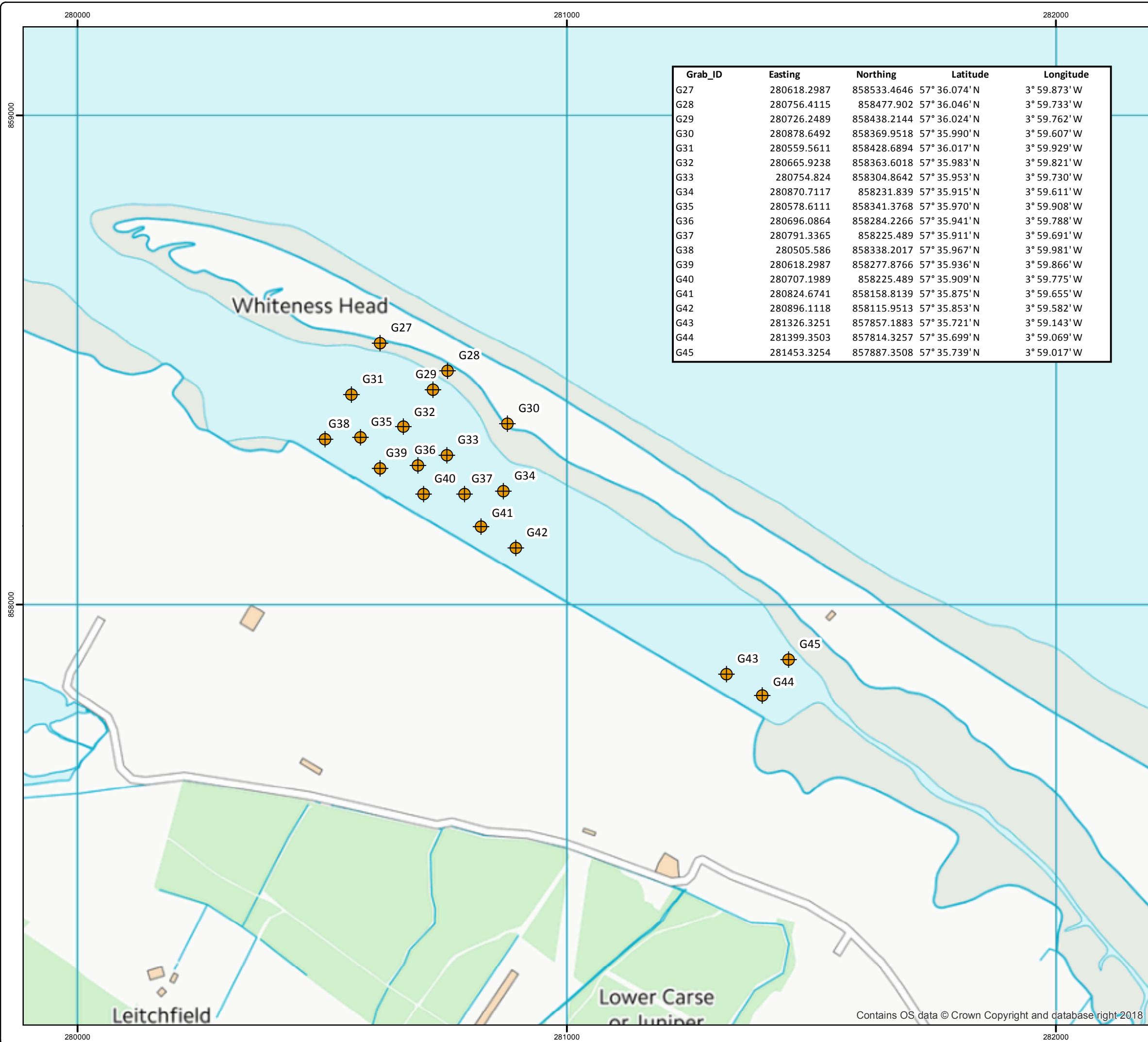
Grab 23	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 24	Exceedance for Zinc	Pass	Pass	Pass	Pass	Pass	Pass
Grab 25	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Grab 26	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH10-0.8	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH10-6.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH10-8.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH10-14.0	Pass	Pass	Pass	Pass	Exceedance for a few PAHs	Pass	Pass
BH11-0.5	Pass	Pass	Pass	Pass	Exceedance for a few PAHs	Pass	Pass
BH11-6.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH11-8.0	Pass	Pass	Pass	Pass	Exceedance for a few PAHs	Pass	Pass
BH11-14.0	Pass	Pass	Pass	Pass	Exceedance for a few PAHs	Pass	Pass
BH12-0.5	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH12-6.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH12-8.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH12-14.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH15-0.5	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH15-8.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH15-15.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH18-0.5	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH18-10.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH18-14.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH24-0.5	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH24-8.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass
BH24-14.0	Pass	Pass	Pass	Pass	Pass	Pass	Pass

REFERENCES

Marine Scotland (2017). *Pre-DredgeSampling Guidance Version 2*: Scottish Government.

APPENDICES

A FIGURES



Legend

Grab Sample Location

Do not scale this map

Client

CWC Group

Project

Arderseir

Title

Grab Sample Locations

Status

DRAFT

Drawing No.

671549-001

Revision

Scale

1:7,500

A3

Date

21 Nov 2018

Drawn

FR

Checked

GD

Approved

GD

Craighall Business Park, Eagle Street, Glasgow, G4 9XA

Tel: 0141 341 5040

Fax: 0141 341 5045

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ALREADY COMPLETE {

BOREHOLE SCHEDULE			
REF.	LOCATION	SEABED LEVEL (C.D.)	BOREHOLE DEPTH (m)
BH10	279982.24E 858750.66N		
BH11	279932.27E 858724.05N		
BH12	279882.30E 858697.44N		
BH15	280129.03E 858467.90N	+5.9	16m
BH18	280172.84E 858438.91N	+5.9	30m
BH24	280400.83E 858303.84N	+5.9	16m

GRAB SAMPLE SCHEDULE									
REF.	APPROX. LOCATION	REF.	APPROX. LOCATION	REF.	APPROX. LOCATION	REF.	APPROX. LOCATION	REF.	APPROX. LOCATION
G1	279665E 859342N	G7	279806E 859077N	G13	279947E 858812N	G19	279947E 858542N	G25	280241E 858415N
G2	REMOVED	G8	REMOVED	G14	REMOVED	G20	280300E 858585N	G26	280346E 858353N
G3	279569E 859291N	G9	279710E 859026N	G15	279851E 858761N	G21	280230E 858466N		
G4	REMOVED	G10	REMOVED	G16	279997E 858617N	G22	280366E 858466N		
G5	279687E 859184N	G11	279828E 858919N	G17	280103E 858617N	G23	280502E 858465N		
G6	REMOVED	G12	REMOVED	G18	280044E 858518N	G24	280431E 858347N		

Yard Level +4.53m O.D. ▽	▽+6.6m C.D.
(2012) MHWS +2.1m O.D. ▽	▽+4.2m C.D.
O.D. ▽	▽+2.1m C.D.
MLWS -1.2m O.D. ▽	▽+0.9m C.D.
-2.1m O.D. ▽	▽C.D.

A.F.Cruden Associates
Consulting Engineers
24 Bank Street
Inverness IV1 1QU
Tel: 01463 719200
Fax: 01463 719201
email: mail@crudens.co.uk

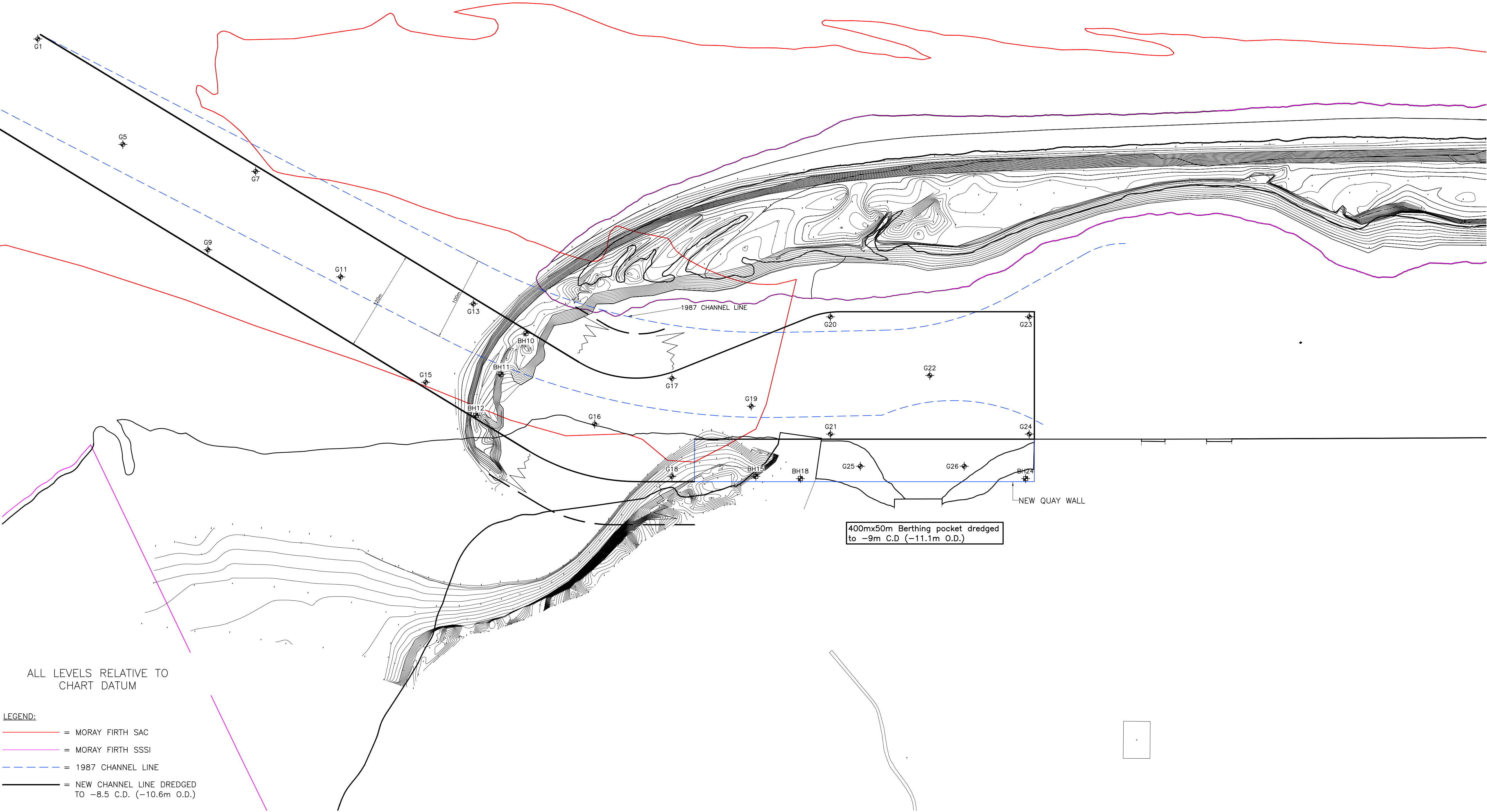
Client:
PORT OF ARDESIER

Project:
ARDESIER PORT
DEVELOPMENT

Drawing
CHANNEL DREDGE
PROPOSED BOREHOLE
& GRAB SAMPLE LOCATIONS

Drawing No. CA4393/1703
Drawn By BT

REV. A
Revisions
A 05/03/13
G2, G4, G6, G8, G10, G12 & G14 REMOVED.
G25 & G26 ADDED.
B 08/03/13
B15 MOVED.



B ANALYTICAL RESULTS

Our Ref: EFS/131753M (Ver. 2)

Your Ref:

April 9, 2013



Environmental Chemistry

ESG

Bretby Business Park

Ashby Road

Burton-on-Trent

Staffordshire

DE15 0YZ

Telephone: 01283 554400

Facsimile: 01283 554422

[Redact]
EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

For the attention of [Redact]

Dear [Reda

Soil Sample Analysis - Whiteness

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 01/05/13 when they will be discarded. Please call 01283 554467 for an extension of this date.

Please be aware that our policy for the retention of paper based laboratory records and analysis reports is 6 years.

The work was carried out in accordance with Environmental Scientifics Group Ltd (Laboratory and Analytical) Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for ESG
[Redacted]

Project Co-ordinator

[Redacted]

TEST REPORT

SOIL SAMPLE ANALYSIS



Report No. EFS/131753M (Ver. 2)

EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

Site: Whiteness

The 9 samples described in this report were registered for analysis by ESG on 20-Mar-2013. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 09-Apr-2013

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS or MCERTS accredited. Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by ESG.

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Table of PAH (MS-SIM) (80) Results (Pages 3 to 11)
Table of PCB Congener Results (Page 12)
Analytical and Deviating Sample Overview (Page 13)
Table of Method Descriptions (Page 14)
Table of Report Notes (Page 15)
Table of Sample Descriptions (Appendix A Page 1 of 1)

[Redacted]

On behalf of

ESG :

[Redacted]

Operations Director
Laboratory and Analytical Business

Date of Issue: 09-Apr-2013

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)

Tests marked 'N' have been subcontracted to another laboratory.

(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.

All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
ESG accepts no responsibility for any sampling not carried out by our personnel.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness
Sample Details: BH15 0.50 **Job Number:** S13_1753M
LIMS ID Number: CL1307549 **Date Booked in:** 20-Mar-13
QC Batch Number: 130265 **Date Extracted:** 28-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 29-Mar-13
Directory: 2813PAH.GC5\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.08	-	UM
Acenaphthylene	208-96-8	-	< 0.08	-	U
Acenaphthene	83-32-9	-	< 0.08	-	UM
Fluorene	86-73-7	-	< 0.08	-	UM
Phenanthrene	85-01-8	-	< 0.08	-	UM
Anthracene	120-12-7	-	< 0.08	-	U
Fluoranthene	206-44-0	-	< 0.08	-	UM
Pyrene	129-00-0	-	< 0.08	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.08	-	UM
Chrysene	218-01-9	-	< 0.08	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.08	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-	UM
Total (USEPA16) PAHs	-	-	< 1.34	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	99
Acenaphthene-d10	98
Phenanthrene-d10	98
Chrysene-d12	101
Perylene-d12	99

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	94
Terphenyl-d14	92

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH15 8.00	Job Number:	S13_1753M
LIMS ID Number:	CL1307550	Date Booked in:	20-Mar-13
QC Batch Number:	130265	Date Extracted:	28-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	29-Mar-13
Directory:	2813PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.54	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	98
Acenaphthene-d10	97
Phenanthrene-d10	99
Chrysene-d12	101
Perylene-d12	96

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	88
Terphenyl-d14	77

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH15 15.00	Job Number:	S13_1753M
LIMS ID Number:	CL1307551	Date Booked in:	20-Mar-13
QC Batch Number:	130265	Date Extracted:	28-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	29-Mar-13
Directory:	2813PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	UM
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	-	< 0.09	-	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	-	< 0.09	-	UM
Pyrene	129-00-0	-	< 0.09	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.09	-	UM
Chrysene	218-01-9	-	< 0.09	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.09	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.09	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.09	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.09	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.09	-	UM
Total (USEPA16) PAHs	-	-	< 1.46	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	99
Acenaphthene-d10	98
Phenanthrene-d10	97
Chrysene-d12	98
Perylene-d12	94

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	94
Terphenyl-d14	91

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH18 0.50	Job Number:	S13_1753M
LIMS ID Number:	CL1307552	Date Booked in:	20-Mar-13
QC Batch Number:	130265	Date Extracted:	28-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	29-Mar-13
Directory:	2813PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.08	-	UM
Acenaphthylene	208-96-8	-	< 0.08	-	U
Acenaphthene	83-32-9	-	< 0.08	-	UM
Fluorene	86-73-7	-	< 0.08	-	UM
Phenanthrene	85-01-8	-	< 0.08	-	UM
Anthracene	120-12-7	-	< 0.08	-	U
Fluoranthene	206-44-0	-	< 0.08	-	UM
Pyrene	129-00-0	-	< 0.08	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.08	-	UM
Chrysene	218-01-9	-	< 0.08	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.08	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-	UM
Total (USEPA16) PAHs	-	-	< 1.35	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	94
Acenaphthene-d10	96
Phenanthrene-d10	96
Chrysene-d12	96
Perylene-d12	90

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	97
Terphenyl-d14	94

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH18 10.00	Job Number:	S13_1753M
LIMS ID Number:	CL1307553	Date Booked in:	20-Mar-13
QC Batch Number:	130265	Date Extracted:	28-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	29-Mar-13
Directory:	2813PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.57	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	99
Acenaphthene-d10	98
Phenanthrene-d10	96
Chrysene-d12	94
Perylene-d12	87

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	95
Terphenyl-d14	92

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH18 14.00	Job Number:	S13_1753M
LIMS ID Number:	CL1307554	Date Booked in:	20-Mar-13
QC Batch Number:	130265	Date Extracted:	28-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	29-Mar-13
Directory:	2813PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.57	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	95
Acenaphthene-d10	95
Phenanthrene-d10	93
Chrysene-d12	92
Perylene-d12	85

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	85
Terphenyl-d14	80

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH24 0.50	Job Number:	S13_1753M
LIMS ID Number:	CL1307555	Date Booked in:	20-Mar-13
QC Batch Number:	130265	Date Extracted:	28-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	29-Mar-13
Directory:	2813PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.08	-	UM
Acenaphthylene	208-96-8	-	< 0.08	-	U
Acenaphthene	83-32-9	-	< 0.08	-	UM
Fluorene	86-73-7	-	< 0.08	-	UM
Phenanthrene	85-01-8	-	< 0.08	-	UM
Anthracene	120-12-7	-	< 0.08	-	U
Fluoranthene	206-44-0	-	< 0.08	-	UM
Pyrene	129-00-0	-	< 0.08	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.08	-	UM
Chrysene	218-01-9	-	< 0.08	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.08	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-	UM
Total (USEPA16) PAHs	-	-	< 1.34	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	100
Acenaphthene-d10	98
Phenanthrene-d10	98
Chrysene-d12	97
Perylene-d12	91

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	95
Terphenyl-d14	92

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH24 8.00	Job Number:	S13_1753M
LIMS ID Number:	CL1307556	Date Booked in:	20-Mar-13
QC Batch Number:	130265	Date Extracted:	28-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	29-Mar-13
Directory:	2813PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.56	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	99
Acenaphthene-d10	97
Phenanthrene-d10	97
Chrysene-d12	98
Perylene-d12	92

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	96
Terphenyl-d14	92

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH24 14.00	Job Number:	S13_1753M
LIMS ID Number:	CL1307557	Date Booked in:	20-Mar-13
QC Batch Number:	130265	Date Extracted:	28-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	29-Mar-13
Directory:	2813PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.59	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	101
Acenaphthene-d10	99
Phenanthrene-d10	99
Chrysene-d12	100
Perylene-d12	93

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	93
Terphenyl-d14	91

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polychlorinated Biphenyls (congeners)

Customer and Site Details:	EnviroCentre Ltd: Whiteness
Job Number:	S13_1753M
QC Batch Number:	130071
Directory:	0327PCB.GC8
Method:	Ultrasonic
Accreditation code:	N

Matrix: SOIL
Date Booked in: 20-Mar-13
Date Extracted: 27-Mar-13
Date Analysed: 27-Mar-13

[illegible]

Customer EnviroCentre Ltd
 Site Whiteness
 Report No S131753

Consignment No S34189

Date Logged 20-Mar-2013

Report Due 02-Apr-2013

Report Due 02 Apr 2012																		
WSLM59	Total Organic Carbon																	
TMSS	Tot.Moisture @ 105C																	
Sub005	^Triphenyltin																	
	^Tributyltin																	
	^Dibutyltin																	
	PCB-7 Congeners Analysis																	
PCB06C04H	PAH (16) by GCMS																	
PAHMSUS	MCerts Analysis																	
MCerts	Zinc (MS)																	
	Nickel (MS)																	
	Mercury (MS)																	
	Lead (MS)																	
	Copper (MS)																	
	Chromium (MS)																	
	Cadmium (MS)																	
	Arsenic (MS)																	
ICPMS5																		
MethodID	Sampled																	
ID Number	Description																	
	Accredited to ISO17025																	
	CL/1307549	BH15 0.50	D															
	CL/1307550	BH15 8.00	D															
	CL/1307551	BH15 15.00	D															
	CL/1307552	BH18 0.50	D															
	CL/1307553	BH18 10.00	D															
	CL/1307554	BH18 14.00	D															
	CL/1307555	BH24 0.50	D															
	CL/1307556	BH24 8.00	D															
	CL/1307557	BH24 14.00	D															

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- Analysis Subcontracted - **Note: due date may vary**

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPMSS	Air Dried	Determination of Metals in soil samples by aqua regia digestion followed by ICPMS
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
Soil	PCBUSECDAR	As Received	Determination of Polychlorinated Biphenyl (PCB) congeners/aroclors by hexane/acetone extraction followed by GCECD detection
Soil	SubCon*	*	Contact Laboratory for details of the methodology used by the sub-contractor.
Soil	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis
Soil	WSLM59	Air Dried	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

CR Denotes Crocidolite

AM Denotes Amosite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

NS Information Not Supplied

Req Analysis requested, see attached sheets for results

p Raised detection limit due to nature of the sample

* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

Sample Descriptions

Client : EnviroCentre Ltd

Site : Whiteness

Report Number : S13_1753M

Note: major constituent in upper case

[illegible]

Our Ref: EFS/131671M (Ver. 4)

Your Ref: 363854j

April 9, 2013



Environmental Chemistry

ESG

Bretby Business Park

Ashby Road

Burton-on-Trent

Staffordshire

DE15 0YZ

Telephone: 01283 554400

Facsimile: 01283 554422

[Redacted]
EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

For the attention of [Redacted]

Dear [Redacted]

Soil Sample Analysis - Whiteness Grabs

Samples from the above site have been analysed in accordance with the schedule supplied.

The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 26/04/13 when they will be discarded. Please call 01283 554467 for an extension of this date.

Please be aware that our policy for the retention of paper based laboratory records and analysis reports is 6 years.

The work was carried out in accordance with Environmental Scientifics Group Ltd (Laboratory and Analytical) Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for ESG
[Redacted]

Project Co-ordinator

[Redacted]

TEST REPORT

SOIL SAMPLE ANALYSIS



Report No. EFS/131671M (Ver. 4)

EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

Site: Whiteness Grabs

The 20 samples described in this report were registered for analysis by ESG on 15-Mar-2013. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 09-Apr-2013

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS or MCERTS accredited. Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by ESG.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of PAH (MS-SIM) (80) Results (Pages 4 to 23)
Table of PCB Congener Results (Page 24)
Particle Size Distribution Analysis (Pages 25 to 44)
Table of Asbestos Screening Results (Page 45)
Analytical and Deviating Sample Overview (Pages 46 to 47)
Table of Method Descriptions (Page 48)
Table of Report Notes (Page 49)
Table of Sample Descriptions (Appendix A Page 1 of 1)

[Redacted]

On behalf of
ESG :

[Redacted]

Operations Director
Laboratory and Analytical Business


Date of Issue: 09-Apr-2013

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)

Tests marked 'A' have been subcontracted to another laboratory.

(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.

All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
ESG accepts no responsibility for any sampling not carried out by our personnel.

Units : Method Codes : Method Reporting Limits : Accreditation Code:			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units		%	µg/kg	ug/kg	ug/kg	ug/kg	
			AMMAR	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	PHSOIL	Sub002a	TMSS	PCBUSECDAR	Sub005	Sub005	Sub005
			0.5	0.3	0.2	1.2	1.6	0.7	0.5	2	16				0.2		5	5	20
			UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	UM	U	U		N	N
LAB ID Number	Client Sample Description	Sample Date	Exchange,Ammonium AR	Arsenic (MS)	Cadmium (MS)	Chromium (MS)	Copper (MS)	Lead (MS)	Mercury (MS)	Nickel (MS)	Zinc (MS)	pH units (AR)	Asbestos Screen	Tot. Moisture @ 105C	PCB-7 Congeners Analysis	Dibutyltin	Tributyltin	Triphenyltin	
1307150	G1	13-Mar-13	<0.06	2.3	0.27	7	3.3	3.9	<0.5	3.8	<16.1	8.0	NAIIS	22.2	Req	34.7	<38.6	<25.7	
1307155	G11	13-Mar-13	<0.06	1.2	<0.2	3.1	<1.6	1.5	<0.5	<2.0	<15.9	8.0	NAIIS	19.2	Req	<24.8	<37.1	<24.8	
1307156	G13	12-Mar-13	<0.06	1.1	<0.2	6	<1.6	2.3	<0.5	<2.0	<15.8	8.0	NAIIS	16.7	Req	<24.0	<36.0	<24.0	
1307157	G15	12-Mar-13	<0.06	1.2	<0.2	4.7	1.7	1.9	<0.5	<2.1	<16.8	8.2	NAIIS	16.8	Req	<24.0	<36.1	<24.0	
1307158	G16	13-Mar-13	<0.06	1.2	<0.2	4	1.7	1.8	<0.5	<2.0	<15.9	8.2	NAIIS	17.4	Req	41.2	<36.3	<24.2	
1307159	G17	13-Mar-13	3.0	1.2	<0.2	3.3	<1.6	1.6	<0.5	<2.0	<16	8.3	NAIIS	17.7	Req	<24.3	<36.5	<24.3	
1307160	G19	12-Mar-13	<0.06	1.7	<0.2	4.3	6.2	4.3	<0.5	3.1	29	8.4	NAIIS	14.2	Req	78.1	<35.0	<23.3	
1307161	G20	12-Mar-13	<0.06	1	<0.2	2.6	<1.6	1.3	<0.5	<2.0	<16.1	8.2	NAIIS	18.7	Req	30.8	<36.9	<24.6	
1307162	G21	12-Mar-13	<0.06	1	<0.2	3.4	2.2	1.9	<0.5	<2.0	<15.9	8.3	NAIIS	18.5	Req	42.9	<36.8	<24.5	
1307163	G22	12-Mar-13	<0.06	1	<0.2	3.3	1.9	1.7	<0.5	<2.0	<15.9	8.3	NAIIS	17.9	Req	30.5	<36.5	<24.4	
1307164	G23	12-Mar-13	<0.06	1.3	<0.2	3.8	1.6	1.6	<0.5	2.1	<16.0	8.4	NAIIS	20.8	Req	<25.3	<37.9	<25.3	
1307165	G24	12-Mar-13	9.6	3.8	<0.2	11.4	57.7	36.1	<0.5	6.9	412.5	8.2	NAIIS	21.7	Req	90.7	<38.3	<25.5	
1307166	G25	12-Mar-13	2.3	1.2	<0.2	3.1	2.8	2.1	<0.5	<2.0	<16.1	8.2	NAIIS	17.2	Req	<24.2	<36.2	<24.2	
1307167	G26	12-Mar-13	2.5	1.6	<0.2	6.3	2.6	2.4	<0.5	3	16.4	8.4	NAIIS	20.4	Req	<25.1	<37.7	<25.1	
1307168	G27	13-Mar-13	2.5	1.4	<0.2	4.7	2.4	1.8	<0.5	2.4	<15.8	8.4	NAIIS	19.3	Req	27.3	<37.2	<24.8	
1307169	G28	13-Mar-13	1.1	1.1	<0.2	4.1	<1.6	1.7	<0.5	<2.0	<16.0	8.4	NAIIS	18.9	Req	39.5	<37.0	<24.7	
1307151	G3	13-Mar-13	<0.06	2.1	<0.2	7.3	2.6	3.8	<0.5	4	<15.9	8.4	NAIIS	10.4	Req	70.3	<33.5	<22.3	
1307152	G5	13-Mar-13	<0.06	1.1	<0.2	3.2	<1.6	1.9	<0.5	<2.0	<15.9	8.3	NAIIS	17.1	Req	68.8	<36.2	<24.1	
1307153	G7	13-Mar-13	<0.06	1.1	<0.2	3.2	<1.6	1.7	<0.5	<2.0	<16.1	8.3	NAIIS	19.3	Req	58.2	<37.2	<24.8	
1307154	G9	13-Mar-13	<0.06	1.1	<0.2	3	<1.6	1.5	<0.5	<2.0	<16.0	8.1	NAIIS	17.7	Req	94	<36.5	<24.3	
<div><p>Environmental Scientifics Group Bretby Business Park, Ashby Road</p><p>Burton-on-Trent, Staffordshire, DE15 0YZ</p><p>Tel +44 (0) 1283 554400</p><p>Fax +44 (0) 1283 554422</p></div>			Client Name		EnviroCentre Ltd							Soil Sample Analysis							
			Contact		Mr C Stewart														
			Whiteness Grabs											Date Printed				09-Apr-2013	
														Report Number				EFS/131671M	
Table Number		1																	

<div>Units : Method Codes : Method Reporting Limits : Accreditation Code:</div>				% M/M	mg/kg																	
			Sub018	WSLM59	PAHMSUS																	
				0.02																		
				N																		
LAB ID Number CL/	Client Sample Description	Sample Date	Particle Size Dist	Total Organic Carbon	PAH (16) by GCMS																	
						1307150	G1	13-Mar-13	Req	0.24	Req											
						1307155	G11	13-Mar-13	Req	0.08	Req											
						1307156	G13	12-Mar-13	Req	0.08	Req											
						1307157	G15	12-Mar-13	Req	0.07	Req											
						1307158	G16	13-Mar-13	Req	0.09	Req											
						1307159	G17	13-Mar-13	Req	0.10	Req											
						1307160	G19	12-Mar-13	Req	0.08	Req											
						1307161	G20	12-Mar-13	Req	0.08	Req											
						1307162	G21	12-Mar-13	Req	0.11	Req											
						1307163	G22	12-Mar-13	Req	0.09	Req											
						1307164	G23	12-Mar-13	Req	0.14	Req											
						1307165	G24	12-Mar-13	Req	0.27	Req											
						1307166	G25	12-Mar-13	Req	0.08	Req											
						1307167	G26	12-Mar-13	Req	0.15	Req											
						1307168	G27	13-Mar-13	Req	0.14	Req											
						1307169	G28	13-Mar-13	Req	0.12	Req											
						1307151	G3	13-Mar-13	Req	0.14	Req											
						1307152	G5	13-Mar-13	Req	0.11	Req											
1307153	G7	13-Mar-13	Req	0.09	Req																	
1307154	G9	13-Mar-13	Req	0.09	Req																	
<div><div><div>ESG</div><div>Environmental Scientifics Group</div><div>Bretby Business Park, Ashby Road</div><div>Burton-on-Trent, Staffordshire, DE15 0YZ</div><div>Tel +44 (0) 1283 554400</div><div>Fax +44 (0) 1283 554422</div></div></div>			Client Name		EnviroCentre Ltd						Soil Sample Analysis											
			Contact		[Redacte																	
			Whiteness Grabs						Date Printed		09-Apr-2013											
									Report Number		EFS/131671M											
									Table Number		1											

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G1 **Job Number:** S13_1671M
LIMS ID Number: CL1307150 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.65	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	95
Acenaphthene-d10	98
Phenanthrene-d10	99
Chrysene-d12	101
Perylene-d12	99

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	86
Terphenyl-d14	73

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G3 **Job Number:** S13_1671M
LIMS ID Number: CL1307151 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	UM
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	5.49	0.10	96	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	6.79	0.32	80	UM
Pyrene	129-00-0	7.07	0.27	91	UM
Benzo[a]anthracene	56-55-3	8.72	0.16	95	UM
Chrysene	218-01-9	8.77	0.16	93	UM
Benzo[b]fluoranthene	205-99-2	10.24	0.13	89	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.09	-	UM
Benzo[a]pyrene	50-32-8	10.66	0.13	94	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.09	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.09	-	UM
Total (USEPA16) PAHs	-	-	< 2.09	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	99
Acenaphthene-d10	98
Phenanthrene-d10	99
Chrysene-d12	102
Perylene-d12	98

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	97
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G5 **Job Number:** S13_1671M
LIMS ID Number: CL1307152 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.54	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	96
Acenaphthene-d10	97
Phenanthrene-d10	99
Chrysene-d12	98
Perylene-d12	95

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	99
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G7 **Job Number:** S13_1671M
LIMS ID Number: CL1307153 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.59	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	100
Acenaphthene-d10	99
Phenanthrene-d10	101
Chrysene-d12	103
Perylene-d12	99

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	90
Terphenyl-d14	78

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G9	Job Number:	S13_1671M
LIMS ID Number:	CL1307154	Date Booked in:	15-Mar-13
QC Batch Number:	130237	Date Extracted:	20-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	21-Mar-13
Directory:	2013PAHMS14\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.56	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	94
Acenaphthene-d10	95
Phenanthrene-d10	96
Chrysene-d12	93
Perylene-d12	90

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	99
Terphenyl-d14	92

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G11 **Job Number:** S13_1671M
LIMS ID Number: CL1307155 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.58	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	98
Acenaphthene-d10	97
Phenanthrene-d10	98
Chrysene-d12	95
Perylene-d12	91

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	100
Terphenyl-d14	94

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G13	Job Number:	S13_1671M
LIMS ID Number:	CL1307156	Date Booked in:	15-Mar-13
QC Batch Number:	130237	Date Extracted:	20-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	21-Mar-13
Directory:	2013PAHMS14\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.54	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	98
Acenaphthene-d10	98
Phenanthrene-d10	100
Chrysene-d12	97
Perylene-d12	91

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	99
Terphenyl-d14	92

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G15 **Job Number:** S13_1671M
LIMS ID Number: CL1307157 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.54	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	90
Acenaphthene-d10	91
Phenanthrene-d10	91
Chrysene-d12	85
Perylene-d12	79

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	98
Terphenyl-d14	90

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G16	Job Number:	S13_1671M
LIMS ID Number:	CL1307158	Date Booked in:	15-Mar-13
QC Batch Number:	130237	Date Extracted:	20-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	21-Mar-13
Directory:	2013PAHMS14\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.55	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	97
Acenaphthene-d10	97
Phenanthrene-d10	97
Chrysene-d12	98
Perylene-d12	92

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	96
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G17 **Job Number:** S13_1671M
LIMS ID Number: CL1307159 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.56	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	97
Acenaphthene-d10	98
Phenanthrene-d10	99
Chrysene-d12	97
Perylene-d12	90

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	99
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G19 **Job Number:** S13_1671M
LIMS ID Number: CL1307160 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.09	-	UM
Acenaphthylene	208-96-8	-	< 0.09	-	U
Acenaphthene	83-32-9	-	< 0.09	-	UM
Fluorene	86-73-7	-	< 0.09	-	UM
Phenanthrene	85-01-8	-	< 0.09	-	UM
Anthracene	120-12-7	-	< 0.09	-	U
Fluoranthene	206-44-0	-	< 0.09	-	UM
Pyrene	129-00-0	-	< 0.09	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.09	-	UM
Chrysene	218-01-9	-	< 0.09	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.09	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.09	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.09	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.09	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.09	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.09	-	UM
Total (USEPA16) PAHs	-	-	< 1.49	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	94
Acenaphthene-d10	95
Phenanthrene-d10	95
Chrysene-d12	92
Perylene-d12	85

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	98
Terphenyl-d14	91

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G20	Job Number:	S13_1671M
LIMS ID Number:	CL1307161	Date Booked in:	15-Mar-13
QC Batch Number:	130237	Date Extracted:	20-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	21-Mar-13
Directory:	2013PAHMS14\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.57	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	97
Acenaphthene-d10	97
Phenanthrene-d10	95
Chrysene-d12	98
Perylene-d12	93

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	100
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G21 **Job Number:** S13_1671M
LIMS ID Number: CL1307162 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.57	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	95
Acenaphthene-d10	96
Phenanthrene-d10	96
Chrysene-d12	96
Perylene-d12	92

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	97
Terphenyl-d14	94

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G22 **Job Number:** S13_1671M
LIMS ID Number: CL1307163 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.56	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	96
Acenaphthene-d10	95
Phenanthrene-d10	94
Chrysene-d12	92
Perylene-d12	84

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	98
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G23	Job Number:	S13_1671M
LIMS ID Number:	CL1307164	Date Booked in:	15-Mar-13
QC Batch Number:	130237	Date Extracted:	20-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	21-Mar-13
Directory:	2013PAHMS14\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.62	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	93
Acenaphthene-d10	93
Phenanthrene-d10	93
Chrysene-d12	95
Perylene-d12	88

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	100
Terphenyl-d14	96

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G24 **Job Number:** S13_1671M
LIMS ID Number: CL1307165 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.63	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	92
Acenaphthene-d10	94
Phenanthrene-d10	95
Chrysene-d12	93
Perylene-d12	88

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	99
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G25	Job Number:	S13_1671M
LIMS ID Number:	CL1307166	Date Booked in:	15-Mar-13
QC Batch Number:	130237	Date Extracted:	20-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	21-Mar-13
Directory:	2013PAHMS14\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.55	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	95
Acenaphthene-d10	95
Phenanthrene-d10	95
Chrysene-d12	87
Perylene-d12	78

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	98
Terphenyl-d14	90

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G26	Job Number:	S13_1671M
LIMS ID Number:	CL1307167	Date Booked in:	15-Mar-13
QC Batch Number:	130237	Date Extracted:	20-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	21-Mar-13
Directory:	2013PAHMS14\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.61	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	93
Acenaphthene-d10	94
Phenanthrene-d10	94
Chrysene-d12	92
Perylene-d12	83

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	98
Terphenyl-d14	93

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G27	Job Number:	S13_1671M
LIMS ID Number:	CL1307168	Date Booked in:	15-Mar-13
QC Batch Number:	130237	Date Extracted:	20-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	21-Mar-13
Directory:	2013PAHMS14\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.59	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	93
Acenaphthene-d10	94
Phenanthrene-d10	94
Chrysene-d12	88
Perylene-d12	80

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	97
Terphenyl-d14	91

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Sample Details: G28 **Job Number:** S13_1671M
LIMS ID Number: CL1307169 **Date Booked in:** 15-Mar-13
QC Batch Number: 130237 **Date Extracted:** 20-Mar-13
Quantitation File: Initial Calibration **Date Analysed:** 21-Mar-13
Directory: 2013PAHMS14\ **Matrix:** Soil
Dilution: 1.0 **Ext Method:** Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.10	-	UM
Acenaphthylene	208-96-8	-	< 0.10	-	U
Acenaphthene	83-32-9	-	< 0.10	-	UM
Fluorene	86-73-7	-	< 0.10	-	UM
Phenanthrene	85-01-8	-	< 0.10	-	UM
Anthracene	120-12-7	-	< 0.10	-	U
Fluoranthene	206-44-0	-	< 0.10	-	UM
Pyrene	129-00-0	-	< 0.10	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.10	-	UM
Chrysene	218-01-9	-	< 0.10	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.10	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.10	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.10	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.10	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.10	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.10	-	UM
Total (USEPA16) PAHs	-	-	< 1.58	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	95
Acenaphthene-d10	95
Phenanthrene-d10	96
Chrysene-d12	91
Perylene-d12	81

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	98
Terphenyl-d14	92

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polychlorinated Biphenyls (congeners)

Customer and Site Details: EnviroCentre Ltd: Whiteness Grabs
Job Number: S13_1671M
QC Batch Number: 130066
Directory: 0321PCB.GC8
Method: Ultrasonic
Accreditation code: N

Matrix: SOIL
Date Booked in: 15-Mar-13
Date Extracted: 21-Mar-13
Date Analysed: 25-Mar-13

		Concentration, (µg/kg)						
Sample ID	Customer ID	PCB28	PCB52	PCB101	PCB118	PCB153	PCB138	PCB180
* CL1307150	G1	<5.02	<5.02	<5.02	<5.02	<5.02	<5.02	<5.02
* CL1307151	G3	<4.98	<4.98	<4.98	<4.98	<4.98	<4.98	<4.98
* CL1307152	G5	<4.96	<4.96	<4.96	<4.96	<4.96	<4.96	<4.96
* CL1307153	G7	<5.02	<5.02	<5.02	<5.02	<5.02	<5.02	<5.02
* CL1307154	G9	<5.01	<5.01	<5.01	<5.01	<5.01	<5.01	<5.01
* CL1307155	G11	<4.98	<4.98	<4.98	<4.98	<4.98	<4.98	<4.98
* CL1307156	G13	<4.92	<4.92	<4.92	<4.92	<4.92	<4.92	<4.92
* CL1307157	G15	<5.25	<5.25	<5.25	<5.25	<5.25	<5.25	<5.25
* CL1307158	G16	<4.95	<4.95	<4.95	<4.95	<4.95	<4.95	<4.95
* CL1307159	G17	<4.96	<4.96	<4.96	<4.96	<4.96	<4.96	<4.96
* CL1307160	G19	<4.90	<4.90	<4.90	<4.90	<4.90	<4.90	<4.90
* CL1307161	G20	<5.04	<5.04	<5.04	<5.04	<5.04	<5.04	<5.04
* CL1307162	G21	<4.98	<4.98	<4.98	<4.98	<4.98	<4.98	<4.98
* CL1307163	G22	<4.97	<4.97	<4.97	<4.97	<4.97	<4.97	<4.97
* CL1307164	G23	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
* CL1307165	G24	<5.10	<5.10	<5.10	<5.10	<5.10	<5.10	<5.10
* CL1307166	G25	<5.05	<5.05	<5.05	<5.05	<5.05	<5.05	<5.05
* CL1307167	G26	<4.99	<4.99	<4.99	<4.99	<4.99	<4.99	<4.99
* CL1307168	G27	<4.95	<4.95	<4.95	<4.95	<4.95	<4.95	<4.95



0001

Determination of Particle Size Distribution

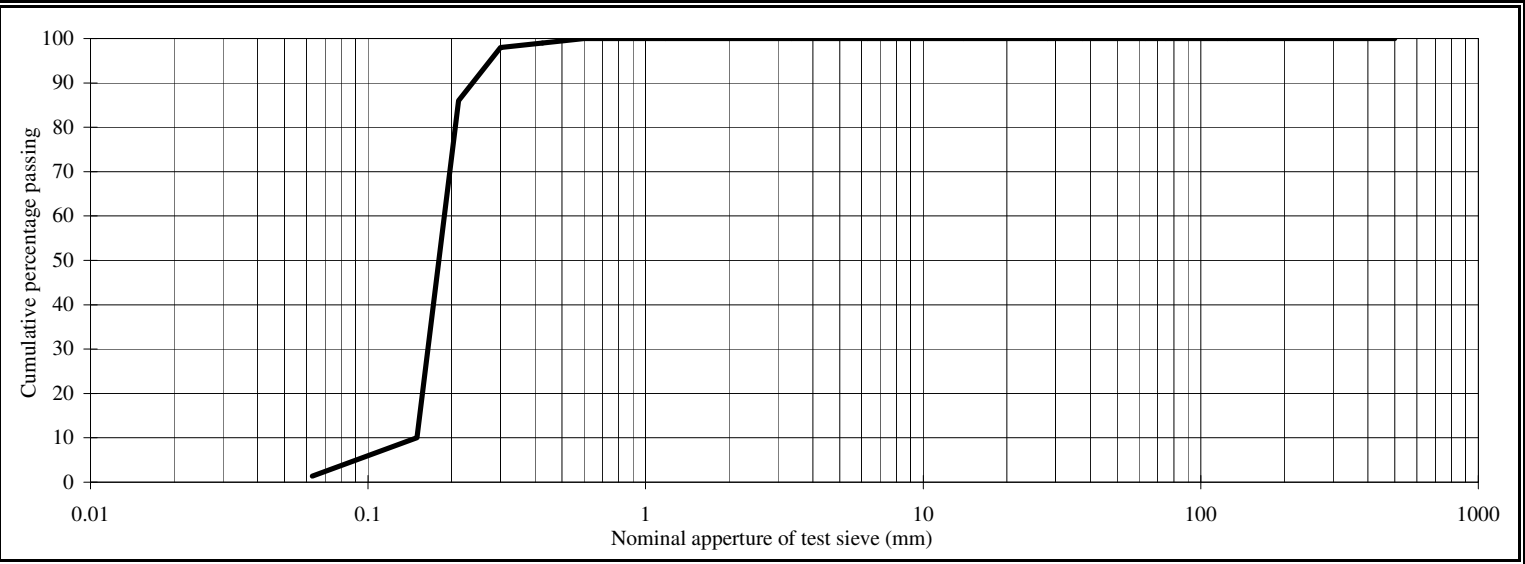
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/01
Batch Number: DAM0040487
Lab Ref: 45180804
Client Ref: S1307150
Location: G1
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 0.8

Description: Grey brown SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	99	
0.300	98	
0.212	86	
0.150	10	
0.063	1.4	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 08.04.13
[Redacted]
Signed: [Redacted] - Section Manager
[Redacted] - Laboratory Manager
For and on behalf of Environmental Scientifics Group



0001

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode: DE15 0XD

Site: Job Number: S131671

Sampled by: Client

Sampled from: Site

Supplier: Client

Source: Site

Report No: 50171428/13/02

Batch Number: DAM0040487

Lab Ref: 45180805

Client Ref: S1307151

Location: G3

Date Sampled: 13.03.13

Date Received: 21.03.13

Date Tested: 03.04.13

Sample Type: Disturbed

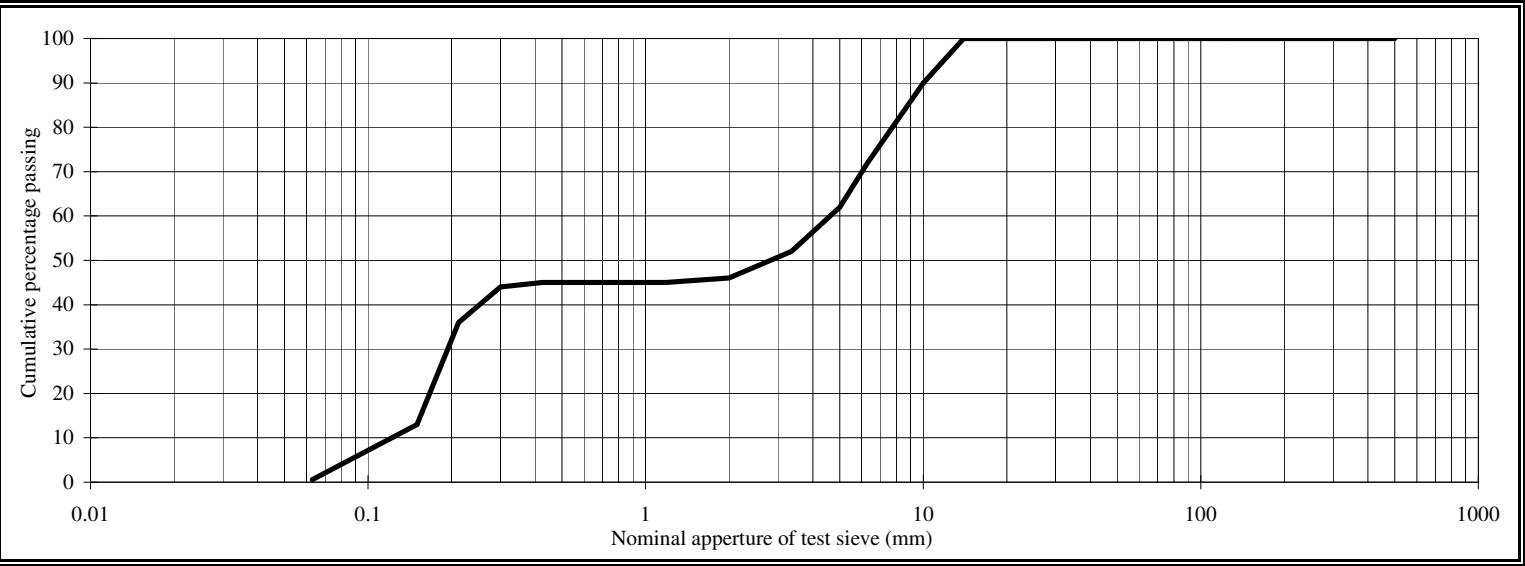
Sample Mass (kg): 0.5

Description: Brown grey gravelly SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	90	
6.3	72	
5	62	
3.35	52	
2	46	
1.18	45	
0.600	45	
0.425	45	
0.300	44	
0.212	36	
0.150	13	
0.063	0.6	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1

Date: 08.04.13

[Redacted]

Signed: _____

For and on behalf of Environmental Scientifics Group

[] [Redacted] - Section Manager

[✓] [Redacted] - Laboratory Manager



0001

Determination of Particle Size Distribution

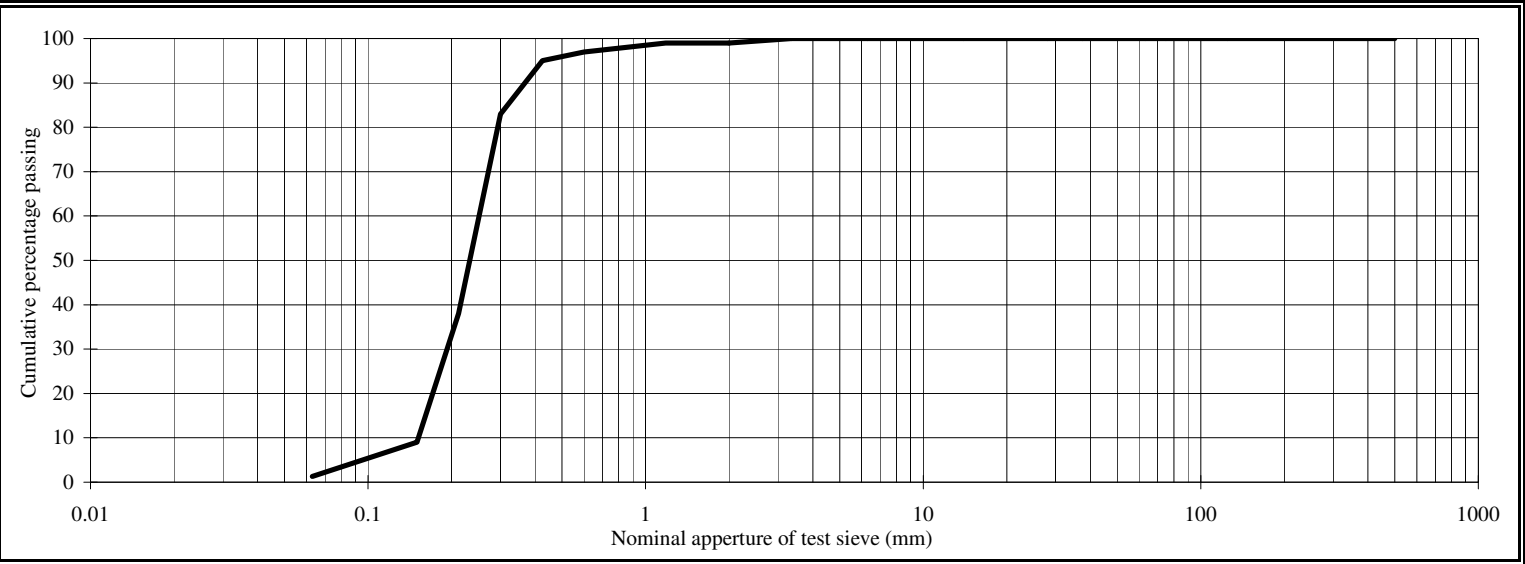
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/03
Batch Number: DAM0040487
Lab Ref: 45180806
Client Ref: S1307152
Location: G5
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 1.1

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	99	
1.18	99	
0.600	97	
0.425	95	
0.300	83	
0.212	38	
0.150	9	
0.063	1.3	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 08.04.13
[Redacted]
Signed: [Redacted] - Section Manager
[Redacted] - Laboratory Manager
For and on behalf of Environmental Scientifics Group

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Determination of Particle Size Distribution

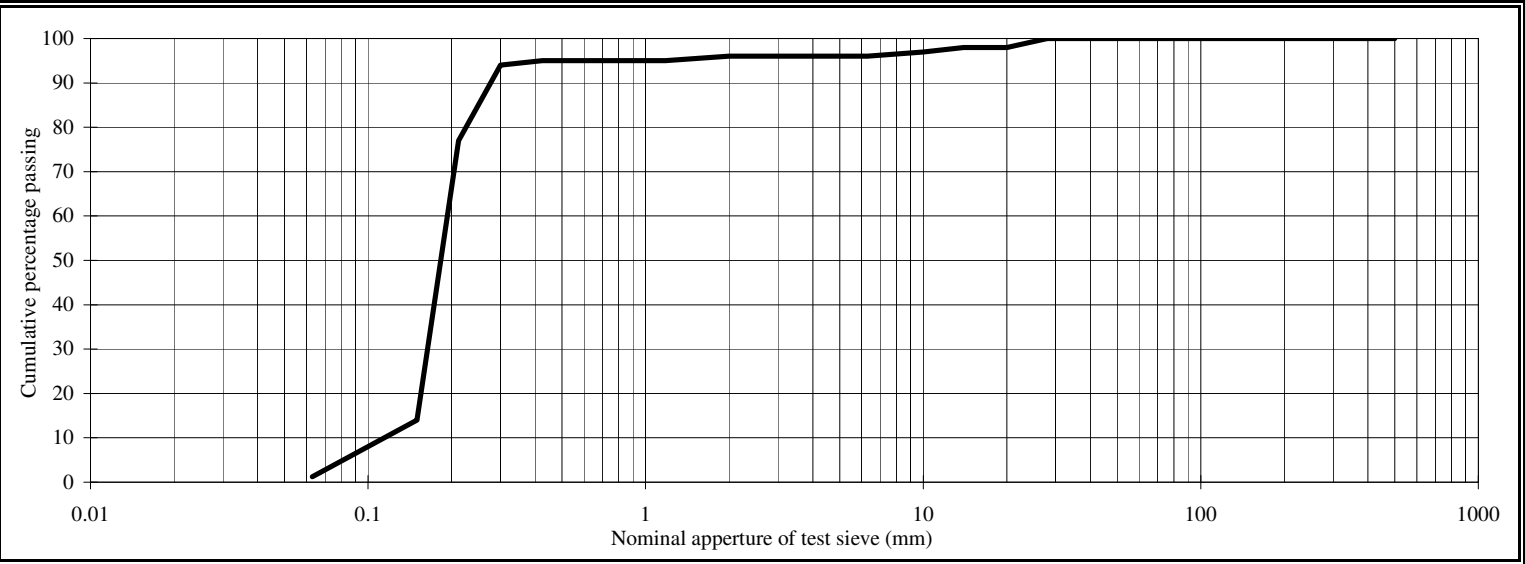
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/04
Batch Number: DAM0040487
Lab Ref: 45180807
Client Ref: S1307153
Location: G7
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 1

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	98	
14	98	
10	97	
6.3	96	
5	96	
3.35	96	
2	96	
1.18	95	
0.600	95	
0.425	95	
0.300	94	
0.212	77	
0.150	14	
0.063	1.2	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 08.04.13
[Redacted]
Signed: [Redacted] - Section Manager
[Redacted] - Laboratory Manager
For and on behalf of Environmental Scientifics Group

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TEST REPORT

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode: DE15 0XD

Site: Job Number: S131671

Sampled by: Client

Sampled from: Site

Supplier: Client

Source: Site

Report No: 50171428/13/05

Batch Number: DAM0040487

Lab Ref: 45180808

Client Ref: S1307154

Location: G9

Date Sampled: 13.03.13

Date Received: 21.03.13

Date Tested: 03.04.13

Sample Type: Disturbed

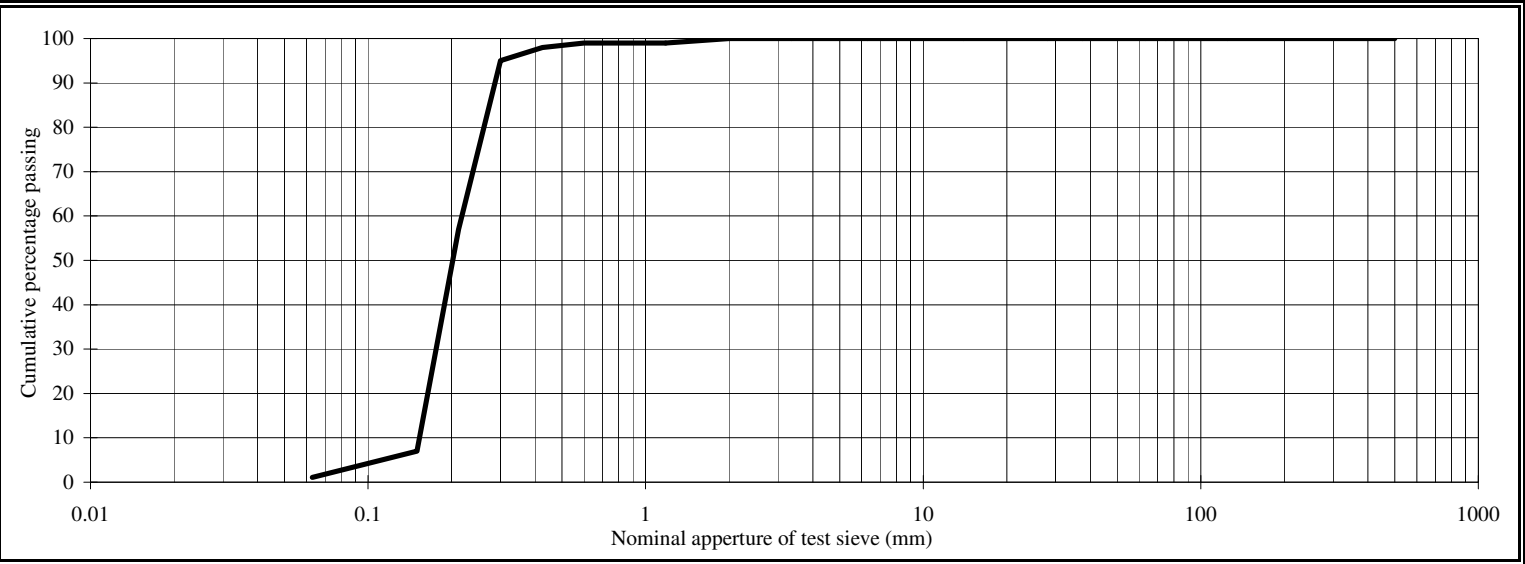
Sample Mass (kg): 1.2

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	99	
0.600	99	
0.425	98	
0.300	95	
0.212	57	
0.150	7	
0.063	1.1	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1

Date: 08.04.13

[Redacted]

Signed: _____

For and on behalf of Environmental Scientifics Group

[] [Redact] Section Manager

[✓] [Redact] - Laboratory Manager



0001

TEST REPORT

Determination of Particle Size Distribution

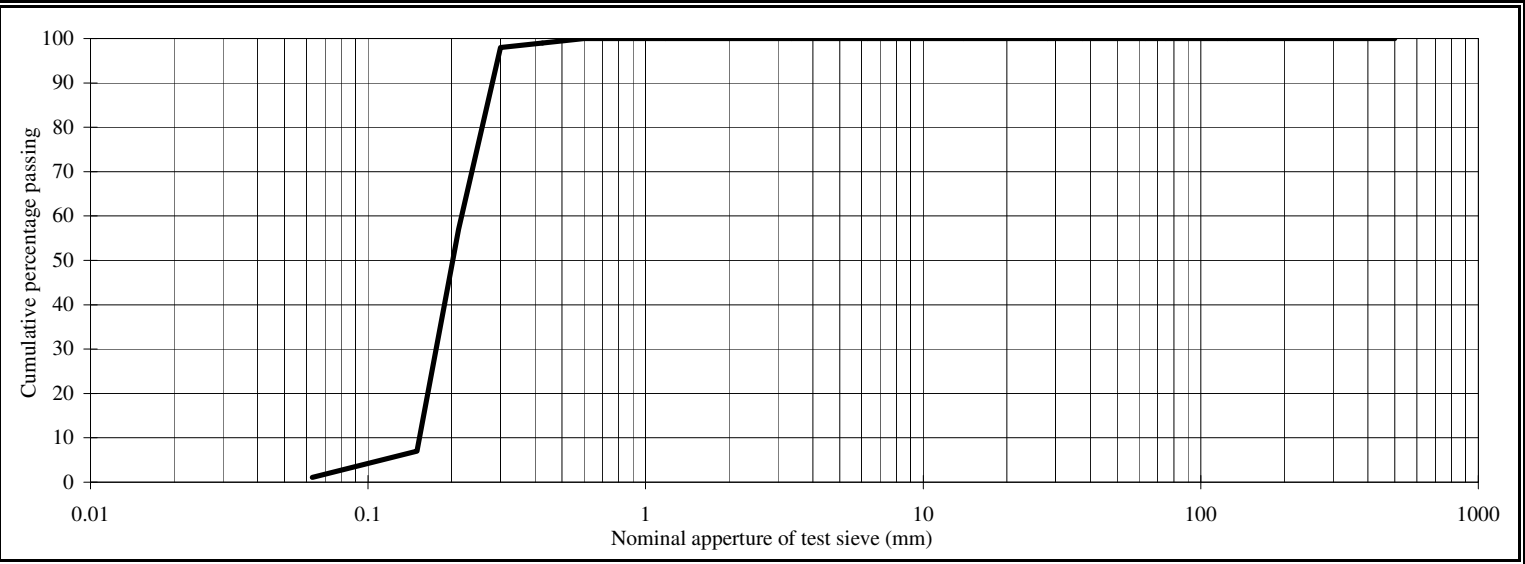
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/06
Batch Number: DAM0040487
Lab Ref: 45180809
Client Ref: S1307155
Location: G11
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 1.2

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	99	
0.300	98	
0.212	57	
0.150	7	
0.063	1.1	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

[Redacted]

Signed: _____
For and on behalf of Environmental Scientifics Group

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Determination of Particle Size Distribution

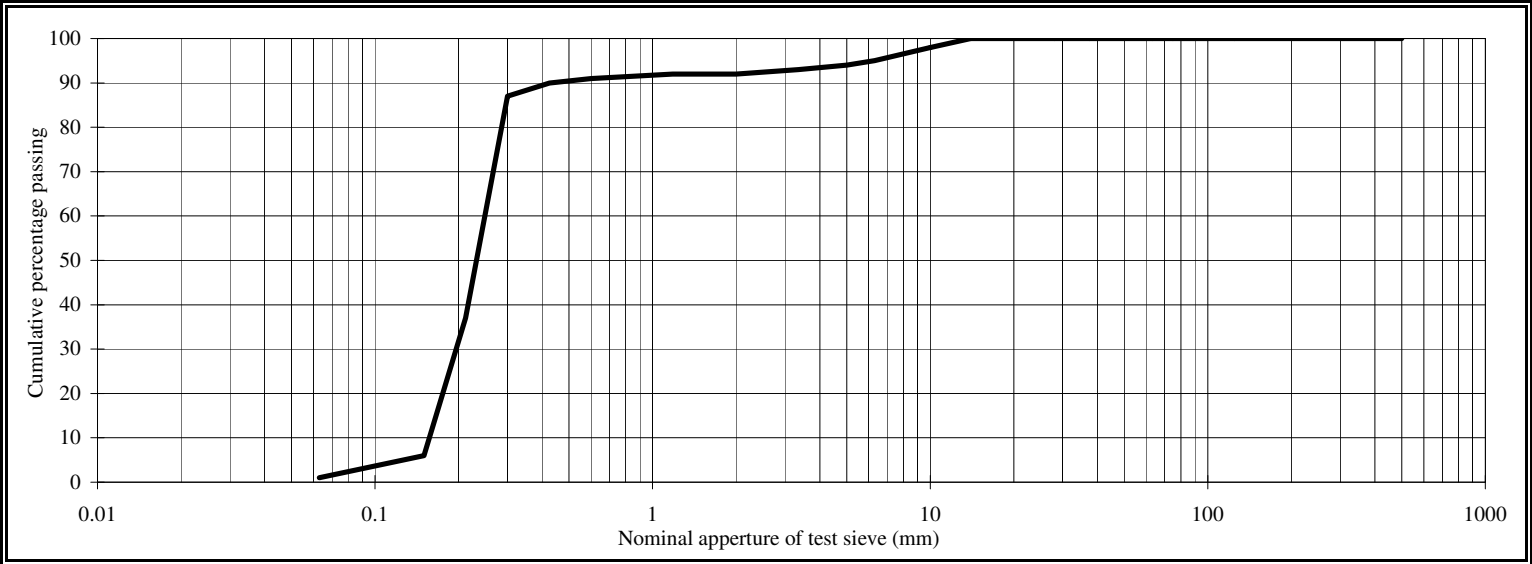
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/07
Batch Number: DAM0040487
Lab Ref: 45180810
Client Ref: S1307156
Location: G13
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 1.2

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	98	
6.3	95	
5	94	
3.35	93	
2	92	
1.18	92	
0.600	91	
0.425	90	
0.300	87	
0.212	37	
0.150	6	
0.063	1.0	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 08.04.13
[Redacted]
Signed: _____
For and on behalf of Environmental Scientifics Group

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Determination of Particle Size Distribution

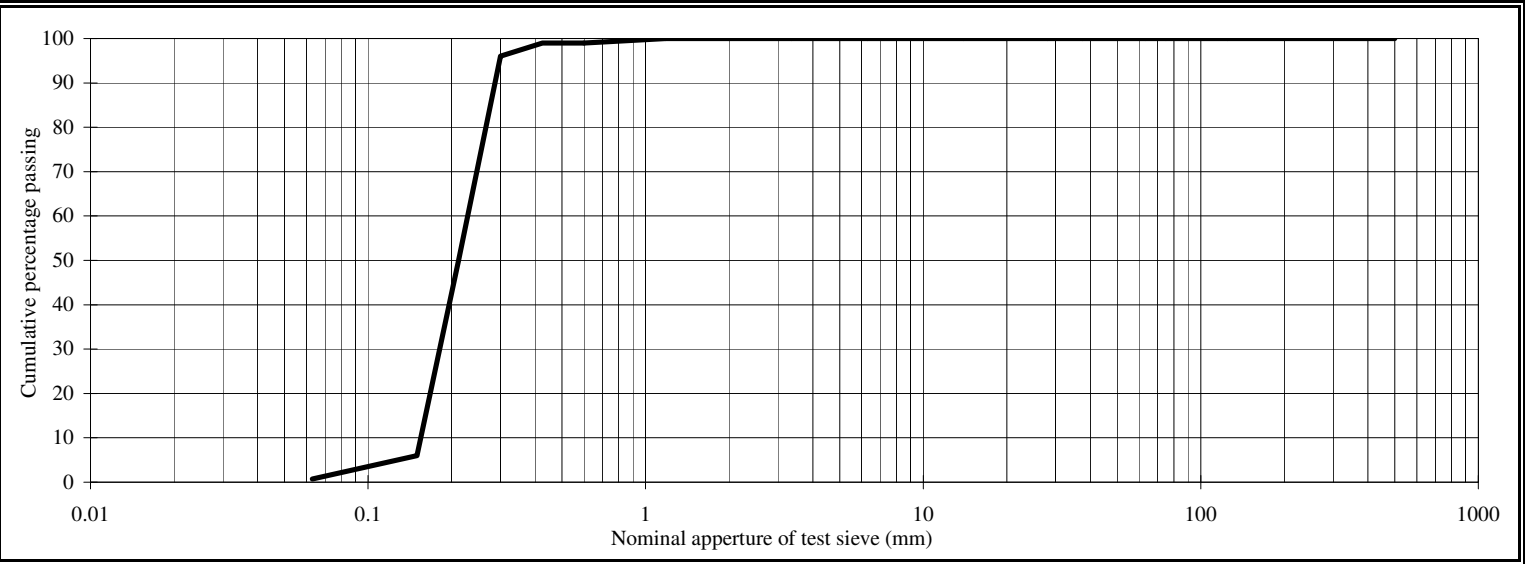
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/08
Batch Number: DAM0040487
Lab Ref: 45180811
Client Ref: S1307157
Location: G15
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 1.1

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	99	
0.425	99	
0.300	96	
0.212	50	
0.150	6	
0.063	0.7	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

[Redacted]

Signed: _____
For and on behalf of Environmental Scientifics Group

[Redacted] - Section Manager
[✓] [Redacted] - Laboratory Manager

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Determination of Particle Size Distribution

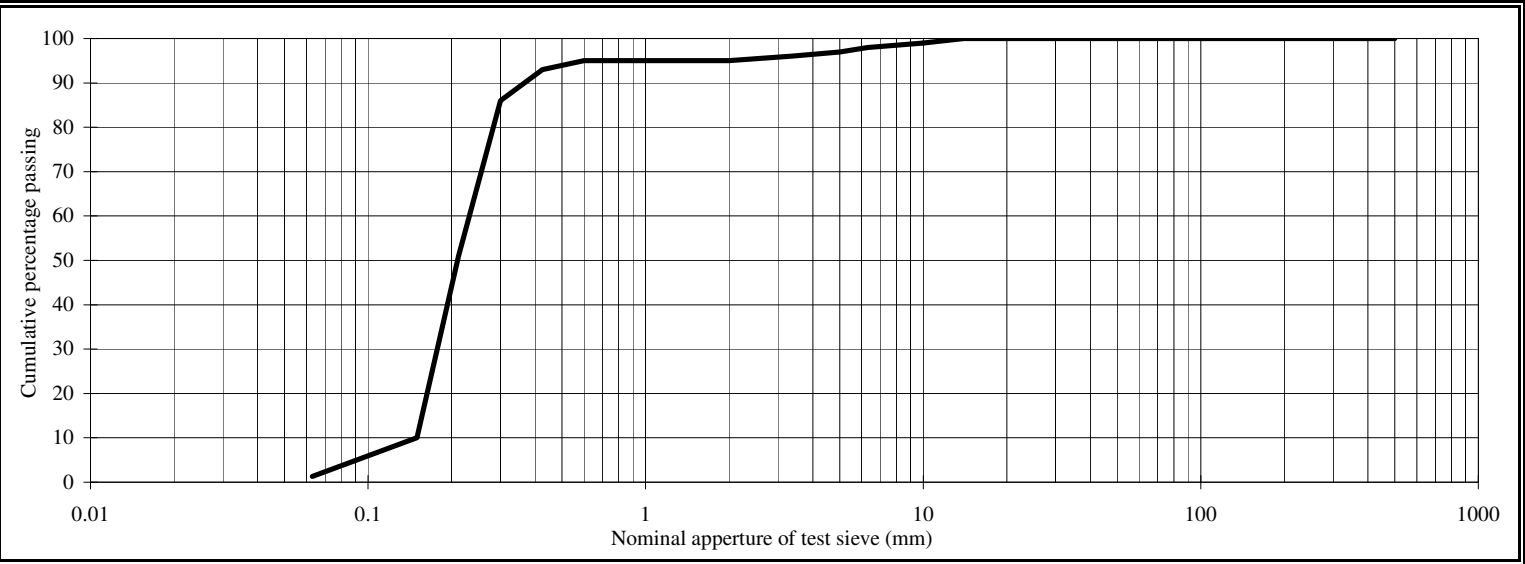
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/09
Batch Number: DAM0040487
Lab Ref: 45180812
Client Ref: S1307158
Location: G16
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 1.2

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	99	
6.3	98	
5	97	
3.35	96	
2	95	
1.18	95	
0.600	95	
0.425	93	
0.300	86	
0.212	51	
0.150	10	
0.063	1.3	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

[Redacted]

Signed: _____
For and on behalf of Environmental Scientifics Group

[Redac - Section Manager
[✓]Redacte - Laboratory Manager

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Determination of Particle Size Distribution

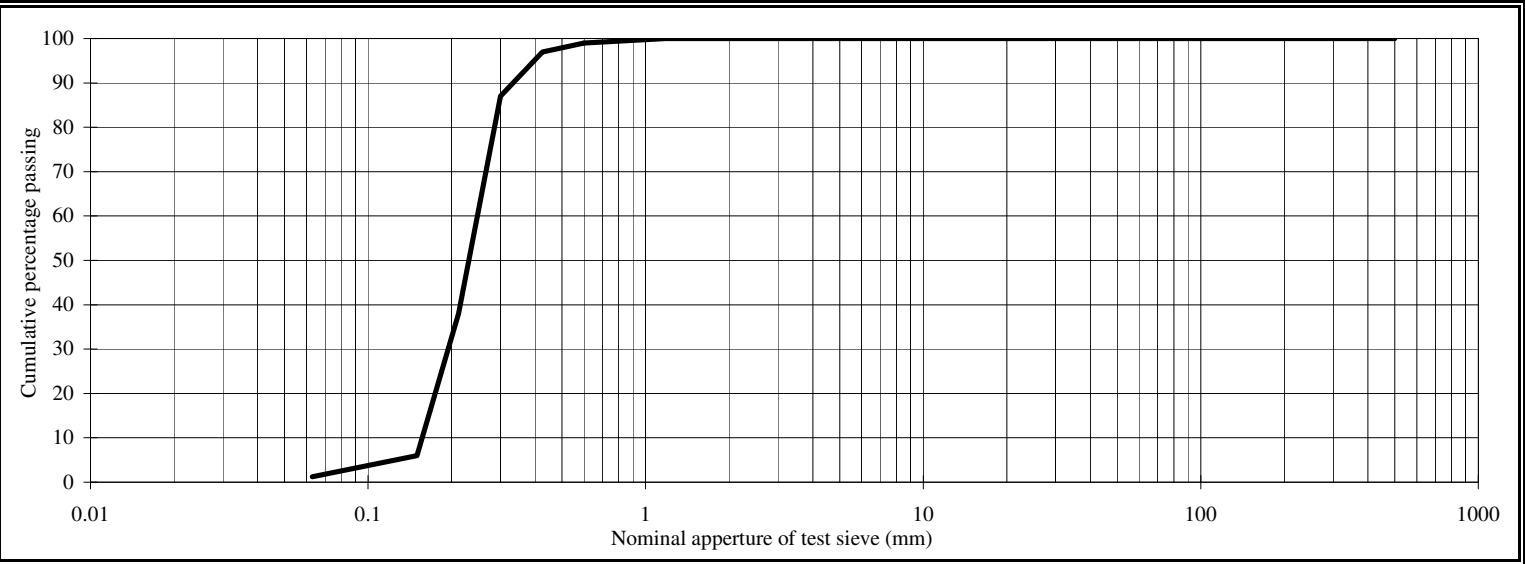
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/10
Batch Number: DAM0040487
Lab Ref: 45180813
Client Ref: S1307159
Location: G17
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 0.9

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	99	
0.425	97	
0.300	87	
0.212	38	
0.150	6	
0.063	1.2	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 08.04.13
[Redacted]
Signed: _____
For and on behalf of Environmental Scientifics Group



0001

Determination of Particle Size Distribution

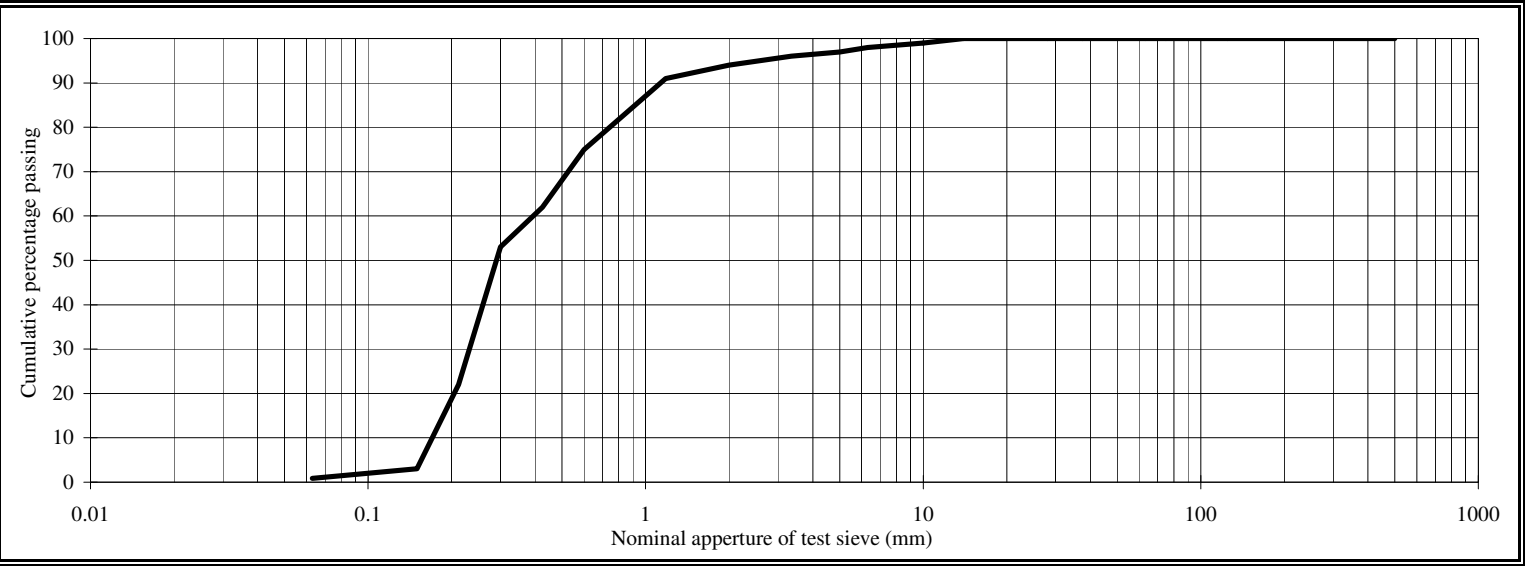
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/11
Batch Number: DAM0040487
Lab Ref: 45180814
Client Ref: S1307160
Location: G19
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 1.3

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	99	
6.3	98	
5	97	
3.35	96	
2	94	
1.18	91	
0.600	75	
0.425	62	
0.300	53	
0.212	22	
0.150	3	
0.063	0.9	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

[Redacted]

Signed: _____
For and on behalf of Environmental Scientifics Group

[] [Redacted] - Section Manager
[✓] [Redacted] - Laboratory Manager

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Determination of Particle Size Distribution

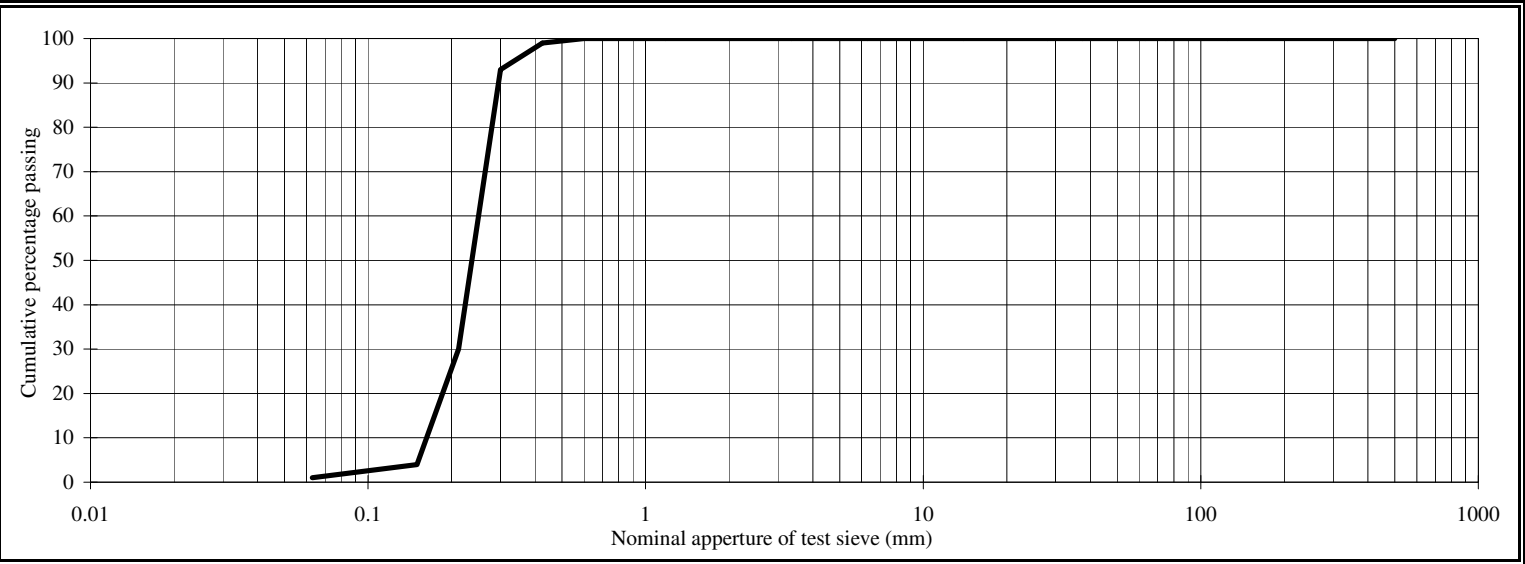
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/12
Batch Number: DAM0040487
Lab Ref: 45180815
Client Ref: S1307161
Location: G20
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 03.04.13
Sample Type: Disturbed
Sample Mass (kg): 0.7

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	99	
0.300	93	
0.212	30	
0.150	4	
0.063	1.0	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 08.04.13
[Redacted]
Signed: [Redacted] - Section Manager
[Redacted] - Laboratory Manager
For and on behalf of Environmental Scientifics Group



0001

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address:PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode:DE15 0XD

Site:Job Number: S131671

Sampled by:Client

Sampled from:Site

Supplier:Client

Source:Site

Report No:50171428/13/13

Batch Number:DAM0040487

Lab Ref:45180816

Client Ref:S1307162

Location:G21

Date Sampled:13.03.13

Date Received:21.03.13

Date Tested:03.04.13

Sample Type:Disturbed

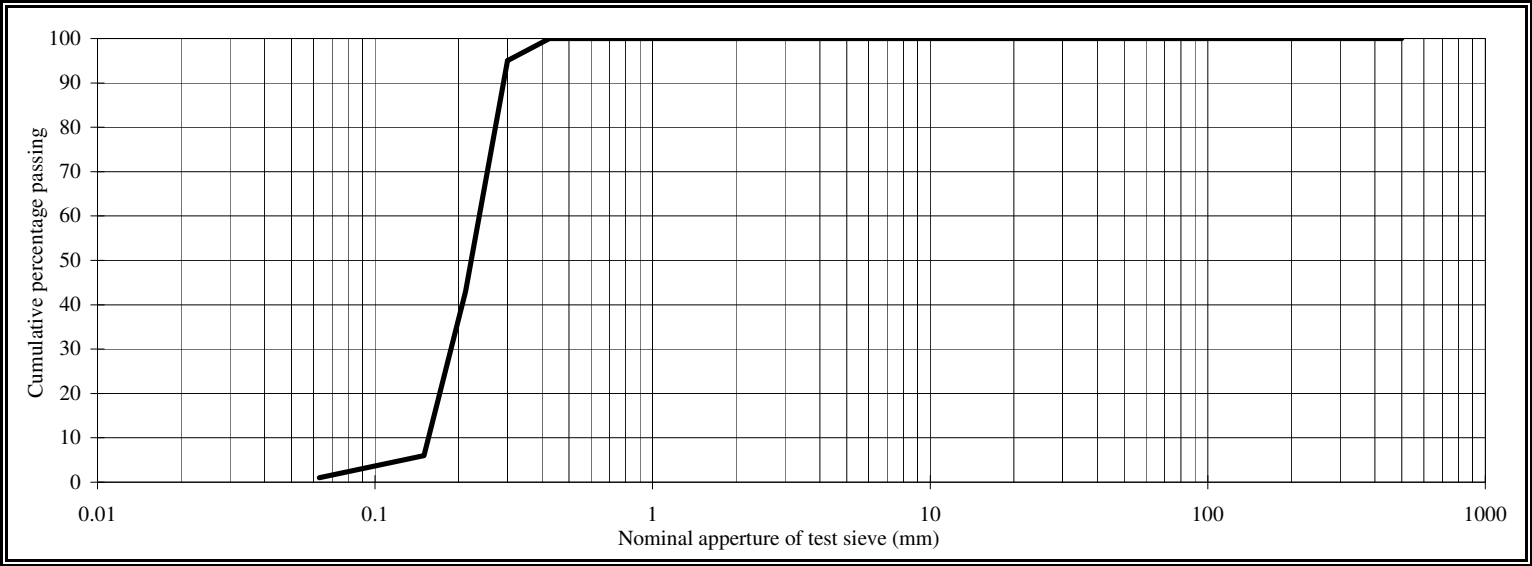
Sample Mass (kg):0.9

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	100	
0.300	95	
0.212	43	
0.150	6	
0.063	1.0	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Signed: [Redacted]

[] [Redacted] - Section Manager

[✓] [Redacted] - Laboratory Manager

For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory



0001

Determination of Particle Size Distribution

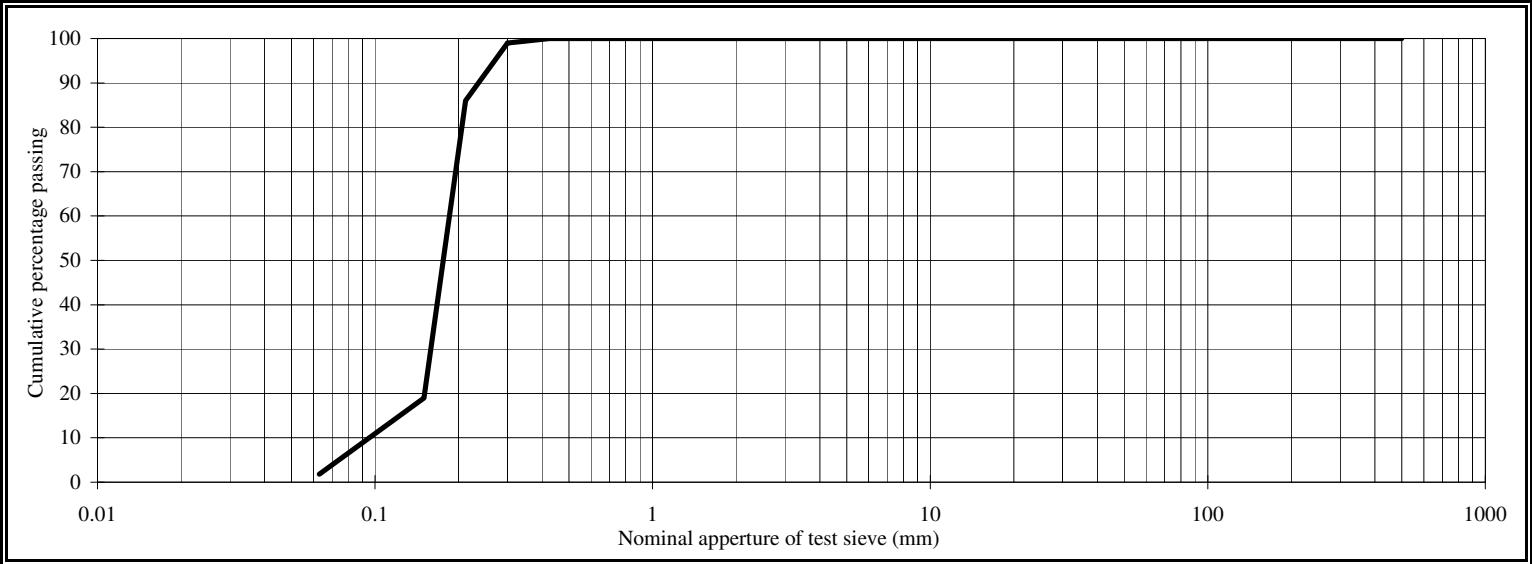
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/14
Batch Number: DAM0040487
Lab Ref: 45180817
Client Ref: S1307163
Location: G22
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 28.03.13
Sample Type: Disturbed
Sample Mass (kg): 1

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	100	
0.300	99	
0.212	86	
0.150	19	
0.063	1.8	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 08.04.13
Signed: [Redacted]
For and on behalf of Environmental Scientifics Group

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory



0001

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode: DE15 0XD

Site: Job Number: S131671

Sampled by: Client

Sampled from: Site

Supplier: Client

Source: Site

Report No: 50171428/13/14

Batch Number: DAM0040487

Lab Ref: 45180817

Client Ref: S1307163

Location: G22

Date Sampled: 13.03.13

Date Received: 21.03.13

Date Tested: 28.03.13

Sample Type: Disturbed

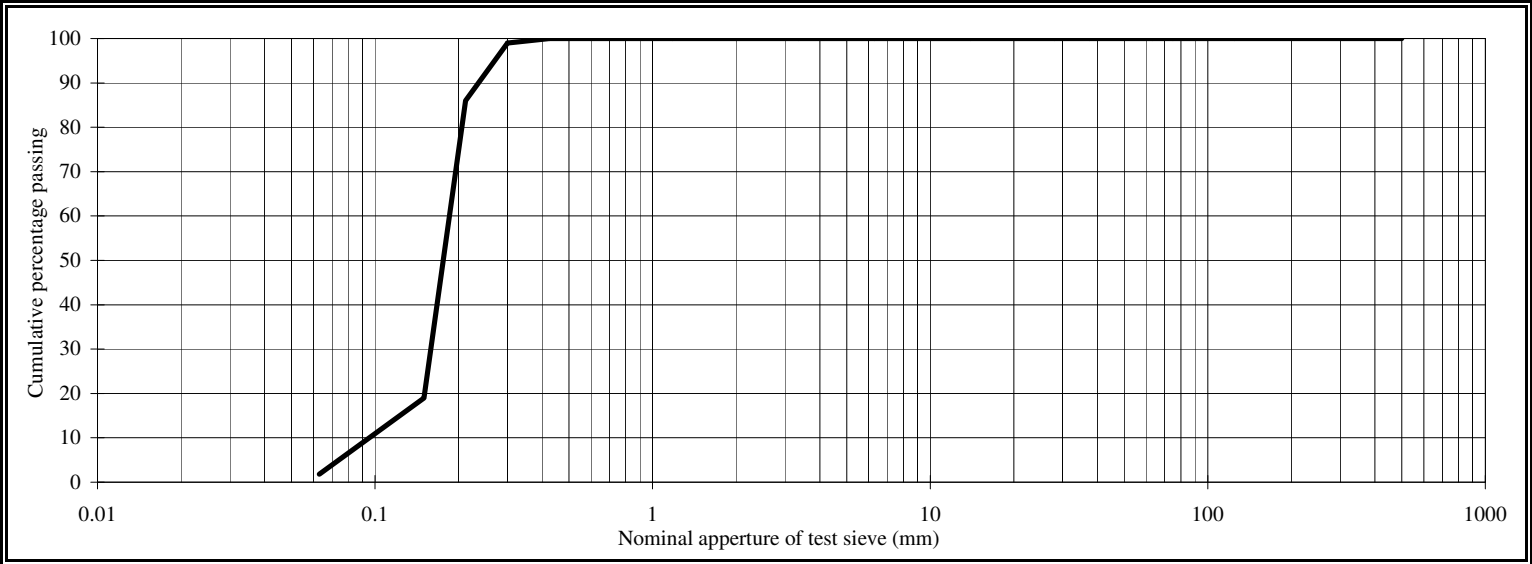
Sample Mass (kg): 1

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	100	
0.300	99	
0.212	86	
0.150	19	
0.063	1.8	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1

Date: 08.04.13

[Redacted]

Signed: _____

For and on behalf of Environmental Scientifics Group

[] [Reda - Section Manager

[✓] [Redact - Laboratory Manager



0001

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode: DE15 0XD

Site: Job Number: S131671

Sampled by: Client

Sampled from: Site

Supplier: Client

Source: Site

Report No: 50171428/13/15

Batch Number: DAM0040487

Lab Ref: 45180818

Client Ref: S1307164

Location: G23

Date Sampled: 13.03.13

Date Received: 21.03.13

Date Tested: 03.04.13

Sample Type: Disturbed

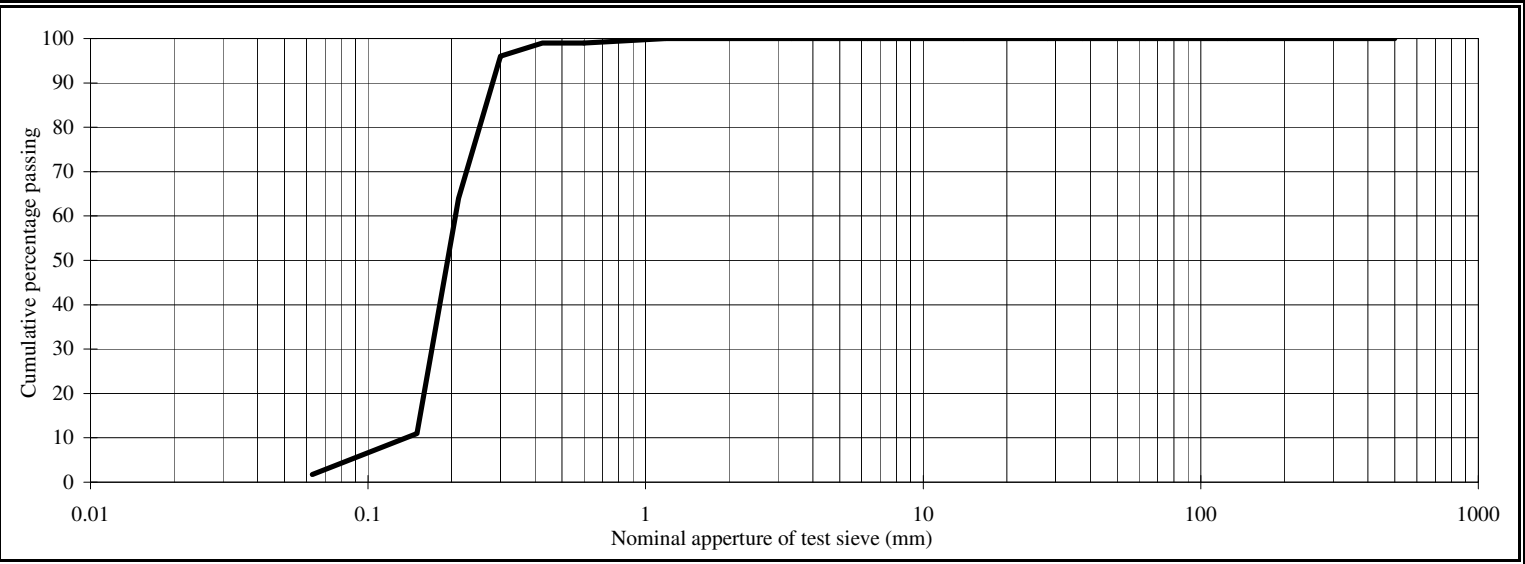
Sample Mass (kg): 1.2

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	99	
0.425	99	
0.300	96	
0.212	64	
0.150	11	
0.063	1.7	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1

Date: 08.04.13

[Redacted]

Signed: _____

For and on behalf of Environmental Scientifics Group

[Redacted] - Section Manager

[Redacted] - Laboratory Manager



0001

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode: DE15 0XD

Site: Job Number: S131671

Sampled by: Client

Sampled from: Site

Supplier: Client

Source: Site

Report No: 50171428/13/16

Batch Number: DAM0040487

Lab Ref: 45180819

Client Ref: S1307165

Location: G24

Date Sampled: 13.03.13

Date Received: 21.03.13

Date Tested: 05.04.13

Sample Type: Disturbed

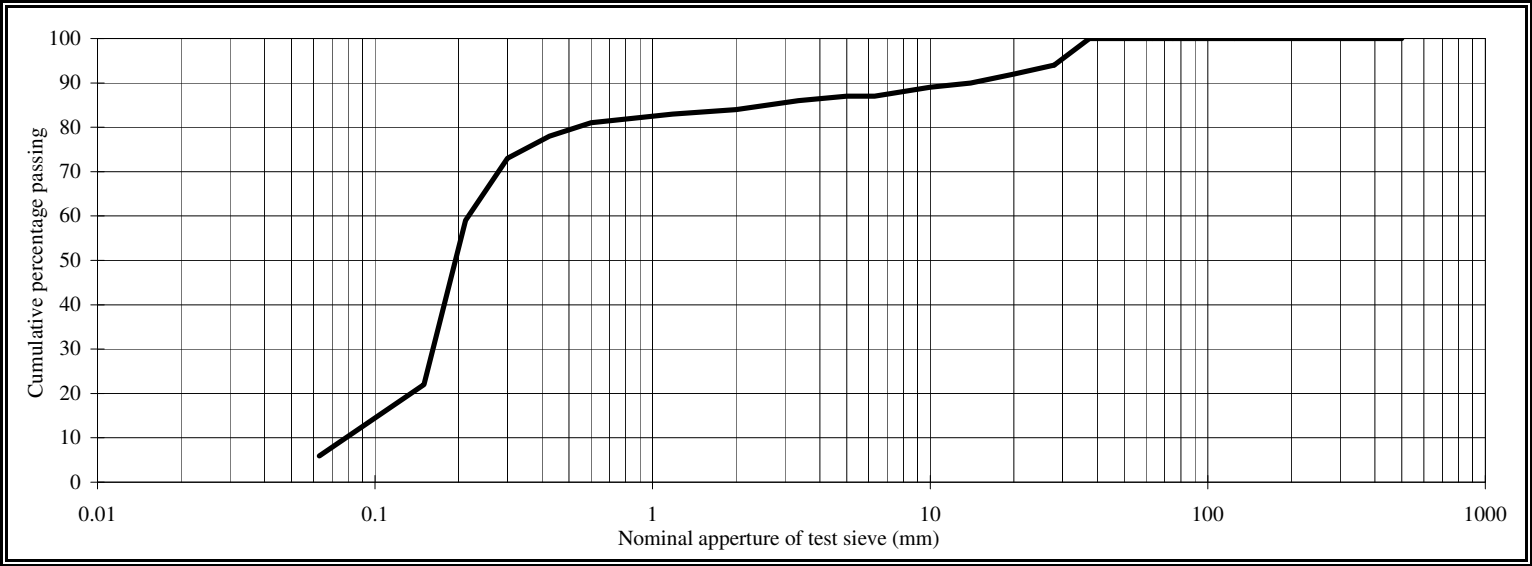
Sample Mass (kg): 0.8

Description: Brown grey SAND with occasional Gravel

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	94	
20	92	
14	90	
10	89	
6.3	87	
5	87	
3.35	86	
2	84	
1.18	83	
0.600	81	
0.425	78	
0.300	73	
0.212	59	
0.150	22	
0.063	5.9	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1

Date: 08.04.13

[Redacted]

Signed: _____

For and on behalf of Environmental Scientifics Group

[] [Redact] Section Manager

[✓] [Redact] - Laboratory Manager



0001

Determination of Particle Size Distribution

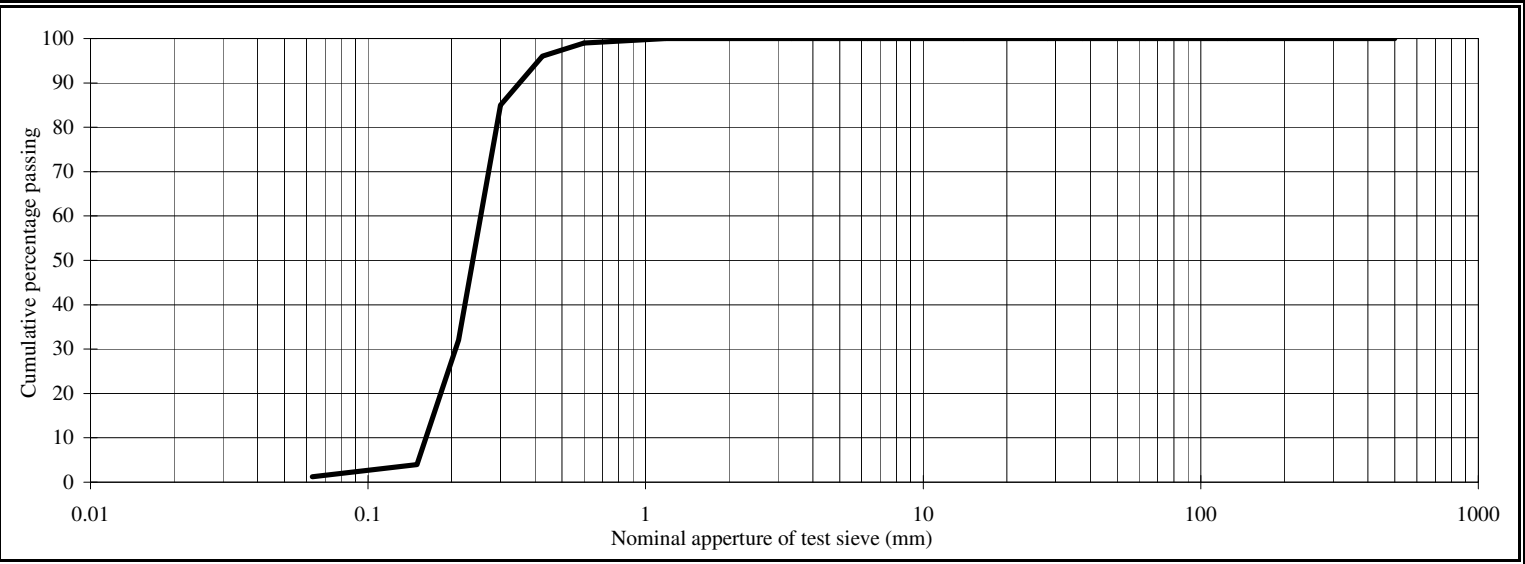
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131671
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171428/13/17
Batch Number: DAM0040487
Lab Ref: 45180820
Client Ref: S1307166
Location: G25
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 05.04.13
Sample Type: Disturbed
Sample Mass (kg): 0.6

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	99	
0.425	96	
0.300	85	
0.212	32	
0.150	4	
0.063	1.2	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 08.04.13
Signed: [Redacted] [Redacted] Section Manager
[Redacted] - Laboratory Manager
For and on behalf of Environmental Scientifics Group



0001

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode: DE15 0XD

Site: Job Number: S131671

Sampled by: Client

Sampled from: Site

Supplier: Client

Source: Site

Report No: 50171428/13/18

Batch Number: DAM0040487

Lab Ref: 45180821

Client Ref: S1307167

Location: G26

Date Sampled: 13.03.13

Date Received: 21.03.13

Date Tested: 05.04.13

Sample Type: Disturbed

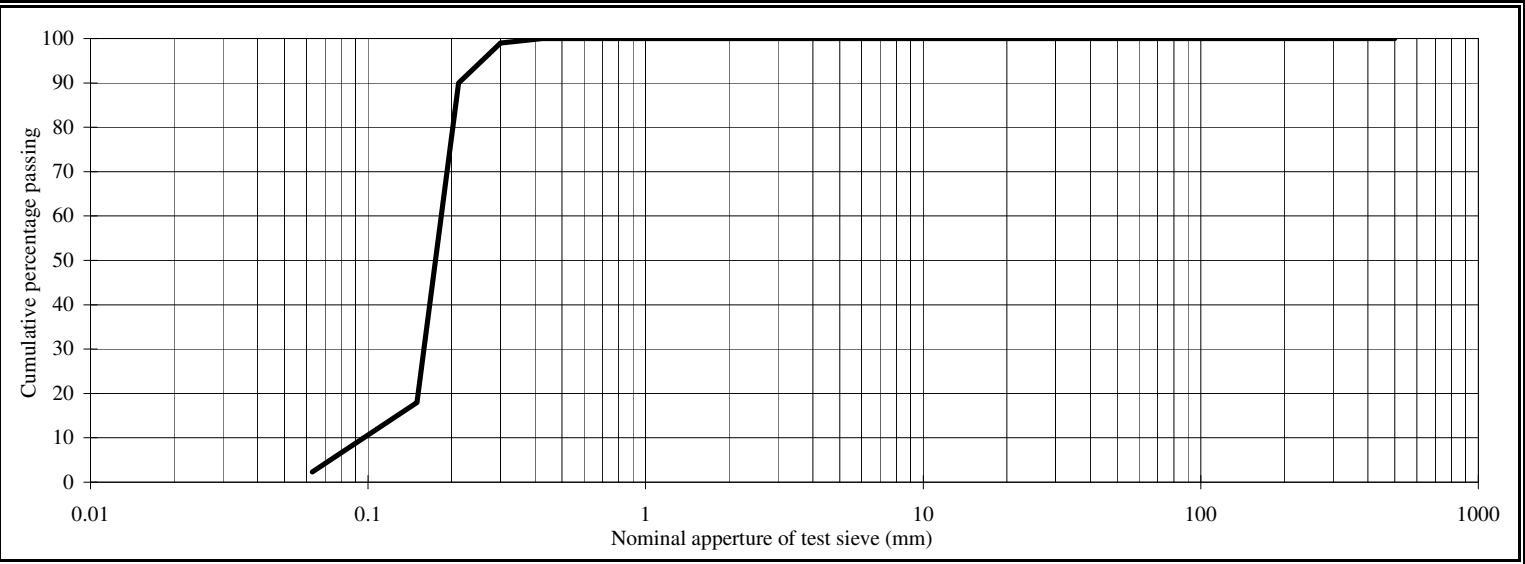
Sample Mass (kg): 1.1

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	100	
0.300	99	
0.212	90	
0.150	18	
0.063	2.3	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1

Date: 08.04.13

[Redacted]

Signed: _____

For and on behalf of Environmental Scientifics Group

[] [Reda - Section Manager

[✓] [Redact - Laboratory Manager



0001

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode: DE15 0XD

Site: Job Number: S131671

Sampled by: Client

Sampled from: Site

Supplier: Client

Source: Site

Report No: 50171428/13/19

Batch Number: DAM0040487

Lab Ref: 45180822

Client Ref: S1307168

Location: G27

Date Sampled: 13.03.13

Date Received: 21.03.13

Date Tested: 05.04.13

Sample Type: Disturbed

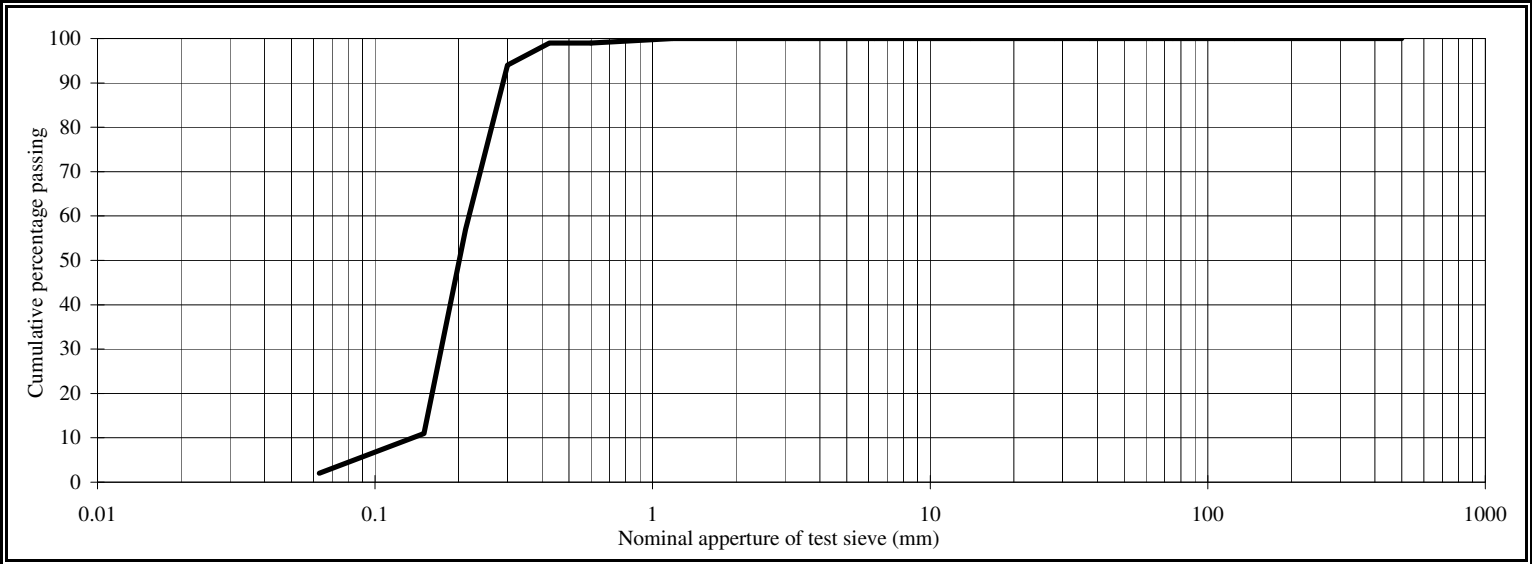
Sample Mass (kg): 1.4

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	99	
0.425	99	
0.300	94	
0.212	57	
0.150	11	
0.063	2.0	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1

Date: 08.04.13



[Redacted]

Signed: _____

For and on behalf of Environmental Scientifics Group

[] [Reda - Section Manager

[✓] [Redact - Laboratory Manager

			ASBESTOS ANALYSIS RESULTS - SOIL ANALYSIS							Detection limit of Method SCI-ASB-020 is 0.001%	
			ESG Asbestos limited Certificate of Analysis for Asbestos in Soils							Sampling has been carried out by client	
Client:			ESG Environmental Chemistry						Page 1 of 2		
Address:			Etwall House, Bretby Business Park, Ashby Road, Burton upon Trent						Report No: ANO-0488-5765		
For the attention of:			EnviroCentre Ltd						Report Date: 26/03/2013		
Site Address:									Project Number: S131671		
Sample Number	Sample Date	Sample Location	Test Date	Total Sample Dry Weight (g)	Weight of <2mm Fraction (g)	Asbestos(g) in >8mm+>2mm	Asbestos(g) in <2mm	% Asbestos by weight of Total Dried Sample	Asbestos Fibre Types Identified		
CL/1307150	13/03/13	G1	25/03/2013					Screen Only	NADIS		
CL/1307151	13/03/13	G3	25/03/2013					Screen Only	NADIS		
CL/1307152	13/03/13	G5	25/03/2013					Screen Only	NADIS		
CL/1307153	13/03/13	G7	25/03/2013					Screen Only	NADIS		
CL/1307154	13/03/13	G9	25/03/2013					Screen Only	NADIS		
CL/1307155	13/03/13	G11	25/03/2013					Screen Only	NADIS		
CL/1307156	12/03/13	G13	25/03/2013					Screen Only	NADIS		
CL/1307157	12/03/13	G15	25/03/2013					Screen Only	NADIS		
CL/1307158	13/03/13	G16	25/03/2013					Screen Only	NADIS		
CL/1307159	13/03/13	G17	25/03/2013					Screen Only	NADIS		
CL/1307160	12/03/13	G19	25/03/2013					Screen Only	NADIS		
CL/1307161	12/03/13	G20	25/03/2013					Screen Only	NADIS		
CL/1307162	12/03/13	G21	25/03/2013					Screen Only	NADIS		
CL/1307163	12/03/13	G22	25/03/2013					Screen Only	NADIS		
CL/1307164	12/03/13	G23	25/03/2013					Screen Only	NADIS		
CL/1307165	12/03/13	G24	25/03/2013					Screen Only	NADIS		
CL/1307166	12/03/13	G25	25/03/2013					Screen Only	NADIS		
CL/1307167	12/03/13	G26	25/03/2013					Screen Only	NADIS		
CL/1307168	13/03/13	G27	25/03/2013					Screen Only	NADIS		
CL/1307169	13/03/13	G28	25/03/2013					Screen Only	NADIS		
Keys		NAACR = Not Analysed at Clients Request			NAIIS = No Asbestos Identified in Sample (Screens Only)			Name:		IRedact	Authorised Signatory:
					NADIS = No Asbestos Detected in Sample (ID & Quant Only)			Position:		Lab Project Manager	[Redacted]
The sample analysis for the above results was carried out using the procedures detailed in ESG Asbestos Limited in house method (SCI-ASB-020) based on HSE document MDHS 90 - Asbestos Contaminated Land - Draft 5 - November 1997 (withdrawn). Fibre identification was carried out using ESG Asbestos Limited in house method of transmitted/polarised light microscopy and centre stop dispersion staining (SCI-ASB-007), based on HSE's HSG 248. The analysis of fine fraction for asbestos content only includes fibres and does not discriminate non-asbestos fibres. All fibres are assumed, unless specified, to be amphiboles. All tests were carried out at ESG Asbestos Laboratory, Ashbourne House, Bretby Business Park, Ashby Road, Burton-upon-Trent, Staffordshire. DE15 0XD, UKAS Laboratory Number 1089.											



0001

TEST REPORT

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode: DE15 0XD

Site: Job Number: S131671

Sampled by: Client

Sampled from: Site

Supplier: Client

Source: Site

Report No: 50171428/13/20

Batch Number: DAM0040487

Lab Ref: 45180823

Client Ref: S1307169

Location: G28

Date Sampled: 13.03.13

Date Received: 21.03.13

Date Tested: 05.04.13

Sample Type: Disturbed

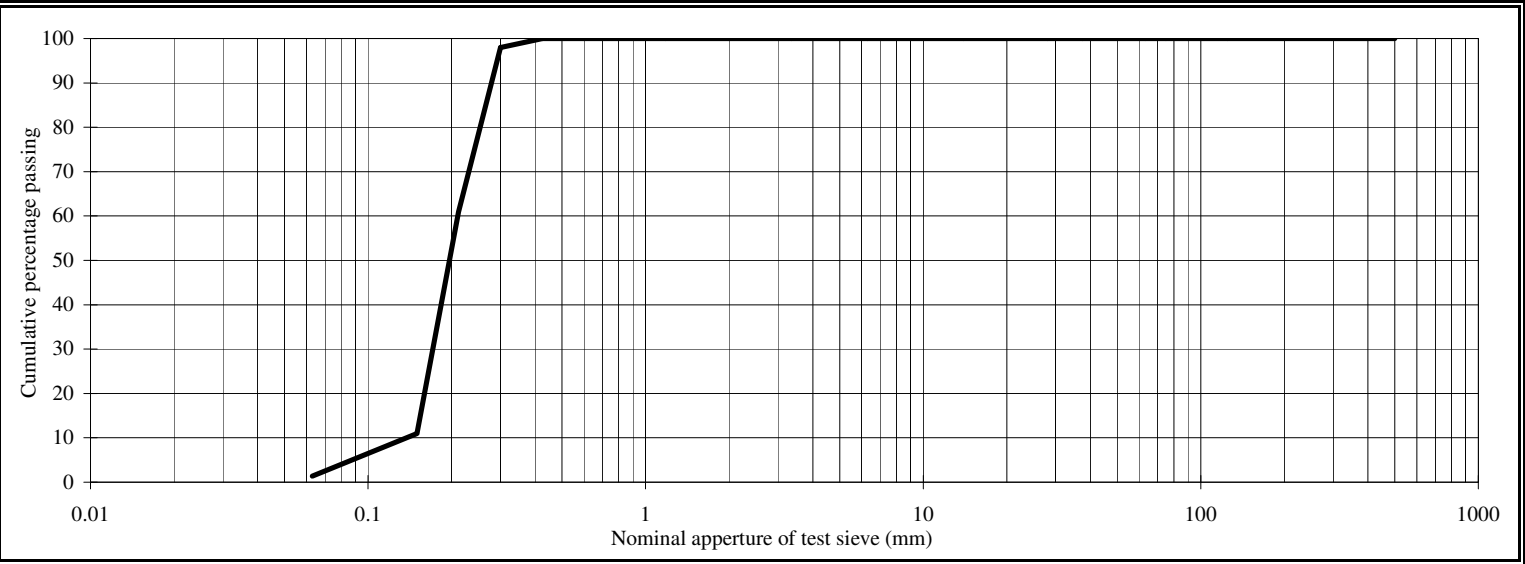
Sample Mass (kg): 0.9

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	100	
0.300	98	
0.212	61	
0.150	11	
0.063	1.4	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

[Redacted]

Page: 1 of 1
Date: 08.04.13

Signed: _____
For and on behalf of Environmental Scientifics Group

[] [Reda - Section Manager
[✓] [Redact - Laboratory Manager

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SOIL Analysis

ESG Environmental Chemistry

Analytical and Deviating Sample Overview

S131671

Customer EnviroCentre Ltd
 Site Whiteness Grabs
 Report No S131671

Consignment No S34150

Date Logged 15-Mar-2013

Report Due 25-Mar-2013

Report Due 23 Mar 2016																						
WSLM59	Total Organic Carbon		TMSS	Tot.Moisture @ 105C	✓																	
Sub018	^Particle Size Dist																					
Sub005	^Triphenyltin																					
	^Tributyltin																					
	^Dibutyltin																					
Sub002a	^Asbestos Screen	✓																				
PHSOIL	pH units (AR)	✓																				
PCBUSECONAR	PCB-7 Congeners Analysis																					
PAHMSUS	PAH (16) by GCMS	✓																				
MCerts	MCerts Analysis	✓																				
		Zinc (MS)	✓																			
		Nickel (MS)	✓																			
		Mercury (MS)	✓																			
		Lead (MS)	✓																			
		Copper (MS)	✓																			
		Chromium (MS)	✓																			
		Cadmium (MS)	✓																			
		Arsenic (MS)	✓																			
		REPORT A																				
AMMAR	Exchange.Ammonium AR	✓																				
MethodID	Sampled	Accredited to ISO17025																				
Description	ID Number																					
		G1	CL/1307150	13/03/13																		
		G3	CL/1307151	13/03/13																		
		G5	CL/1307152	13/03/13																		
		G7	CL/1307153	13/03/13																		
		G9	CL/1307154	13/03/13																		
		G11	CL/1307155	13/03/13																		
		G13	CL/1307156	12/03/13																		
		G15	CL/1307157	12/03/13																		
		G16	CL/1307158	13/03/13																		
		G17	CL/1307159	13/03/13																		
		G19	CL/1307160	12/03/13																		
		G20	CL/1307161	12/03/13																		
		G21	CL/1307162	12/03/13																		
		G22	CL/1307163	12/03/13																		
		G23	CL/1307164	12/03/13																		

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- Analysis Subcontracted - **Note: due date may vary**

S131671

Report Due 25-Mar-2013

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	ICPMSS	Air Dried	Determination of Metals in soil samples by aqua regia digestion followed by ICPMS
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
Soil	PCBUSECDAR	As Received	Determination of Polychlorinated Biphenyl (PCB) congeners/aroclors by hexane/acetone extraction followed by GCECD detection
Soil	PHSOIL	As Received	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.
Soil	SubCon*	*	Contact Laboratory for details of the methodology used by the sub-contractor.
Soil	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis
Soil	WSLM59	Air Dried	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³ @ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

CR Denotes Crocidolite

AM Denotes Amosite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

NS Information Not Supplied

Req Analysis requested, see attached sheets for results

▮ Raised detection limit due to nature of the sample

* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

Sample Descriptions

Client : EnviroCentre Ltd
Site : Whiteness Grabs
Report Number : S13_1671M

Note: major constituent in upper case

[illegible]

Our Ref: EFS/131670M (Ver. 4)

Your Ref: 363854j

April 9, 2013

ESG 
Environmental Scientifics Group
Environmental Chemistry
ESG
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0YZ

Telephone: 01283 554400

Facsimile: 01283 554422

[Redacted]
EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

For the attention of [Redacted]

Dear [Redacted]

Soil Sample Analysis - Whiteness Grabs

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 26/04/13 when they will be discarded. Please call 01283 554467 for an extension of this date.

Please be aware that our policy for the retention of paper based laboratory records and analysis reports is 6 years.

The work was carried out in accordance with Environmental Scientifics Group Ltd (Laboratory and Analytical) Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for ESG
[Redacted]

Project Co-ordinator

[Redacted]

TEST REPORT

SOIL SAMPLE ANALYSIS



Report No. EFS/131670M (Ver. 4)

EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

Site: Whiteness Grabs

The 1 sample described in this report were registered for analysis by ESG on 15-Mar-2013. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 09-Apr-2013

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS or MCERTS accredited. Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by ESG.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of PAH (MS-SIM) (80) Results (Page 4)
Table of PCB Congener Results (Page 5)
Particle Size Distribution (Page 6)
Table of Asbestos Screening Results (Page 7)
Analytical and Deviating Sample Overview (Page 8)
Table of Method Descriptions (Page 9)
Table of Report Notes (Page 10)
Table of Sample Descriptions (Appendix A Page 1 of 1)

[Redacted]

On behalf of
ESG :
[Redacted]

Operations Director
Laboratory and Analytical Business

Date of Issue: 09-Apr-2013

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)

Tests marked 'N' have been subcontracted to another laboratory.

(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.

All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
ESG accepts no responsibility for any sampling not carried out by our personnel.

[illegible]

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G29	Job Number:	S13_1670M
LIMS ID Number:	CL1307149	Date Booked in:	15-Mar-13
QC Batch Number:	130232	Date Extracted:	19-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	20-Mar-13
Directory:	1913PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.15	-	UM
Acenaphthylene	208-96-8	-	< 0.15	-	U
Acenaphthene	83-32-9	-	< 0.15	-	UM
Fluorene	86-73-7	-	< 0.15	-	UM
Phenanthrene	85-01-8	-	< 0.15	-	UM
Anthracene	120-12-7	-	< 0.15	-	U
Fluoranthene	206-44-0	-	< 0.15	-	UM
Pyrene	129-00-0	-	< 0.15	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.15	-	UM
Chrysene	218-01-9	-	< 0.15	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.15	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.15	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.15	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.15	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.15	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.15	-	UM
Total (USEPA16) PAHs	-	-	< 2.42	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	140
Acenaphthene-d10	133
Phenanthrene-d10	145
Chrysene-d12	160
Perylene-d12	150

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	102
Terphenyl-d14	104

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polychlorinated Biphenyls (congeners)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs
Job Number:	S13_1670M
QC Batch Number:	130062
Directory:	0319PCB.GC8
Method:	Ultrasonic
Accreditation code:	N

Matrix: SOIL
Date Booked in: 15-Mar-13
Date Extracted: 18-Mar-13
Date Analysed: 19-Mar-13

[illegible]



0001

Determination of Particle Size Distribution

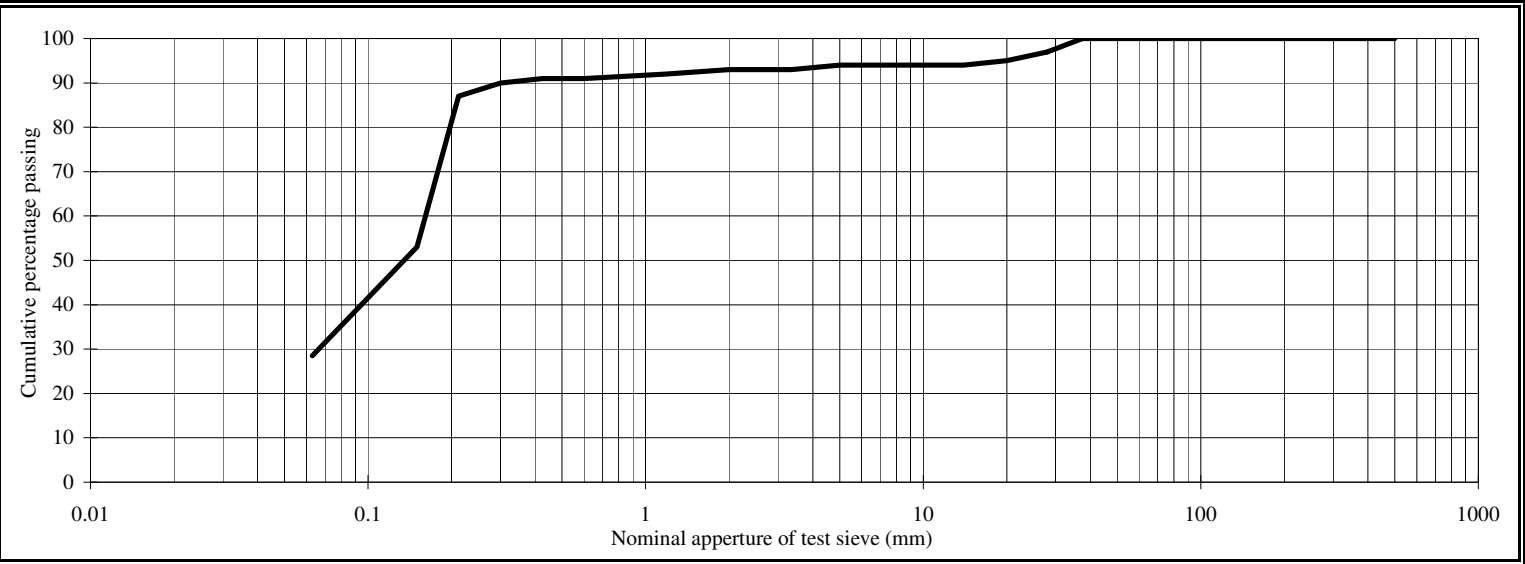
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131670
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50171694/13/01
Batch Number: DAM0040669
Lab Ref: 45181638
Client Ref: G29
Date Sampled: 13.03.13
Date Received: 21.03.13
Date Tested: 05.04.13
Sample Type: Disturbed
Sample Mass (kg): 1.0

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	97	
20	95	
14	94	
10	94	
6.3	94	
5	94	
3.35	93	
2	93	
1.18	92	
0.600	91	
0.425	91	
0.300	90	
0.212	87	
0.150	53	
0.063	28.5	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

[Redacted]

Signed: _____
For and on behalf of Environmental Scientifics Group

[] [Redacted] - Section Manager
[✓] [Redacted] - Laboratory Manager

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory

ASBESTOS ANALYSIS RESULTS - SOIL ANALYSIS

ESG Asbestos limited Certificate of Analysis for Asbestos in Soils



Detection limit of Method SCI-ASB-020 is 0.001%

Sampling has been carried out by client

1089

Client:	ESG Environmental Chemistry
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Page 1 of 1

Address:	Etwall House, Bretby Business Park, Ashby Road, Burton upon Trent
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Report No:	ANO-0488-5760
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For the attention of:	EnviroCentre Ltd
-----------------------	------------------

Report Date:	25/03/2013
--------------	------------

Site Address:		Project Number:	S131670
---------------	--	-----------------	---------

Project Number:	S131670
-----------------	---------

[illegible]

Keys	NAACR = Not Analysed at Clients Request	NAIIS = No Asbestos Identified in Sample (Screens Only)	Name:	[Redact]	Authorised Signatory:
		NADIS = No Asbestos Detected in Sample (ID & Quant Only)	Position:	Lab Project Manager	[Redacted]

The sample analysis for the above results was carried out using the procedures detailed in ESG Asbestos Limited in house method (SCI-ASB-020) based on HSE document MDHS 90 - Asbestos Contaminated Land - Draft 5 - November 1997 (withdrawn). Fibre identification was carried out using ESG Asbestos Limited in house method of transmitted/polarised light microscopy and centre stop dispersion staining (SCI-ASB-007), based on HSE's HSG 248. The analysis of fine fraction for asbestos content only includes fibres and does not discriminate non-asbestos fibres. All fibres are assumed, unless specified, to be amphiboles. All tests were carried out at ESG Asbestos Laboratory, Ashbourne House, Bretby Business Park, Ashby Road, Burton-upon-Trent, Staffordshire. DE15 0XD, UKAS Laboratory Number 1089.

Customer EnviroCentre Ltd
Site Whiteness Grabs
Report No S131670

Consignment No S34150
Date Logged 15-Mar-2013

Report Due 25-Mar-2013

WSL.M59	Total Organic Carbon																	
TMSS	Tot.Moisture @ 105C															✓		
Sub018	^Particle Size Dist																	
Sub005	^Triphenyltin																	
	^Tributyltin																	
	^Dibutyltin																	
Sub002a	^Asbestos Screen															✓		
PHSOIL	pH units (AR)															✓		
PCBUSE.G0AR	PCB-7 Congeners Analysis																	
PAHMSUS	PAH (16) by GCMS															✓		
MCerts	MCerts Analysis															✓		
	Zinc (MS)															✓		
	Nickel (MS)															✓		
	Mercury (MS)															✓		
	Lead (MS)															✓		
	Copper (MS)															✓		
	Chromium (MS)															✓		
	Cadmium (MS)															✓		
	IC PMSS	Arsenic (MS)															✓	
	CustServ	REPORT A																
AMMAR	Exchange.Ammonium AR															✓		
MethodID	Sampled																	
	Description															Accredited to ISO17025		
																13/03/13		
ID Number																CL/1307149		
																G29		

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	ICPMSS	Air Dried	Determination of Metals in soil samples by aqua regia digestion followed by ICPMS
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
Soil	PCBUSECDAR	As Received	Determination of Polychlorinated Biphenyl (PCB) congeners/aroclors by hexane/acetone extraction followed by GCECD detection
Soil	PHSOIL	As Received	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.
Soil	SubCon*	*	Contact Laboratory for details of the methodology used by the sub-contractor.
Soil	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis
Soil	WSLM59	Air Dried	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

CR Denotes Crocidolite

AM Denotes Amosite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

NS Information Not Supplied

Req Analysis requested, see attached sheets for results

▮ Raised detection limit due to nature of the sample

* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

Sample Descriptions

Client : EnviroCentre Ltd
Site : Whiteness Grabs
Report Number : S13_1670M

Note: major constituent in upper case

[illegible]

Our Ref: EFS/131670M (Ver. 3)

Your Ref: 363854j

April 9, 2013



Environmental Chemistry

ESG

Bretby Business Park

Ashby Road

Burton-on-Trent

Staffordshire

DE15 0YZ

Telephone: 01283 554400

Facsimile: 01283 554422

[Redacted]
EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

For the attention of [Redacted]

Dear [Redacted]

Soil Sample Analysis - Whiteness Grabs

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 26/04/13 when they will be discarded. Please call 01283 554467 for an extension of this date.

Please be aware that our policy for the retention of paper based laboratory records and analysis reports is 6 years.

The work was carried out in accordance with Environmental Scientifics Group Ltd (Laboratory and Analytical) Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for ESG
[Redacted]

Project Co-ordinator

[Redacted]

TEST REPORT

SOIL SAMPLE ANALYSIS



Interim Report Report No. EFS/131670M (Ver. 3)

EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

Site: Whiteness Grabs

The 1 sample described in this report were registered for analysis by ESG on 15-Mar-2013. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 09-Apr-2013

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS or MCERTS accredited. Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by ESG.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of PAH (MS-SIM) (80) Results (Page 4)
Table of PCB Congener Results (Page 5)
Table of Asbestos Screening Results (Page 6)
Analytical and Deviating Sample Overview (Page 7)
Table of Method Descriptions (Page 8)
Table of Report Notes (Page 9)
Table of Sample Descriptions (Appendix A Page 1 of 1)

[Redacted]

On behalf of
ESG :

[Redacted]

Operations Director
Laboratory and Analytical Business

Date of Issue: 09-Apr-2013

Accreditation Codes: **N** (Not Accredited), **U** (UKAS), **UM** (UKAS & MCERTS)

Tests marked 'N' have been subcontracted to another laboratory.

(NVM) - denotes the sample matrix is dissimilar to matrices upon which the MCERTS validation was based, and is therefore not accredited for MCERTS.

All results are reported on a dry weight basis at 105°C unless otherwise stated. (except QC samples)
ESG accepts no responsibility for any sampling not carried out by our personnel.

[illegible]

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs		
Sample Details:	G29	Job Number:	S13_1670M
LIMS ID Number:	CL1307149	Date Booked in:	15-Mar-13
QC Batch Number:	130232	Date Extracted:	19-Mar-13
Quantitation File:	Initial Calibration	Date Analysed:	20-Mar-13
Directory:	1913PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

Accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit	Accr. code
Naphthalene	91-20-3	-	< 0.15	-	UM
Acenaphthylene	208-96-8	-	< 0.15	-	U
Acenaphthene	83-32-9	-	< 0.15	-	UM
Fluorene	86-73-7	-	< 0.15	-	UM
Phenanthrene	85-01-8	-	< 0.15	-	UM
Anthracene	120-12-7	-	< 0.15	-	U
Fluoranthene	206-44-0	-	< 0.15	-	UM
Pyrene	129-00-0	-	< 0.15	-	UM
Benzo[a]anthracene	56-55-3	-	< 0.15	-	UM
Chrysene	218-01-9	-	< 0.15	-	UM
Benzo[b]fluoranthene	205-99-2	-	< 0.15	-	UM
Benzo[k]fluoranthene	207-08-9	-	< 0.15	-	UM
Benzo[a]pyrene	50-32-8	-	< 0.15	-	UM
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.15	-	UM
Dibenzo[a,h]anthracene	53-70-3	-	< 0.15	-	UM
Benzo[g,h,i]perylene	191-24-2	-	< 0.15	-	UM
Total (USEPA16) PAHs	-	-	< 2.42	-	N

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	140
Acenaphthene-d10	133
Phenanthrene-d10	145
Chrysene-d12	160
Perylene-d12	150

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	102
Terphenyl-d14	104

Concentrations are reported on a dry weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polychlorinated Biphenyls (congeners)

Customer and Site Details:	EnviroCentre Ltd: Whiteness Grabs
Job Number:	S13_1670M
QC Batch Number:	130062
Directory:	0319PCB.GC8
Method:	Ultrasonic
Accreditation code:	N

Matrix:	SOIL
Date Booked in:	15-Mar-13
Date Extracted:	18-Mar-13
Date Analysed:	19-Mar-13

[illegible]

Customer EnviroCentre Ltd
Site Whiteness Grabs
Report No S131670

Consignment No S34150
Date Logged 15-Mar-2013

Report Due 25-Mar-2013

WSLMS9	Total Organic Carbon													
TMSS	Tot.Moisture @ 105C											✓		
Sub018	^Particle Size Dist													
Sub005	^Triphenyltin													
	^Tributyltin													
	^Dibutyltin													
Sub002a	^Asbestos Screen											✓		
PHSOIL	pH units (AR)											✓		
PCBUSECDAR	PCB-7 Congeners Analysis													
PAHMSUS	PAH (16) by GCMS											✓		
MCCerts	MCCerts Analysis											✓		
	Zinc (MS)											✓		
	Nickel (MS)											✓		
	Mercury (MS)											✓		
	Lead (MS)											✓		
	Copper (MS)											✓		
	Chromium (MS)											✓		
ICPMSS	Cadmium (MS)											✓		
	Arsenic (MS)											✓		
	REPORT A													
AMMAR	Exchange.Ammonium AR											✓		
MethodID	Sampled													
	Description											Accredited to ISO17025		
ID Number	ID Number											CL/1307149		
												G29		
											13/03/13			

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time
Requested Analysis Key	
	Analysis Required
	Analysis dependant upon trigger result - Note: due date may be affected if triggered
	No analysis scheduled
^	Analysis Subcontracted - Note: due date may vary

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	AMMAR	As Received	Determination of Exchangeable Ammonium in Soil using potassium chloride extraction, discrete colorimetric detection
Soil	ICPMSS	Air Dried	Determination of Metals in soil samples by aqua regia digestion followed by ICPMS
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
Soil	PCBUSECDAR	As Received	Determination of Polychlorinated Biphenyl (PCB) congeners/aroclors by hexane/acetone extraction followed by GCECD detection
Soil	PHSOIL	As Received	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.
Soil	SubCon*	*	Contact Laboratory for details of the methodology used by the sub-contractor.
Soil	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis
Soil	WSLM59	Air Dried	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

CR Denotes Crocidolite

AM Denotes Amosite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

NS Information Not Supplied

Req Analysis requested, see attached sheets for results

▮ Raised detection limit due to nature of the sample

* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

Sample Descriptions

Client : EnviroCentre Ltd

Site : Whiteness Grabs

Report Number : S13_1670M

Note: major constituent in upper case

[illegible]

Our Ref: EFS/131009 (Ver. 2)

Your Ref:

March 21, 2013

ESG 
Environmental Scientifics Group
Environmental Chemistry
ESG
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0YZ

Telephone: 01283 554400

Facsimile: 01283 554422

[Redact]
EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

For the attention of [Redact]

Dear [Reda

Soil Sample Analysis - Whiteness

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 29/03/13 when they will be discarded. Please call 01283 554467 for an extension of this date.

Please be aware that our policy for the retention of paper based laboratory records and analysis reports is 6 years.

The work was carried out in accordance with Environmental Scientifics Group Ltd (Laboratory and Analytical) Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for ESG
[Redacted]

Project Co-ordinator
[Redacted]

TEST REPORT

SOIL SAMPLE ANALYSIS



Report No. EFS/131009 (Ver. 2)

EnviroCentre Ltd
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

Site: Whiteness

The 4 samples described in this report were registered for analysis by ESG on 15-Feb-2013. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 21-Mar-2013

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by ESG.

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Table of PAH (MS-SIM) (80) Results (Pages 3 to 6)
Table of PCB Congener Results (Page 7)
Particle Size Distribution Analysis (Pages 8 to 11)
Analytical and Deviating Sample Overview (Page 12)
Table of Method Descriptions (Page 13)
Table of Report Notes (Page 14)

[Redacted]

On behalf of
ESG :
[Redacted]

Operations Director
Laboratory and Analytical Business

Date of Issue: 21-Mar-2013

Tests marked '^' have been subcontracted to another laboratory.

ESG accepts no responsibility for any sampling not carried out by our personnel.

[illegible]

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH10 14.00	Job Number:	S13_1009
LIMS ID Number:	CL1304163	Date Booked in:	15-Feb-13
QC Batch Number:	130124	Date Extracted:	18-Feb-13
Quantitation File:	Initial Calibration	Date Analysed:	19-Feb-13
Directory:	1913PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	5.79	0.18	98
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	7.16	0.27	100
Pyrene	129-00-0	7.45	0.19	97
Benzo[a]anthracene	56-55-3	9.16	0.52	98
Chrysene	218-01-9	9.21	0.36	96
Benzo[b]fluoranthene	205-99-2	10.70	0.74	90
Benzo[k]fluoranthene	207-08-9	10.74	0.30	94
Benzo[a]pyrene	50-32-8	11.13	0.55	98
Indeno[1,2,3-cd]pyrene	193-39-5	12.52	0.28	96
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	12.83	0.26	98
Total (USEPA16) PAHs	-	-	< 4.13	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	88
Acenaphthene-d10	88
Phenanthrene-d10	89
Chrysene-d12	82
Perylene-d12	80

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	106
Terphenyl-d14	90

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH11 0.50	Job Number:	S13_1009
LIMS ID Number:	CL1304164	Date Booked in:	15-Feb-13
QC Batch Number:	130124	Date Extracted:	18-Feb-13
Quantitation File:	Initial Calibration	Date Analysed:	19-Feb-13
Directory:	1913PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	5.79	0.10	99
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	7.16	0.11	96
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	9.16	0.21	96
Chrysene	218-01-9	9.21	0.15	97
Benzo[b]fluoranthene	205-99-2	10.70	0.43	92
Benzo[k]fluoranthene	207-08-9	10.74	0.19	91
Benzo[a]pyrene	50-32-8	11.13	0.33	99
Indeno[1,2,3-cd]pyrene	193-39-5	12.52	0.20	98
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	12.83	0.20	94
Total (USEPA16) PAHs	-	-	< 2.48	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	93
Acenaphthene-d10	90
Phenanthrene-d10	91
Chrysene-d12	83
Perylene-d12	81

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	104
Terphenyl-d14	90

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons

GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH11 8.00	Job Number:	S13_1009
LIMS ID Number:	CL1304165	Date Booked in:	15-Feb-13
QC Batch Number:	130124	Date Extracted:	18-Feb-13
Quantitation File:	Initial Calibration	Date Analysed:	19-Feb-13
Directory:	1913PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	9.16	0.12	92
Chrysene	218-01-9	9.21	0.09	94
Benzo[b]fluoranthene	205-99-2	10.70	0.37	82
Benzo[k]fluoranthene	207-08-9	10.74	0.16	83
Benzo[a]pyrene	50-32-8	11.13	0.28	99
Indeno[1,2,3-cd]pyrene	193-39-5	12.52	0.18	98
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	12.83	0.16	96
Total (USEPA16) PAHs	-	-	< 2.08	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	88
Acenaphthene-d10	87
Phenanthrene-d10	86
Chrysene-d12	76
Perylene-d12	70

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	97
Terphenyl-d14	83

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

Customer and Site Details:	EnviroCentre Ltd: Whiteness		
Sample Details:	BH11 14.00	Job Number:	S13_1009
LIMS ID Number:	CL1304166	Date Booked in:	15-Feb-13
QC Batch Number:	130124	Date Extracted:	18-Feb-13
Quantitation File:	Initial Calibration	Date Analysed:	19-Feb-13
Directory:	1913PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	10.70	0.28	66
Benzo[k]fluoranthene	207-08-9	10.74	0.12	92
Benzo[a]pyrene	50-32-8	11.13	0.21	99
Indeno[1,2,3-cd]pyrene	193-39-5	12.51	0.16	99
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	12.83	0.13	98
Total (USEPA16) PAHs	-	-	< 1.78	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	92
Acenaphthene-d10	91
Phenanthrene-d10	92
Chrysene-d12	83
Perylene-d12	79

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	101
Terphenyl-d14	88

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polychlorinated Biphenyls (congeners)

Customer and Site Details:	EnviroCentre Ltd: Whiteness
Job Number:	S13_1009
QC Batch Number:	130035
Directory:	0218PCB.GC8
Method:	Ultrasonic

Matrix: SOIL
Date Booked in: 15-Feb-13
Date Extracted: 18-Feb-13
Date Analysed: 19-Feb-13

*** This sample data is not UKAS accredited.**

[illegible]



0001

Determination of Particle Size Distribution

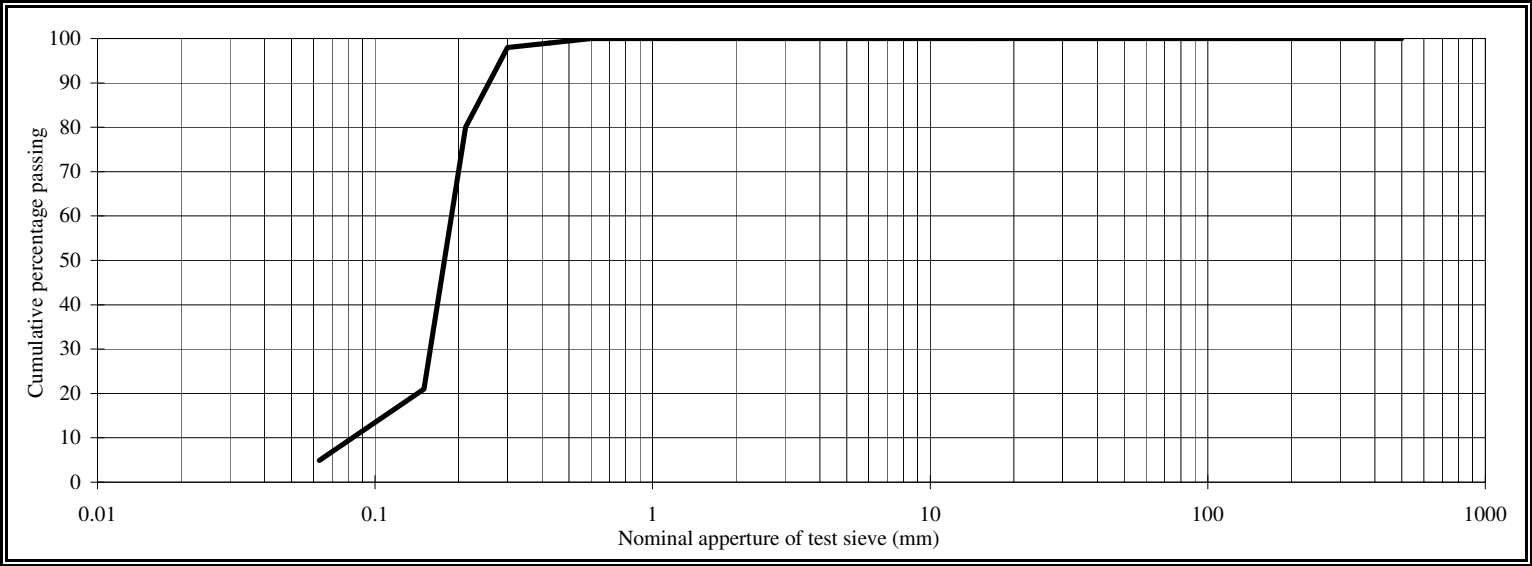
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131009
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50170642/13/01
Batch Number: DAM0040049
Lab Ref: 45178397
Client Ref: S1304163
Location: BH10
Depth (m): 14.00
Date Sampled: Not Advised
Date Received: 20.02.13
Date Tested: 22.02.13
Sample Type: Disturbed
Sample Mass (kg): 1.2

Description: Grey brown SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	99	
0.300	98	
0.212	80	
0.150	21	
0.063	4.9	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 26.02.13
Signed: [Redacted] [Redacted] - Section Manager
[Redacted] - Laboratory Manager
For and on behalf of Environmental Scientifics Group



0001

Determination of Particle Size Distribution

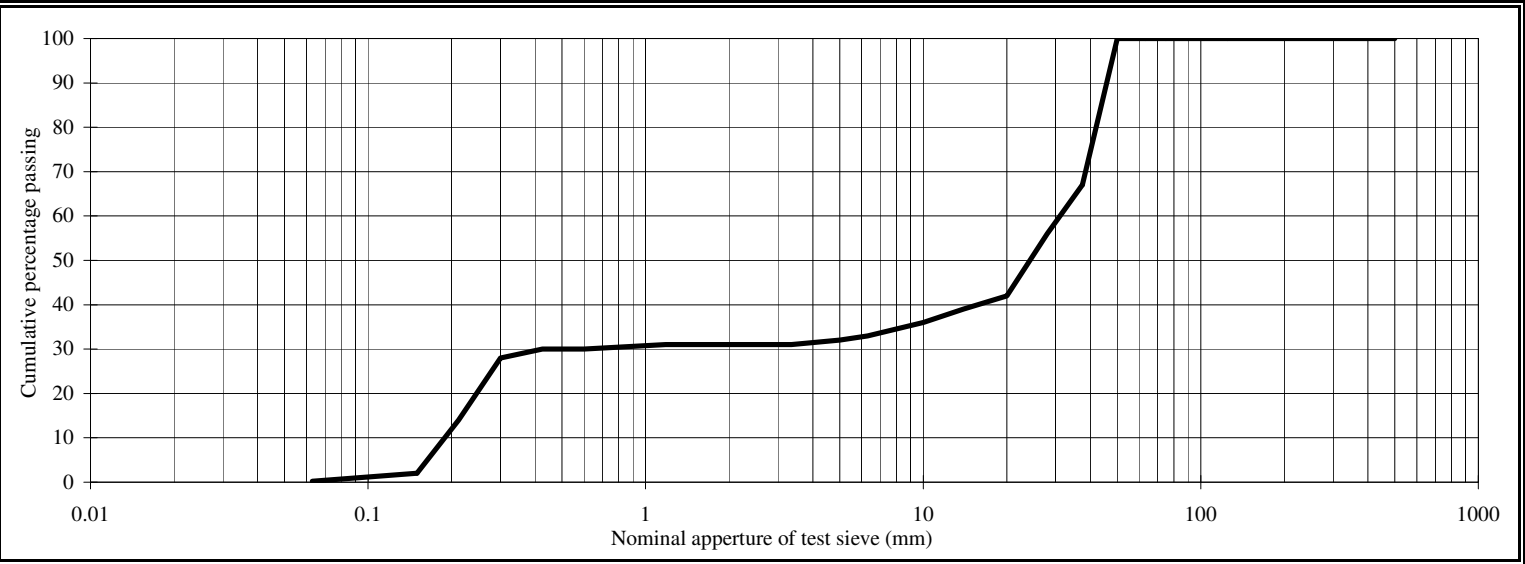
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131009
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50170642/13/02
Batch Number: DAM0040049
Lab Ref: 45178398
Client Ref: S1304164
Location: BH11
Depth (m): 0.50
Date Sampled: Not Advised
Date Received: 20.02.13
Date Tested: 22.02.13
Sample Type: Disturbed
Sample Mass (kg): 1.2

Description: Brown gravelly SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	67	
28	56	
20	42	
14	39	
10	36	
6.3	33	
5	32	
3.35	31	
2	31	
1.18	31	
0.600	30	
0.425	30	
0.300	28	
0.212	14	
0.150	2	
0.063	0.2	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

[Redacted]

Signed: _____
For and on behalf of Environmental Scientifics Group

[] [Reda - Section Manager
[✓] [Redact - Laboratory Manager

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

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0001

TEST REPORT

Determination of Particle Size Distribution

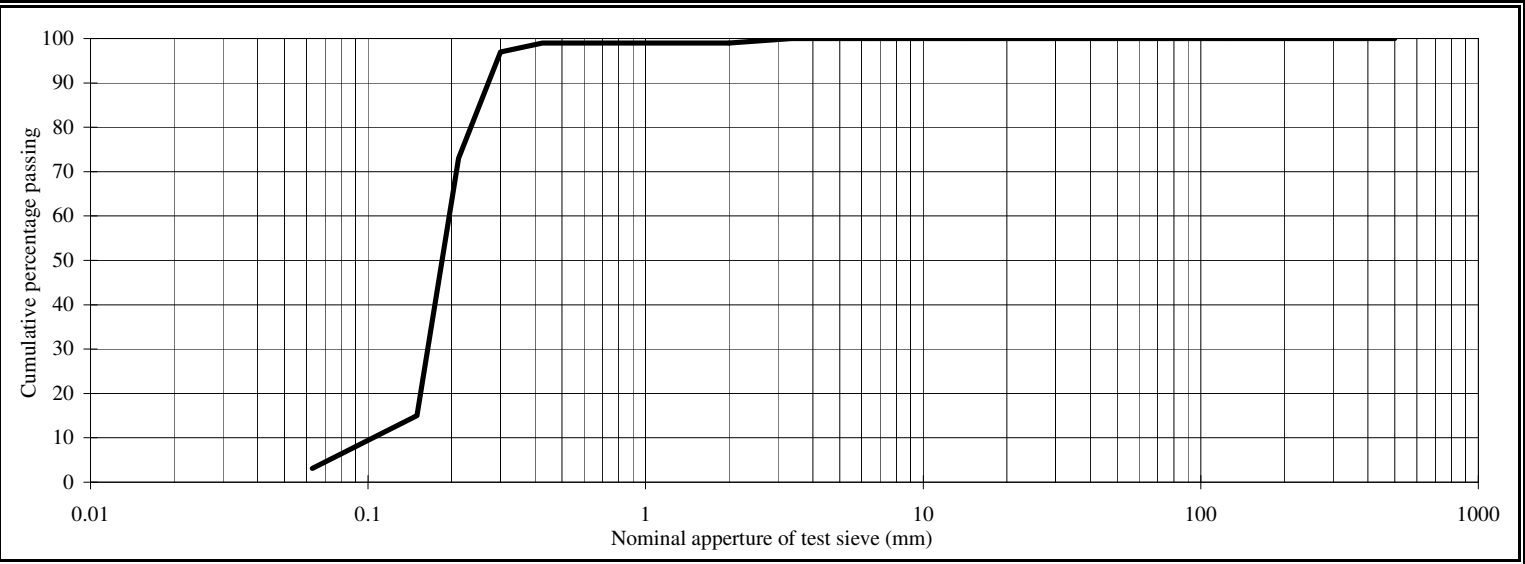
Client: Scientifics Ltd
Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire
Postcode: DE15 0XD
Site: Job Number: S131009
Sampled by: Client
Sampled from: Site
Supplier: Client
Source: Site
Report No: 50170642/13/03
Batch Number: DAM0040049
Lab Ref: 45178399
Client Ref: S1304165
Location: BH11
Depth (m): 8.00
Date Sampled: Not Advised
Date Received: 20.02.13
Date Tested: 22.02.13
Sample Type: Disturbed
Sample Mass (kg): 1.1

Description: Brown grey SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	99	
1.18	99	
0.600	99	
0.425	99	
0.300	97	
0.212	73	
0.150	15	
0.063	3.1	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1
Date: 26.02.13
Signed: [Redacted]
For and on behalf of Environmental Scientifics Group

[] [Redact Section Manager
[✓] [Redacte Laboratory Manager

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This Test Report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory



0001

Determination of Particle Size Distribution

Client:Scientifics Ltd

Client Address: PO Box 100
Ashby Road, Burton on Trent,
Staffordshire

Postcode: DE15 0XD

Site: Job Number: S131009

Sampled by: Client

Sampled from: Site

Supplier: Client

Source: Site

Report No: 50170642/13/04

Batch Number: DAM0040049

Lab Ref: 45178400

Client Ref: S1304166

Location: BH11

Depth (m): 14.00

Date Sampled: Not Advised

Date Received: 20.02.13

Date Tested: 22.02.13

Sample Type: Disturbed

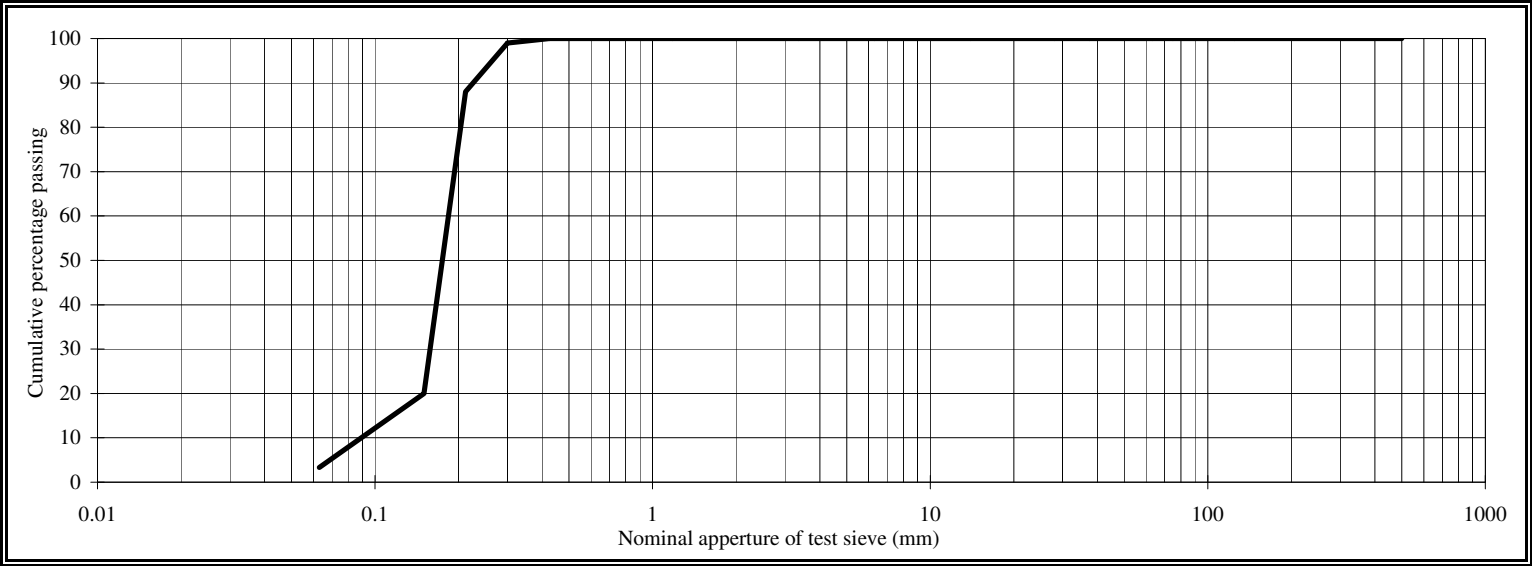
Sample Mass (kg): 1.3

Description: Grey brown SAND

Specification: Not Required

Comments:

SIEVE ANALYSIS		
BS Sieve (mm)	Passing (%)	Material Specification
500	100	
300	100	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5	100	
3.35	100	
2	100	
1.18	100	
0.600	100	
0.425	100	
0.300	99	
0.212	88	
0.150	20	
0.063	3.3	



Certified that the Particle Size Distribution was determined in accordance with BS 1377 - 2 : 1990, Method 9.2. Washing & Dry Sieving
Method of Preparation: BS 1377 - 1 & 2 : 1990

Page: 1 of 1

Date: 26.02.13

[Redacted]

Signed: _____

For and on behalf of Environmental Scientifics Group

[] [Reda - Section Manager

[✓] [Redact - Laboratory Manager

Customer EnviroCentre Ltd
 Site Whiteness
 Report No S131009

Consignment No S33551

Date Logged 15-Feb-2013

Report Due 21-Mar-2013

Report Due 21 Mar 2016

WSLMS9	Total Organic Carbon																
TMSS	Tot.Moisture @ 105C															✓	
Sub018	^Particle Size Dist																
Sub005	^Triphenyltin																
	^Tributyltin																
	^Dibutyltin																
PCBMS00M	PCB-7 Congeners Analysis																
PAHMSUS	PAH (16) by GCMS															✓	
ICPMSS	Zinc (MS)															✓	
	Nickel (MS)															✓	
	Mercury (MS)															✓	
	Lead (MS)															✓	
	Copper (MS)															✓	
	Chromium (MS)															✓	
	Cadmium (MS)															✓	
	Arsenic (MS)															✓	
	CustServ	REPORT A															
	MethodID	Sampled															
Description																	
ID Number																	
Accredited to ISO17025																	
CL/1304163		BH10 14.00	05/02/13														
CL/1304164	BH11 0.50	06/02/13															
CL/1304165	BH11 8.00	06/02/13															
CL/1304166	BH11 14.00	06/02/13															

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- Analysis Subcontracted - **Note: due date may vary**

Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	ICPMSS	Air Dried	Determination of Metals in soil samples by aqua regia digestion followed by ICPMS
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
Soil	PCBUSECDAR	As Received	Determination of Polychlorinated Biphenyl (PCB) congeners/arocloris by hexane/acetone extraction followed by GCECD detection
Soil	SubCon*	*	Contact Laboratory for details of the methodology used by the sub-contractor.
Soil	TMSS	As Received	Determination of the Total Moisture content at 105°C by loss on oven drying gravimetric analysis
Soil	WSLM59	Air Dried	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

Where individual results are flagged see report notes for status.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³ @ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

CR Denotes Crocidolite

AM Denotes Amosite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

NS Information Not Supplied

Req Analysis requested, see attached sheets for results

▮ Raised detection limit due to nature of the sample

* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

END OF REPORT

Where individual results are flagged see report notes for status.

Concept Life Sciences

Certificate of Analysis

Report Number: 783808-1 Interim

Date of Report: 23-Nov-2018

Customer: Blake Geoservices
Munro Sawmills
Old Evanton Road
Dingwall.
IV15 9UN

Customer Contact: [Redacted]

Customer Job Reference: 18128-01

Customer Purchase Order: 18128/01

Customer Site Reference: Port of Ardersier

Date Job Received at Concept: 19-Nov-2018

Date Analysis Started: 20-Nov-2018

Date Analysis Completed:

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with Concept Life Sciences SOPs

All results have been reviewed in accordance with Section 25 of the Concept Life Sciences, Analytical Services Quality Manual

Produced and
authorised by :
[Redacted]
Customer Service Advisor

Index to symbols used in 783808-1 Interim

Value	Description
A40	Assisted dried < 40C
N	Analysis is not UKAS accredited

Notes

Please note interim results are considered preliminary and are subject to change.

Method Index

Value	Description
T21	OX/IR

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	Concept References
Total Organic Carbon	T21	A40	0.1	%	N	001-019



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G27

Site Name

Port of Ardersier

Sample No.

811200

Soil Description

Brown SAND + GRAVEL

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

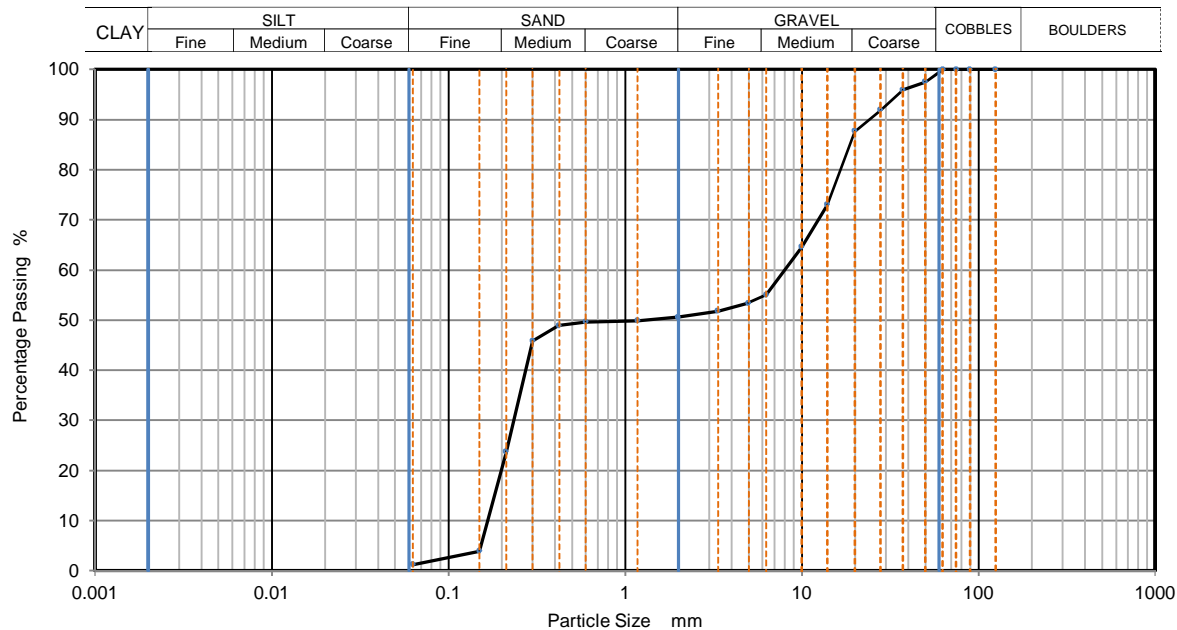
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811200



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	98		
37.5	96		
28	92		
20	88		
14	73		
10	65		
6.3	55		
5	53		
3.35	52		
2	51		
1.18	50		
0.6	50		
0.425	49		
0.3	46		
0.212	24		
0.15	4		
0.063	1		

Dry Mass of sample, g.

10029

Sample Proportions	% dry mass
Very coarse	0
Gravel	49
Sand	49
Fines <0.063mm	1

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	48
Curvature Coefficient	0.041

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G28

Site Name

Port of Ardersier

Sample No.

811201

Soil Description

Brown sandy GRAVEL

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

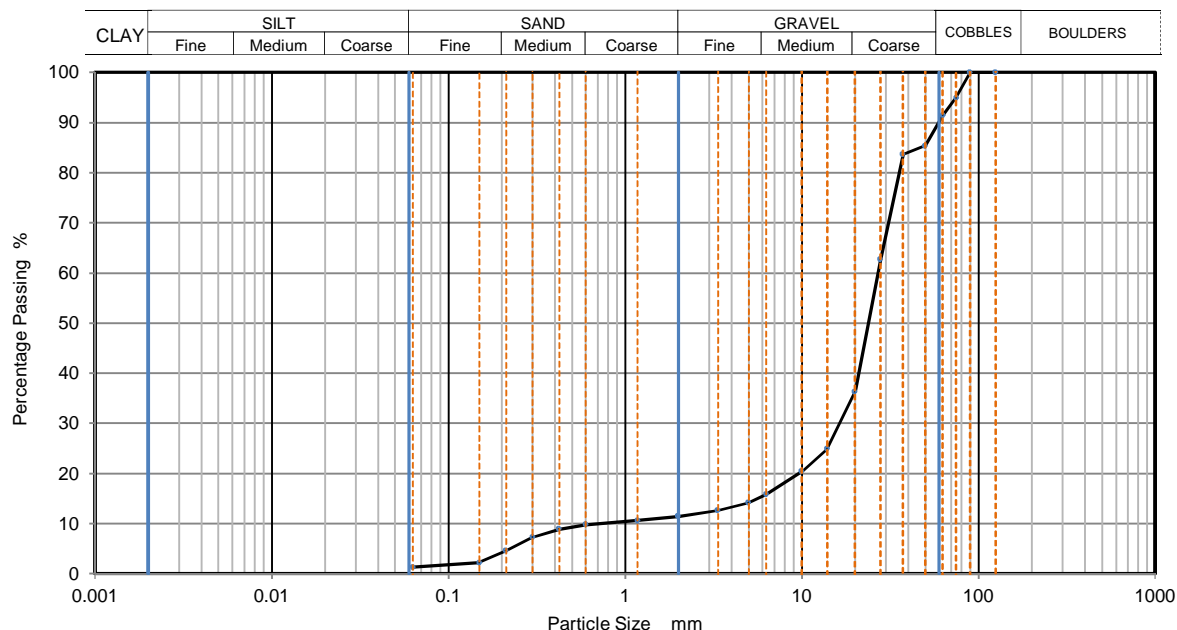
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811201



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	95		
63	91		
50	85		
37.5	84		
28	63		
20	36		
14	25		
10	20		
6.3	16		
5	14		
3.35	13		
2	11		
1.18	11		
0.6	10		
0.425	9		
0.3	7		
0.212	5		
0.15	2		
0.063	1		

Dry Mass of sample, g.

13782

Sample Proportions	% dry mass
Very coarse	9
Gravel	80
Sand	10
Fines <0.063mm	1

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	38
Curvature Coefficient	14

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G29

Site Name

Port of Ardersier

Sample No.

811202

Soil Description

Brown silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

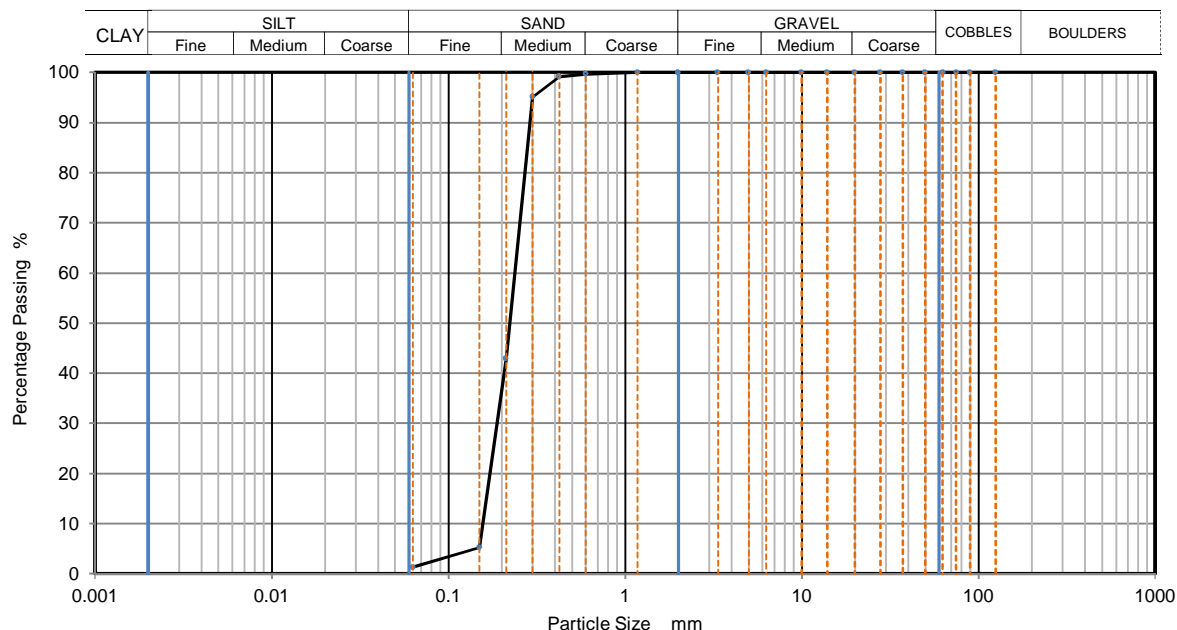
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811202



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	99		
0.3	95		
0.212	43		
0.15	5		
0.063	1		

Dry Mass of sample, g.

2273

Sample Proportions

% dry mass

Very coarse

0

Gravel

0

Sand

99

Fines <0.063mm

1

Grading Analysis

D100 mm

D60 mm

0.238

D30 mm

0.188

D10 mm

0.157

Uniformity Coefficient

1.5

Curvature Coefficient

0.95

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G30

Site Name

Port of Ardersier

Sample No.

811203

Soil Description

Brown slightly silty gravelly SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

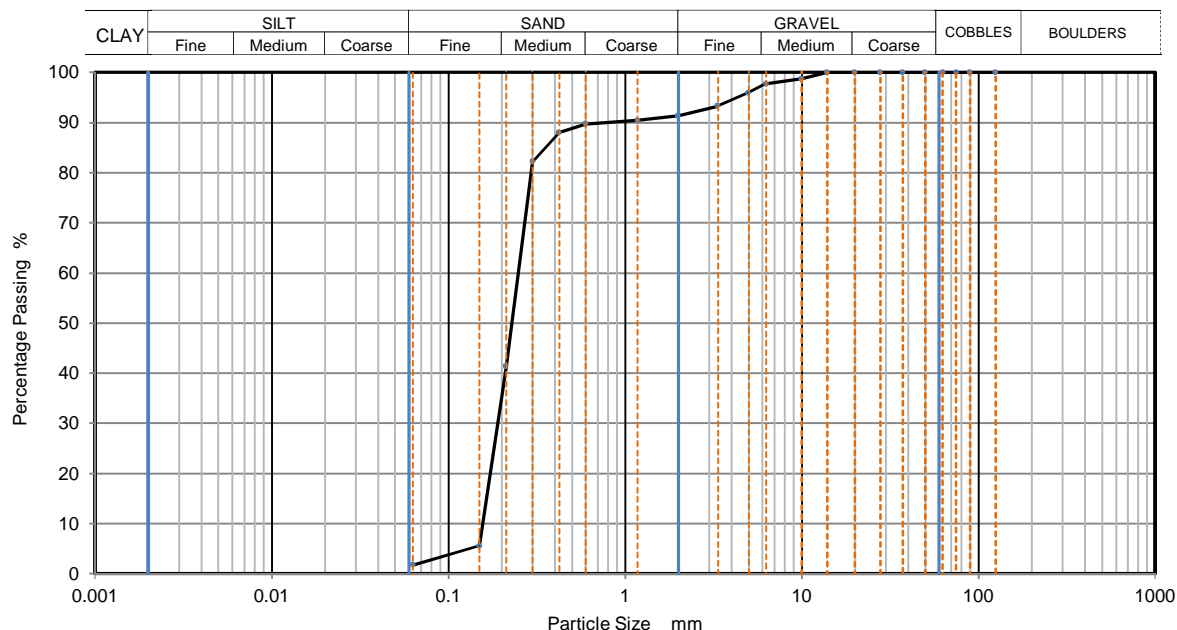
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811203



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	96		
3.35	93		
2	91		
1.18	90		
0.6	90		
0.425	88		
0.3	82		
0.212	41		
0.15	6		
0.063	2		

Dry Mass of sample, g.

5035

Sample Proportions	% dry mass
Very coarse	0
Gravel	9
Sand	90
Fines <0.063mm	2

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	1.6
Curvature Coefficient	0.93

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G31

Site Name

Port of Ardersier

Sample No.

811204

Soil Description

Brown silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

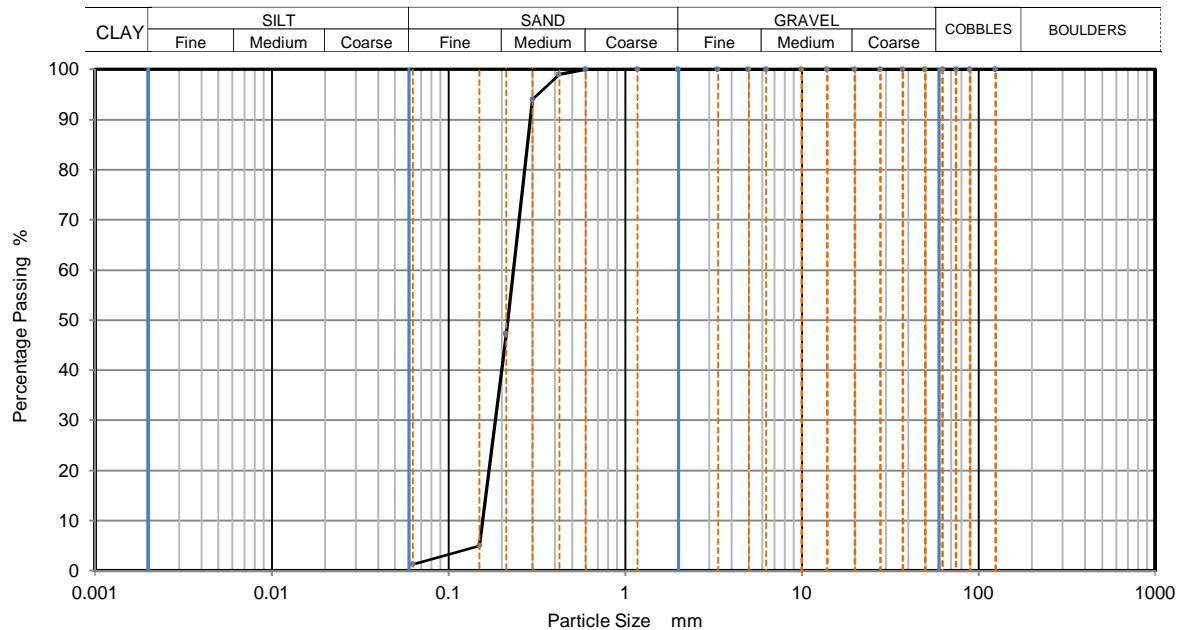
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811204



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	99		
0.3	94		
0.212	47		
0.15	5		
0.063	1		

Dry Mass of sample, g.

2472

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	99
Fines <0.063mm	1

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	1.5
Curvature Coefficient	0.93

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G32

Site Name

Port of Ardersier

Sample No.

811205

Soil Description

Brown silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

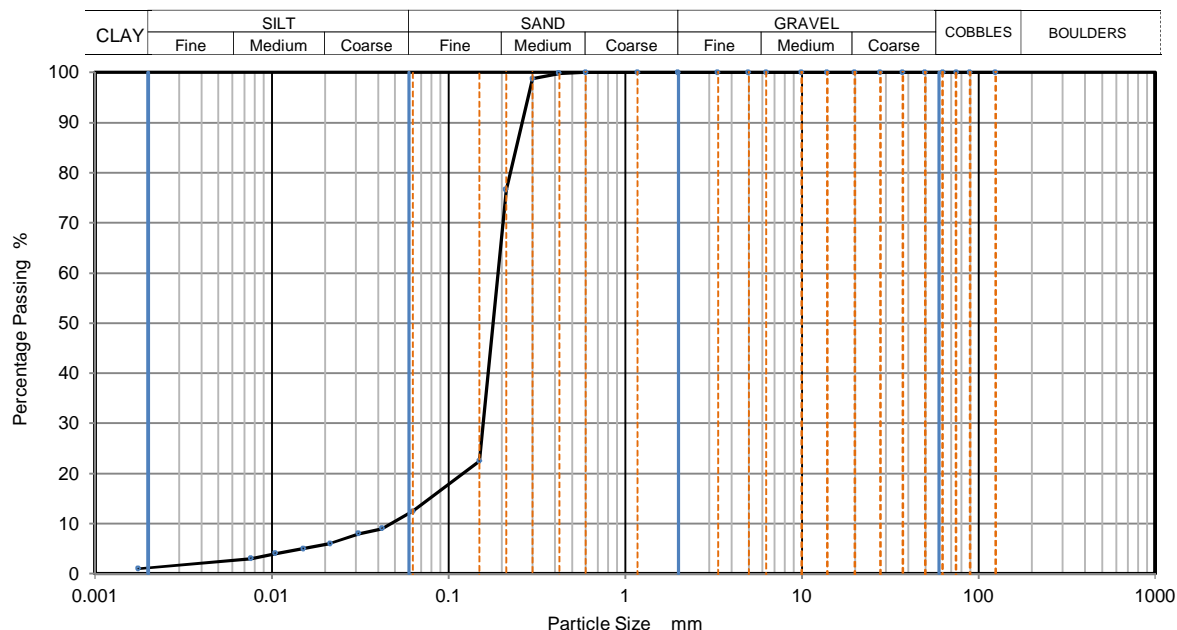
B

Test Method

BS1377:Part 2:1990, clauses 9.2 and 9.5

KeyLAB ID

811205



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0425	9
90	100	0.0312	8
75	100	0.0216	6
63	100	0.0151	5
50	100	0.0105	4
37.5	100	0.0076	3
28	100	0.0018	1
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density (assumed) 2.67 Mg/m3	
0.425	100		
0.3	99		
0.212	77		
0.15	22		
0.063	12		

Dry Mass of sample, g.

2573

Sample Proportions

% dry mass

Very coarse	0
Gravel	0
Sand	88
Silt	11
Clay	1

Grading Analysis

D100	mm	
D60	mm	0.191
D30	mm	0.157
D10	mm	0.0473
Uniformity Coefficient		4
Curvature Coefficient		2.7

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G33

Site Name

Port of Ardersier

Sample No.

811206

Soil Description

Brown slightly silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

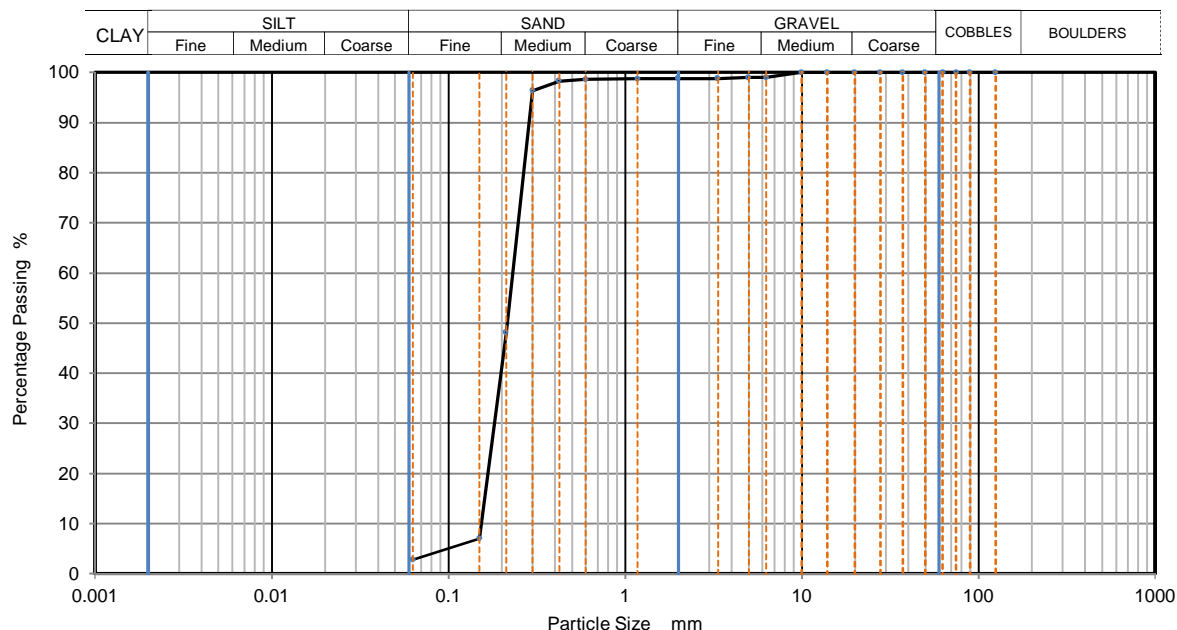
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811206



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99		
2	99		
1.18	99		
0.6	99		
0.425	98		
0.3	96		
0.212	48		
0.15	7		
0.063	3		

Dry Mass of sample, g.

1779

Sample Proportions

% dry mass

Very coarse	0
Gravel	1
Sand	96
Fines <0.063mm	3

Grading Analysis

D100	mm	
D60	mm	0.231
D30	mm	0.182
D10	mm	0.154
Uniformity Coefficient		1.5
Curvature Coefficient		0.93

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G34

Site Name

Port of Ardersier

Sample No.

811207

Soil Description

Brown + black silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

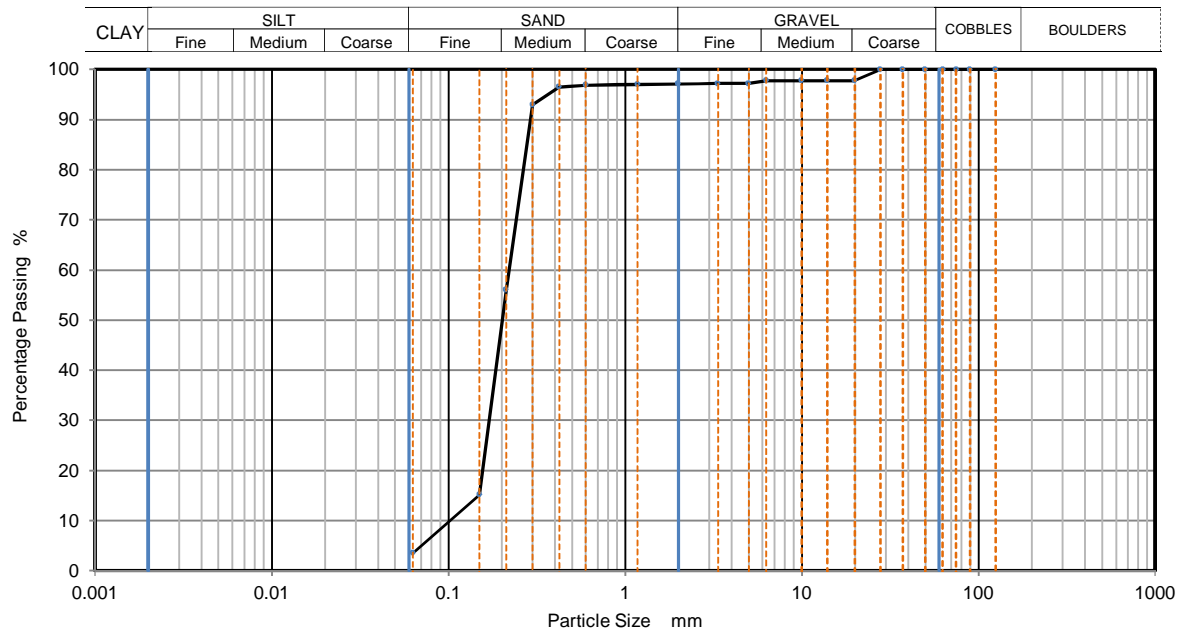
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811207



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	98		
6.3	98		
5	97		
3.35	97		
2	97		
1.18	97		
0.6	97		
0.425	97		
0.3	93		
0.212	56		
0.15	15		
0.063	4		

Dry Mass of sample, g.

1893

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	94
Fines <0.063mm	3

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	2.1
Curvature Coefficient	1.3

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G35

Site Name

Port of Ardersier

Sample No.

811208

Soil Description

Brown silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

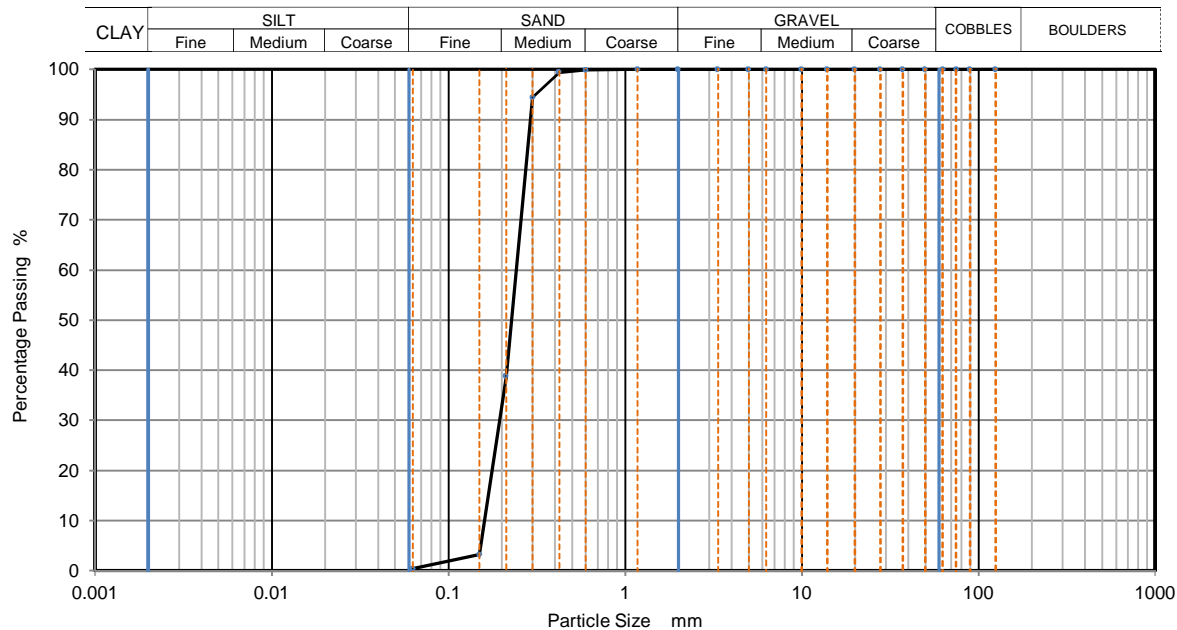
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811208



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	99		
0.3	94		
0.212	39		
0.15	3		
0.063	0		

Dry Mass of sample, g.

3705

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	100
Fines <0.063mm	0

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G36

Site Name

Port of Ardersier

Sample No.

811209

Soil Description

Brown slightly silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

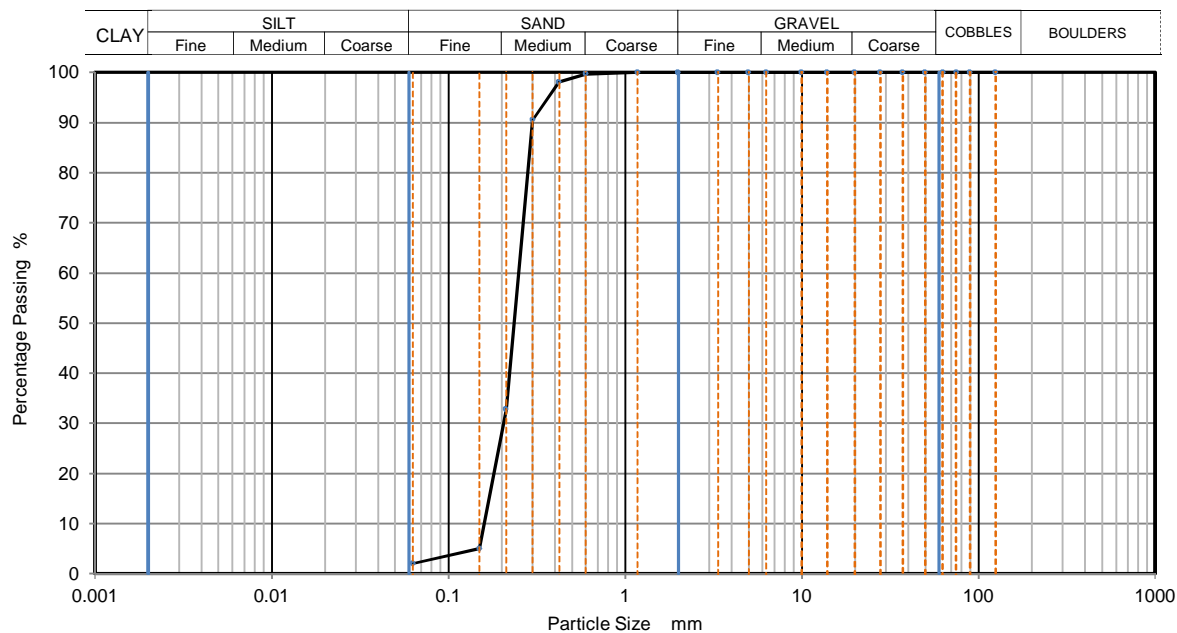
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811209



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	98		
0.3	91		
0.212	33		
0.15	5		
0.063	2		

Dry Mass of sample, g.

2260

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	98
Fines <0.063mm	2

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	1.6
Curvature Coefficient	1.1

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G37

Site Name

Port of Ardersier

Sample No.

811210

Soil Description

Black + brown silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

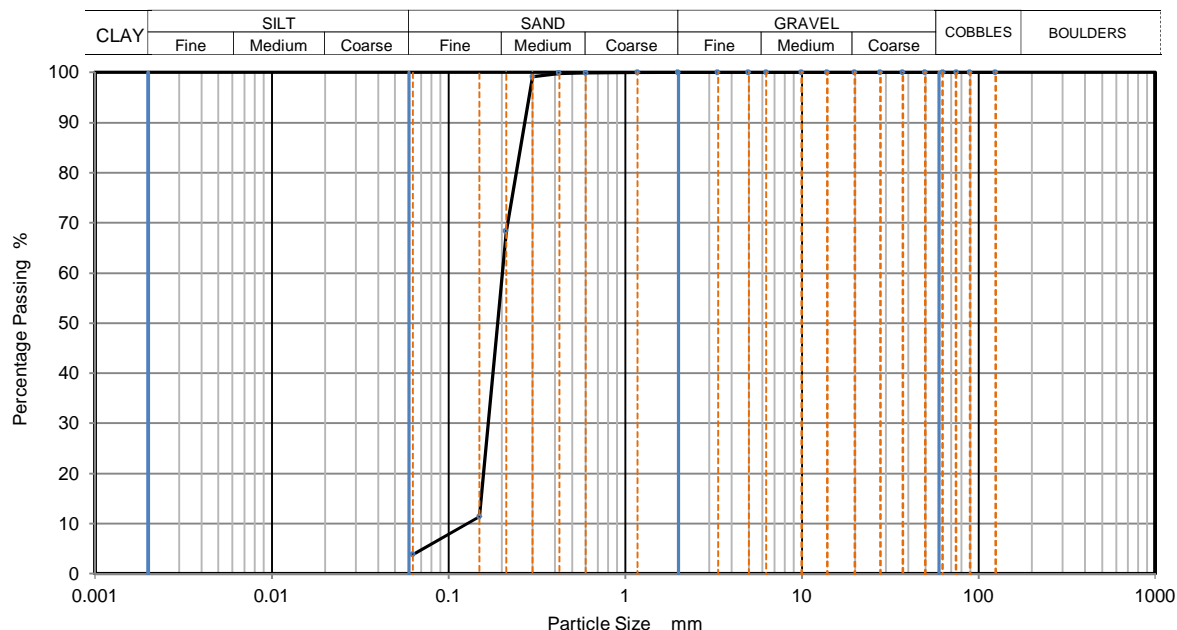
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811210



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	68		
0.15	11		
0.063	4		

Dry Mass of sample, g.

1709

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	96
Fines <0.063mm	4

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	1.6
Curvature Coefficient	1.1

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G38

Site Name

Port of Ardersier

Sample No.

811211

Soil Description

Black silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

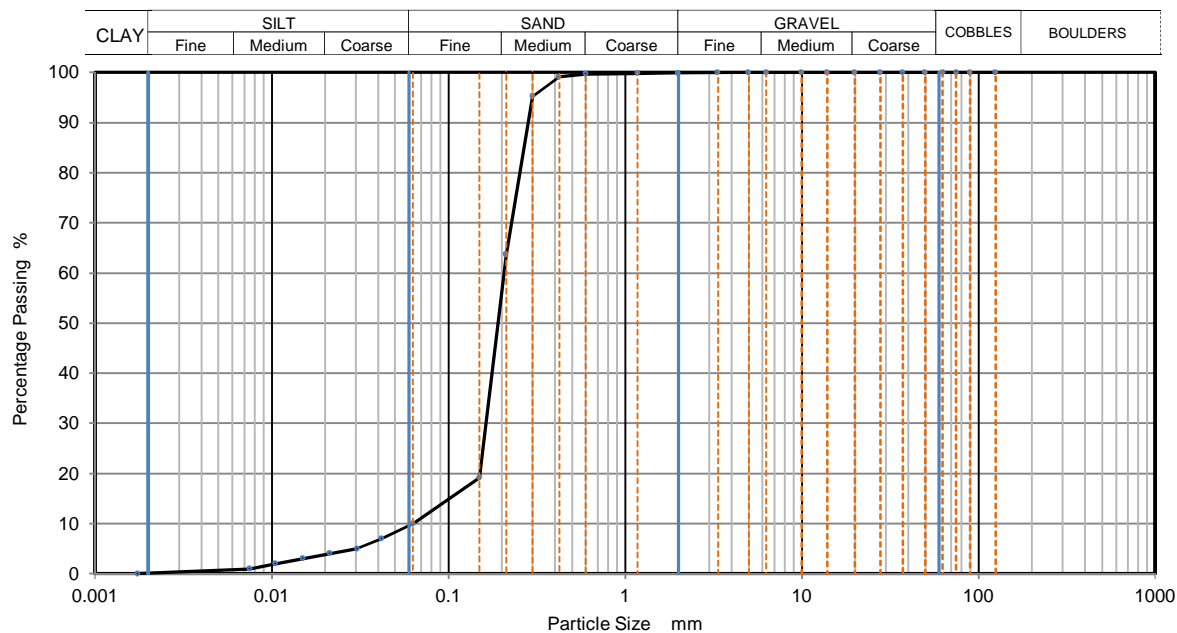
B

Test Method

BS1377:Part 2:1990, clauses 9.2 and 9.5

KeyLAB ID

811211



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0421	7
90	100	0.0307	5
75	100	0.0214	4
63	100	0.0150	3
50	100	0.0105	2
37.5	100	0.0075	1
28	100	0.0017	0
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density (assumed)	
0.425	99	2.67	Mg/m3
0.3	95		
0.212	64		
0.15	19		
0.063	10		

Dry Mass of sample, g.

1971

Sample Proportions

% dry mass

Very coarse	0
Gravel	0
Sand	90
Silt	10
Clay	0

Grading Analysis

D100	mm	
D60	mm	0.206
D30	mm	0.163
D10	mm	0.0638
Uniformity Coefficient		3.2
Curvature Coefficient		2

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G39

Site Name

Port of Ardersier

Sample No.

811212

Soil Description

Black + brown silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

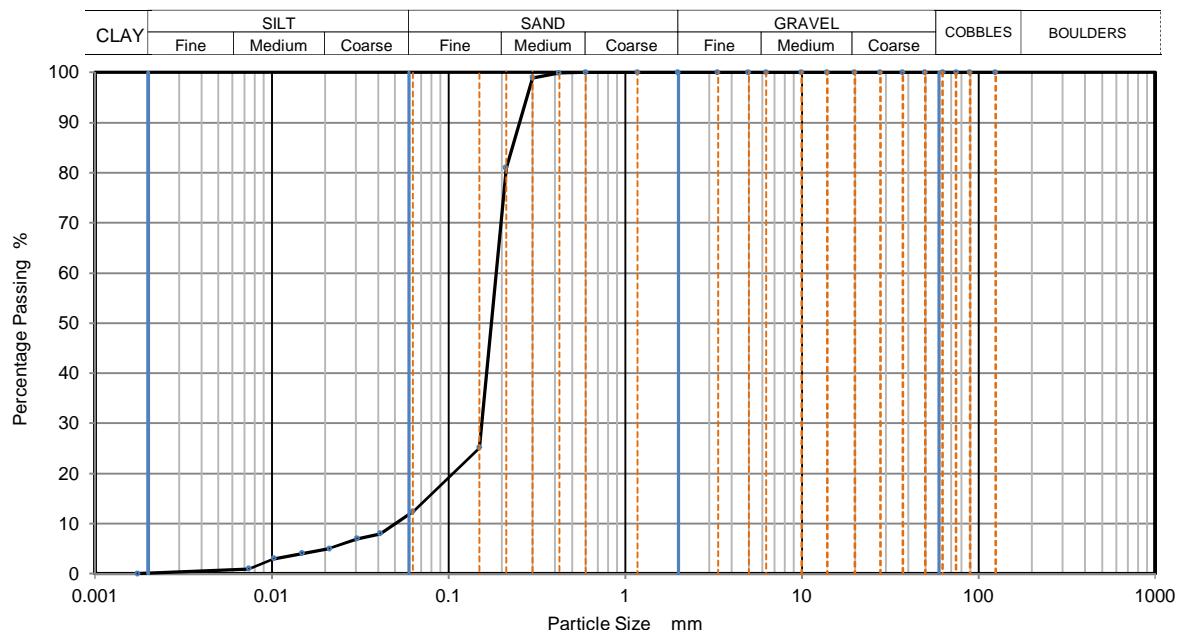
B

Test Method

BS1377:Part 2:1990, clauses 9.2 and 9.5

KeyLAB ID

811212



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0414	8
90	100	0.0306	7
75	100	0.0213	5
63	100	0.0149	4
50	100	0.0104	3
37.5	100	0.0075	1
28	100	0.0017	0
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density (assumed)	
0.425	100	2.67	Mg/m3
0.3	99		
0.212	81		
0.15	25		
0.063	12		

Dry Mass of sample, g.

2823

Sample Proportions

% dry mass

Very coarse	0
Gravel	0
Sand	88
Silt	12
Clay	1

Grading Analysis

D100	mm	
D60	mm	0.186
D30	mm	0.155
D10	mm	0.0515
Uniformity Coefficient		3.6
Curvature Coefficient		2.5

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G40

Site Name

Port of Ardersier

Sample No.

811213

Soil Description

Black + brown silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

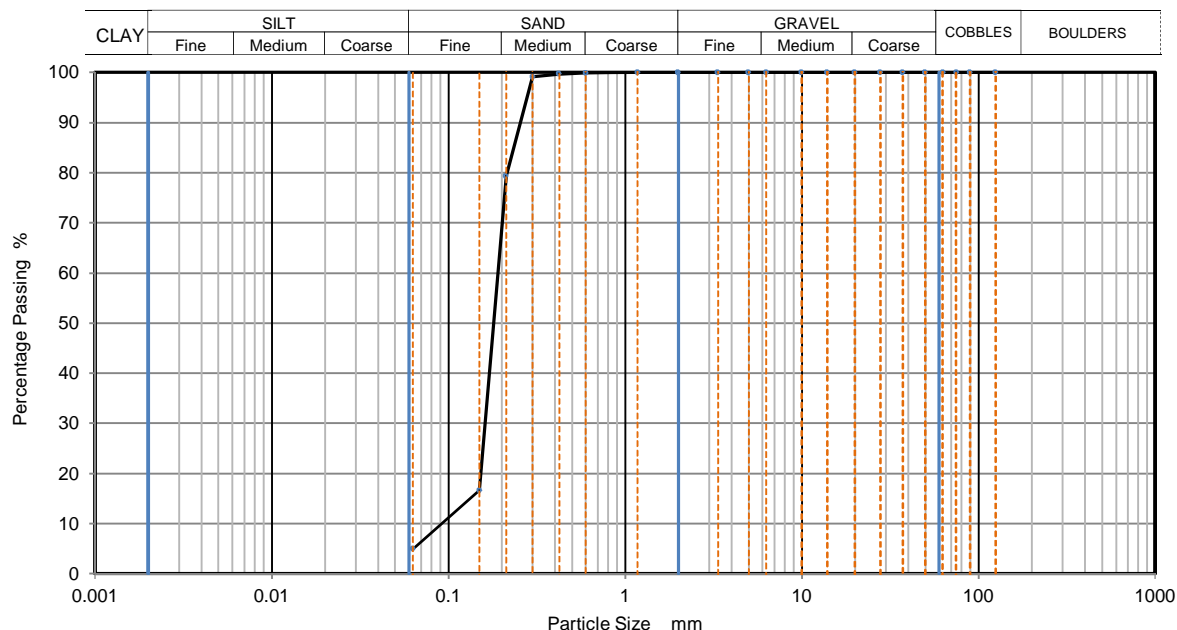
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811213



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	79		
0.15	17		
0.063	5		

Dry Mass of sample, g.

1796

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	95
Fines <0.063mm	5

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	2.1
Curvature Coefficient	1.5

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G41

Site Name

Port of Ardersier

Sample No.

811214

Soil Description

Black silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

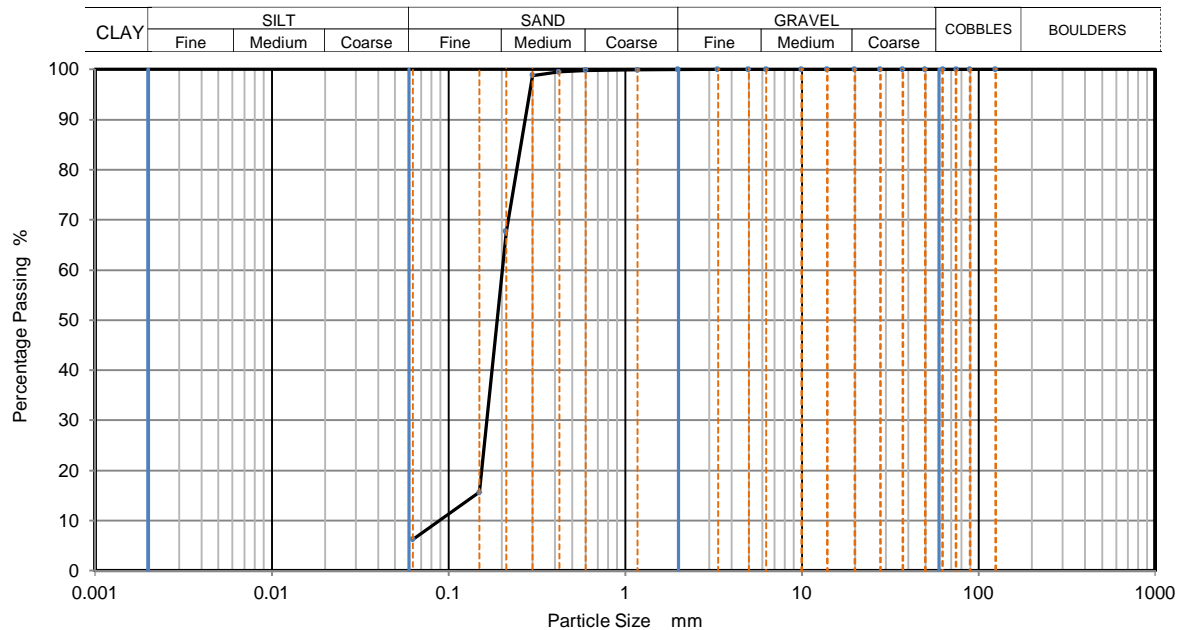
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811214



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	68		
0.15	16		
0.063	6		

Dry Mass of sample, g.

1636

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	94
Fines <0.063mm	6

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	2.3
Curvature Coefficient	1.5

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G42

Site Name

Port of Ardersier

Sample No.

811215

Soil Description

Black silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

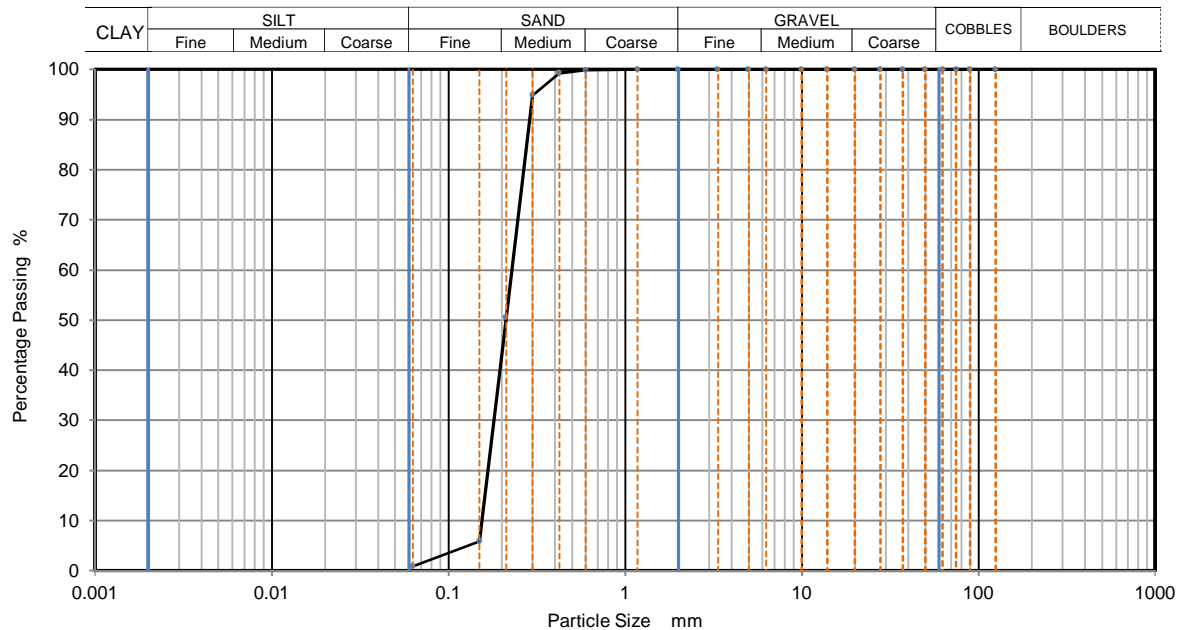
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811215



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	99		
0.3	95		
0.212	51		
0.15	6		
0.063	1		

Dry Mass of sample, g.

1675

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	99
Fines <0.063mm	1

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	1.5
Curvature Coefficient	0.92

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G43

Site Name

Port of Ardersier

Sample No.

811216

Soil Description

Black silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

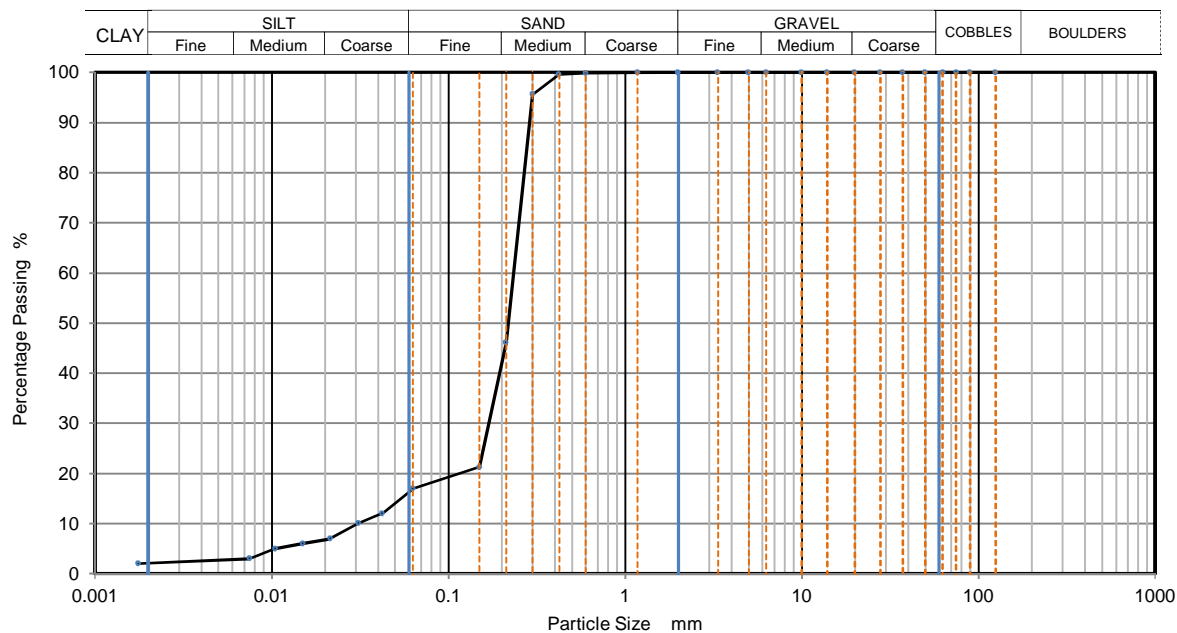
B

Test Method

BS1377:Part 2:1990, clauses 9.2 and 9.5

KeyLAB ID

811216



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0425	12
90	100	0.0311	10
75	100	0.0215	7
63	100	0.0151	6
50	100	0.0105	5
37.5	100	0.0075	3
28	100	0.0018	2
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density (assumed)	
0.425	100	2.67	Mg/m3
0.3	96		
0.212	46		
0.15	21		
0.063	17		

Dry Mass of sample, g.

2257

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	83
Silt	15
Clay	2

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	7.6
Curvature Coefficient	4

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G44

Site Name

Port of Ardersier

Sample No.

811217

Soil Description

Black silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

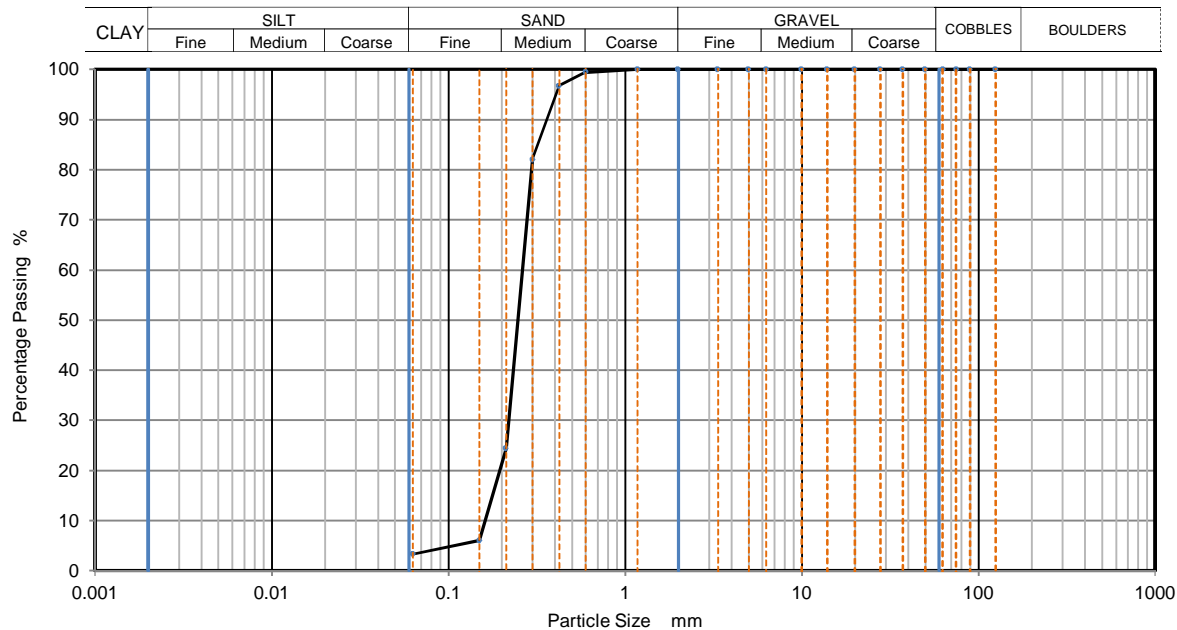
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811217



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	97		
0.3	82		
0.212	24		
0.15	6		
0.063	3		

Dry Mass of sample, g.

3189

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	97
Fines <0.063mm	3

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	1.6
Curvature Coefficient	1.1

Remarks

Preparation and testing in accordance with BS1377 unless noted below



PARTICLE SIZE DISTRIBUTION

Job Ref

4506-235

Borehole/Pit No.

G45

Site Name

Port of Ardersier

Sample No.

811218

Soil Description

Black silty SAND

Depth, m

0.00

Specimen Reference

1

Specimen Depth

m

Sample Type

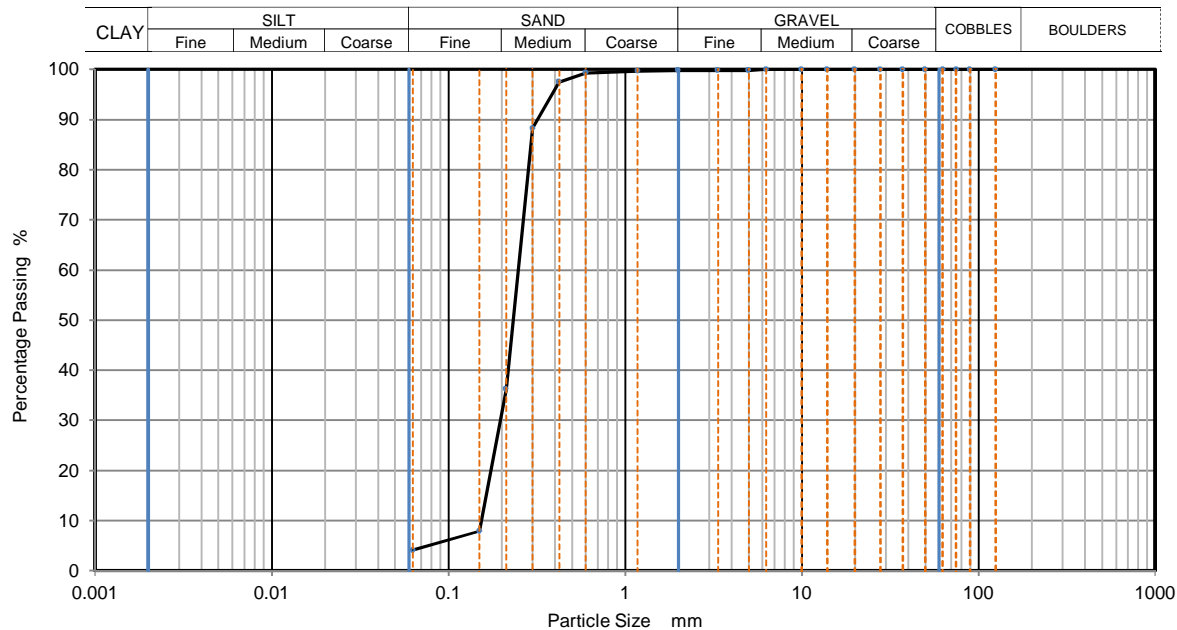
B

Test Method

BS1377:Part 2:1990, clause 9.2

KeyLAB ID

811218



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	98		
0.3	88		
0.212	36		
0.15	8		
0.063	4		

Dry Mass of sample, g.

2677

Sample Proportions

% dry mass

Very coarse

0

Gravel

0

Sand

96

Fines <0.063mm

4

Grading Analysis

D100 mm

D60 mm

0.248

D30 mm

0.196

D10 mm

0.154

Uniformity Coefficient

1.6

Curvature Coefficient

1

Remarks

Preparation and testing in accordance with BS1377 unless noted below

C ANALYTICAL SUMMARY

Applicant Information

Applicant:	Ardersier Port
Description of dredging:	TBC
Total amount to be dredged (wet tonnes)	2300000

Sample Details & Physical Properties

Explanatory Notes:

An example of a 'Dredge area' is: 'Dock A, Harbour X'

Provide description of the dredge area and the latitude and longitude co-ordinates (WGS84) for each sample location. Co-ordinates taken from GPS equipment should be set to WGS84.

Note for sample depth that the seabed is 0 metres.

Gravel is defined as $>2\text{mm}$, **Sand** is defined as $>63\mu\text{m}<2\text{mm}$, **Silt** is defined as $<63\mu\text{m}$).

Sample information:

Sample ID	Dredge area	Latitude										Longitude										Type of sample	Sample depth (m)	Total solids (%)	Gravel (%)	Sand (%)	Silt (%)	TOC (%)	Specific gravity	Asbestos	
BH10 0.80	1	5	7	°	3	6	.	0	9	8	'N	0	0	4	°	0	0	.	3	6	1	'W	Core	0.8	91.5	62	26.8	11.2	0.2		No
BH10 8.00	1	5	7	°	3	6	.	0	9	8	'N	0	0	4	°	0	0	.	3	6	1	'W	Core	8	88.2	44	54	2	0.12		No
BH10 14.00	1	5	7	°	3	6	.	0	9	8	'N	0	0	4	°	0	0	.	3	6	1	'W	Core	14	79.6	0	95.1	4.9	0.25		No
BH11 0.50	1	5	7	°	3	6	.	0	8	9	'N	0	0	4	°	0	0	.	3	9	0	'W	Core	0.5	96.3	69	30.8	0.2	0.08		No
BH11 14.00	1	5	7	°	3	6	.	0	8	9	'N	0	0	4	°	0	0	.	3	9	0	'W	Core	14	91.6	0	96.7	3.3	0.16		No
BH11 8.00	1	5	7	°	3	6	.	0	8	9	'N	0	0	4	°	0	0	.	3	9	0	'W	Core	8	83.7	0	96.9	3.1	0.09		No
BH12 0.50	1	5	7	°	3	6	.	0	8	1	'N	0	0	4	°	0	0	.	3	6	0	'W	Core	0.5	91.7	47	38.7	14.3	0.08		No
BH12 14.00	1	5	7	°	3	6	.	0	8	1	'N	0	0	4	°	0	0	.	3	6	0	'W	Core	14	80.4	0	96.8	3.2	0.12		No
BH12 8.00	1	5	7	°	3	6	.	0	8	1	'N	0	0	4	°	0	0	.	3	6	0	'W	core	8	83.7	0	98	2	0.1		No
BH10 6.00	1	5	7	°	3	6	.	0	9	8	'N	0	0	4	°	0	0	.	3	6	1	'W	Core	6	90.4	46	51.1	2.9	0.12		No
BH11 6.00	1	5	7	°	3	6	.	0	8	9	'N	0	0	4	°	0	0	.	3	9	0	'W	Core	6	80.9	1	96.1	2.9	0.12		No
BH12 6.00	1	5	7	°	3	6	.	0	8	1	'N	0	0	4	°	0	0	.	3	6	0	'W	Core	6	82.7	0	97.6	2.4	0.09		No
BH15 0.50	1	5	7	°	3	6	.	0	2	6	'N	0	0	4	°	0	0	.	3	2	8	'W	Core	0.5					0.13		No
BH15 15.00	1	5	7	°	3	6	.	0	2	6	'N	0	0	4	°	0	0	.	3	2	8	'W	Core	15					0.08		No
BH15 8.00	1	5	7	°	3	6	.	0	2	6	'N	0	0	4	°	0	0	.	3	2	8	'W	Core	8					0.09		No
BH18 10.00	1	5	7	°	3	5	.	5	9	9	'N	0	0	4	°	0	0	.	2	4	1	'W	Core	10					0.08		No
BH18 14.00	1	5	7	°	3	5	.	5	9	9	'N	0	0	4	°	0	0	.	2	4	1	'W	Core	14					0.08		No
BH24 0.50	1	5	7	°	3	5	.	5	5	8	'N	0	0	4	°	0	0	.	1	0	1	'W	Core	0.5					0.5		No
BH24 14.00	1	5	7	°	3	5	.	5	5	8	'N	0	0	4	°	0	0	.	1	0	1	'W	Core	14					0.07		No
BH24 8.00	1	5	7	°	3	5	.	5	5	8	'N	0	0	4	°	0	0	.	1	0	1	'W	Core	8					0.07		No
G37	1	5	7	°	3	5	.	9	1	1	'N	0	0	3	°	5	9	.	6	9	1	'W	Grab	0.1		0	96	4	0.9		No
G38	1	5	7	°	3	5	.	9	6	7	'N	0	0	3	°	5	9	.	9	8	1	'W	Grab	0.1		0	90	10			
G39	1	5	7	°	3	5	.	9	3	6	'N	0	0	3	°	5	9	.	8	6	6	'W	Grab	0.1		0	88	12	0.4		
G40	1	5	7	°	3	5	.	9	0	9	'N	0	0	3	°	5	9	.	7	7	5	'W	Grab	0.1		0	95	5	0.4		
G41	1	5	7	°	3	5	.	8	7	5	'N	0	0	3	°	5	9	.	6	5	5	'W	Grab	0.1		0	94	6	0.4		
G42	1	5	7	°	3	5	.	8	5	3	'N	0	0	3	°	5	9	.	5	8	2	'W	Grab	0.1		0	99	1	1.2		
G43	1	5	7	°	3	5	.	7	2	1	'N	0	0	3	°	5	9	.	1	4	3	'W	Grab	0.1		0	83	17	0.3		
G44	1	5	7	°	3	5	.	6	9	9	'N	0	0	3	°	5	9	.	0	6	9	'W	Grab	0.1		0	97	3	0.1		
G45	1	5	7	°	3	5	.	7	3	9	'N	0	0	3	°	5	9	.	0	1	7	'W	Grab	0.1		0	96	4	0.1		
				°			.				'N				°			.				'W									

Trace Metals & Organotins

Explanatory Notes:

Results above Action Level 1 will be highlighted in blue and above Action Level 2 in red.

Sample information:

Sample ID	Dredge area	Type of sample	Sample depth (m)	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Mercury (Hg)	Nickel (Ni)	Lead (Pb)	Zinc (Zn)	Dibutyltin (DBT)	Tributyltin (TBT)
				mg/kg dry weight									
BH10 0.80	1	Core	0.8	2.076502732	<0.1	11.14754098	6.010928962	0.142076503	7.213114754	5.355191257	24.26229508	0.027322404	0.042622951
BH10 8.00	1	Core	8	1.473922902	<0.1	6.12244898	2.721088435	<0.1	3.628117914	2.947845805	14.05895692	<0.05	<0.02
BH10 14.00	1	Core	14	1.507537688	<0.1	7.663316583	2.386934673	<0.1	4.020100503	4.773869347	39.8241206	<0.05	0.054020101
BH11 0.50	1	Core	0.5	1.038421599	<0.1	5.919003115	1.453790239	<0.1	2.180685358	2.492211838	13.49948079	<0.05	0.042575286
BH11 14.00	1	Core	14	1.200873362	<0.1	5.349344978	0.982532751	<0.1	2.729257642	2.292576419	31.00436681	<0.05	<0.02
BH11 8.00	1	Core	8	1.314217443	<0.1	5.615292712	1.075268817	<0.1	3.225806452	2.150537634	20.66905615	<0.05	<0.02
BH12 0.50	1	Core	0.5	1.417666303	<0.1	13.84950927	6.761177754	<0.1	8.287895311	5.34351145	23.00981461	0.102508179	<0.02
BH12 14.00	1	Core	14	2.114427861	<0.1	7.711442786	5.223880597	<0.1	10.94527363	9.577114428	40.29850746	0.186567164	<0.02
BH12 8.00	1	core	8	1.433691756	<0.1	5.615292712	1.672640382	<0.1	2.986857826	2.270011947	16.60692951	0.047789725	<0.02
BH10 6.00	1	Core	6	1.659292035	<0.1	7.743362832	4.867256637	<0.1	4.646017699	5.420353982	23.11946903	0.050884956	<0.02
BH11 6.00	1	Core	6	1.483312732	<0.1	5.686032138	2.101359703	<0.1	2.966625464	2.224969098	30.5315204	0.055624227	<0.02
BH12 6.00	1	Core	6	1.088270859	<0.1	4.836759371	1.69286578	<0.1	2.660217654	2.055622733	14.51027811	0.053204353	<0.02
BH15 0.50	1	Core	0.5	2.725366876	<0.2	13.73165618	28.30188679	<0.5	7.651991614	19.81132075	161.3207547	<0.021	<0.021
BH15 15.00	1	Core	15	1.482326112	<0.2	5.131128848	<1.6	<0.5	2.622576967	2.052451539	22.12086659	<0.0228	<0.0228
BH15 8.00	1	Core	8	1.56626506	<0.2	4.939759036	2.048192771	<0.5	2.65060241	2.409638554	<15.9	<0.0241	<0.0241
BH18 10.00	1	Core	10	0.981595092	<0.2	4.539877301	2.085889571	<0.5	2.45398773	2.331288344	26.99386503	0.0601	<0.0211
BH18 14.00	1	Core	14	5.97826087	<0.2	22.82608696	<1.6	<0.5	11.41304348	9.239130435	138.0434783	0.0479	<0.0245
BH24 0.50	1	Core	0.5	1.047120419	<0.2	3.560209424	2.19895288	<0.5	<2	2.408376963	18.84816754	0.1155	<0.0246
BH24 14.00	1	Core	14	1.36307311	<0.2	4.089219331	<1.6	<0.5	2.478314746	1.858736059	21.56133829	0.0377	<0.029
BH24 8.00	1	Core	8	1.221001221	<0.2	3.540903541	<2	<0.5	<2	1.709401709	<15.8	0.0384	<0.0248
G37	1	Grab	0.1										
G38	1	Grab	0.1										
G39	1	Grab	0.1										
G40	1	Grab	0.1										
G41	1	Grab	0.1										
G42	1	Grab	0.1										
G43	1	Grab	0.1										
G44	1	Grab	0.1										
G45	1	Grab	0.1										
0	0	0	0										

Polyaromatic Hydrocarbons (PAH)

Explanatory Notes:

Results above Action Level 1 will be highlighted in blue and above Action Level 2 in red.

Definitions:

ACENAPHTH	Acenaphthene
ACENAPHY	Acenaphthylene
ANTHRACN	Anthracene
BAA	Benzo(a)anthracene
BAP	Benzo(a)pyrene
BBF	Benzo(b)fluoranthene
BEP	Benzo(e)pyrene
BENZGHPH	Benzo(ghi)perylene
BKF	Benzo(k)fluoranthene
C1N	C1-naphthalenes
C1PHEN	C1-phenanthrenes
C2N	C2-naphthalenes
C3N	C3-naphthalenes
CHRYSENE	Chrysene
DBENZAH	Dibenzo(a,h)anthracene
FLUORANTH	Fluoranthene
FLUORENE	Fluorene
INDPYR	Indeno(1,2,3-cd)pyrene
NAPTH	Naphthalene
PERYLENE	Perylene
PHENANTH	Phenanthrene
PYRENE	Pyrene
THC	Total Hydrocarbon Content

Sample information:

Sample ID	Dredge area	Type of sample	Sample depth (m)	µg/kg																					
				ACENAPTH	ACENAPHY	ANTHRACN	BAA	BAP	BBF	BEP	BENZGHPH	BKF	C1N	C1PHEN	C2N	C3N	CHRYSENE	DBENZAH	FLUORANT	FLUORENE	INDPYR	NAPTH	PERYLENE	PHENANT	PYRENE
BH10 0.80	1	Core	0.8	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH10 8.00	1	Core	8	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH10 14.00	1	Core	14	<80	<80	<80	653	690	929					326	376		452	<80	339	<80	351	<80	<80	238	
BH11 0.50	1	Core	0.5	<80	<80	<80	218	342	446					207	197		155	<80	114	<80	207	<80	<80	<80	
BH11 14.00	1	Core	14	<80	<80	<80	<80	229	305					141	131		<0.08	<80	<80	<80	174	<80	<80	<80	
BH11 8.00	1	Core	8	<80	<80	<80	143	334	442					191	191		107	<80	<80	<80	215	<80	<80	<80	
BH12 0.50	1	Core	0.5	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH12 14.00	1	Core	14	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH12 8.00	1	core	8	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH10 6.00	1	Core	6	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH11 6.00	1	Core	6	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH12 6.00	1	Core	6	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH15 0.50	1	Core	0.5	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH15 15.00	1	Core	15	<90	<90	<90	<90	<90	<90					<90	<90		<90	<90	<90	<90	<90	<90	<90	<90	
BH15 8.00	1	Core	8	<100	<100	<100	<100	<100	<100					<100	<100		<100	<100	<100	<100	<100	<100	<100	<100	
BH18 10.00	1	Core	10	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH18 14.00	1	Core	14	<100	<100	<100	<100	<100	<100					<100	<100		<100	<100	<100	<100	<100	<100	<100	<100	
BH24 0.50	1	Core	0.5	<100	<100	<100	<100	<100	<100					<100	<100		<100	<100	<100	<100	<100	<100	<100	<100	
BH24 14.00	1	Core	14	<80	<80	<80	<80	<80	<80					<80	<80		<80	<80	<80	<80	<80	<80	<80	<80	
BH24 8.00	1	Core	8	<100	<100	<100	<100	<100	<100					<100	<100		<100	<100	<100	<100	<100	<100	<100	<100	
G37	1	Grab	0.1																						
G38	1	Grab	0.1																						
G39	1	Grab	0.1																						
G40	1	Grab	0.1																						
G41	1	Grab	0.1																						
G42	1	Grab	0.1																						
G43	1	Grab	0.1																						
G44	1	Grab	0.1																						
G45	1	Grab	0.1																						
0	0	0	0																						

Explanatory Notes:
Results above Action Level 1 will be highlighted in blue and above Action Level 2 in red.
(CES7 is the sum of PCB 28,52,101,138,153,180 and 118.

AHCH	alpha-Hexachlorcyclohexane
BHCH	beta-Hexachlorcyclohexane
GHCH	gamma-Hexachlorcyclohexane
DIELDRIN	Dieldrin
HCB	Hexachlorobenzene
PPDDE	p,p'-Dichlorodiphenyldichloroethylene
PPDDT	p,p'-Dichlorodiphenyltrichloroethane
PPTDE	p,p'-Dichlorodiphenyldichloroethane

[illegible]

PR Details

Total amount to be dredged (wet tonnes) | 2300000

Explanatory Notes:
The values entered for each determinand should be an average wet weight concentration from all the samples representing the material to be disposed to sea. They should be entered in the units stated in the Unit of measurement column in the table below.
Results above Action Level 1 will be highlighted in blue and above Action Level 2 in red.

Average for the total dredge area:

Sample ID	Unit of measurement	
Total Solids	%	83
Gravel	%	11
Sand	%	86
Silt	%	3
Arsenic (As)	mg/kg	1.74
Cadmium (Cd)		<0.2
Chromium (Cr)		6.55
Copper (Cu)		0.5
Mercury (Hg)		0.1
Nickel (Ni)		4.64
Lead (Pb)		4.61
Zinc (Zn)		60.7
Dibutyltin (DBT)		0.062
Tributyltin (TBT)		0.046
Acenaphth	µg/kg	92
Acenaphthylene		92
Anthracen		92
BAA		113
BAP		124
BBF		138
BEP		28.8
Benzghip		105
BKF		107
C1N		35.8
C1PHEN		65.2
C2N		51.2
C3N		76.6
Chrysene		105
Debenzah		93
Flurant		104
Fluorene		92
Indypr		107
naph		92
perylene		180
phenant		42.7
pyrene		98
THC		
PCB28		<5
PCB52		<5
PCB101		<5
PCB118		<5
PCB138		<5
PCB153		<5
PCB18		
PCB105		
PCB110		
PCB128		
PCB141		
PCB149		
PCB151		
PCB156		
PCB158		
PCB170		
PCB180		<5
PCB183		
PCB187		
PCB194		
PCB31		
PCB44		
PCB47		
PCB49		
PCB66		
ICES7		
AHCH		
BHCH		
GHCH		
DIELDRIN		
HCB		
DDE		
DDT		
TDE		
BDE100		
BDE138		
BDE153		
BDE154		
BDE17		
BDE183		
BDE209		
BDE28		
BDE47		
BDE66		
BDE85		
BDE99		

Comments:

Laboratory Details

Explanatory Notes:
Please complete a separate worksheet for each laboratory (e.g. complete 'Laboratory_1' worksheet for 1 laboratory and complete 'Laboratory_2' worksheet for a second laboratory). If there are more than 3 laboratories then please contact MS-LOT.

Laboratory 1 Details:

Laboratory name	ESG
Year	2013 - Note due to the time period since analysis some of the information cannot be confirmed

LabRefMat	Q1	Does the laboratory carrying out the analyses undertake the analysis of blank samples and laboratory reference materials with each batch of samples of waste and other material dumped in the maritime area that is analysed by that laboratory?	No
CompAnal	Q2	Does the laboratory carrying out the analyses undertake periodic comparative analysis of laboratory reference materials and certified reference materials?	Yes
QAQC	Q3	Does the laboratory carrying out the analyses undertake the compilation of quality control charts based upon the data resulting from the analyses of the laboratory reference materials and certified reference materials, and the use of those quality control charts to monitor analytical performance in relation to all samples of dumped wastes or other materials?	Yes
InterlabCaleb	Q4	Does the laboratory carrying out the analyses undertake periodic participation in interlaboratory comparison exercises, including, where possible, international comparison exercises?	Yes
InternatCaleb	Q5	Does the laboratory carrying out the analyses undertake periodic participation in national and, where possible, international laboratory proficiency schemes?	Yes
SpikedSamples	Q6	If the answer to questions 4 or 5 is 'Yes' then does the laboratory analyse samples of substances which are provided by the organisers of the scheme?	Yes
BlindSamples	Q7	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the composition of those samples is not disclosed in advance?	Yes
Ranking	Q8	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the results of the scheme for each participating laboratory are made available to all participating laboratories?	Yes
FracAnal	Q9	Enter the size fraction that is analysed i.e. Whole or less than 63µm etc.	<63um(metals)
GranMeth	Q10	PSA method	BS1377 Washing and Drying Sieving Method
OCMeth	Q11	Organic Carbon method	Carbonate removal and sulfurous acid/combustion at 800°C/NDIR,
MetExtrType	Q12	Method of extraction used for metal analysis	Aquaregia
MethOfDetMetals	Q13	Method of detection used for metal analysis	ICP-MS
PAHExtrType	Q14	Method of extraction used for poly aromatic hydrocarbon analysis	hexane/acetone extraction
MethOfDetPAH	Q15	Method of detection used for poly aromatic hydrocarbons analysis	GCMS
OHExtrType	Q16	Method of extraction used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	Ultrasonic acetone/hexane solvent extraction
MethOfDetOH	Q17	Method of detection used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	GCECD
OTExtrType	Q18	Method of extraction used for organotin analysis	Derivatisation and solvent extraction
MethOfDetOT	Q19	Method of detection used for organotin analysis	GCMS

		LOD/LOQ	Precision (%)	Recovery (%)
mg/kg	Hg	0.5		
	As	0.3		
	Cd	0.2		
	Cu	1.6		
	Pb	0.7		
	Zn	16		
	Cr	1.2		
	Ni	2		
	TBT	0.0005		
	DBT	0.02		
	PCB28	5		
	PCB31			
	PCB44			
µg/kg	PCB47			
	PCB49			
	PCB52	5		
	PCB66			
	PCB101	5		
	PCB105			
	PCB110			
	PCB118	5		
	PCB128			
	PCB138+163	5		
	PCB141			
	PCB149			
	PCB151			
	PCB153	5		
	PCB156			
	PCB158			
	PCB170			
	PCB180	5		
	PCB183			
	PCB187			
	PCB194			
	DDE			
	DDT			
	DDD			
	Dieldrin			
	Lindane			
	HCB			
	BDE17			
	BDE29			
	BDE47			
	BDE66			
	BDE85			
	BDE99			
	BDE100			
	BDE138			
	BDE153			
	BDE154			
	BDE183			
	BDE209			
	ACENAPTH	1		
	ACENAPHY	1		
	ANTHRACN	1		
	BA	1		
	BAP	1		
	BBF	1		
	BENZGHIP	1		
	BEP	1		
	BKF	1		
	CTN	1		
	C1PHEN	1		
	C2N	1		
	C3N	1		
	CHRYSENE	1		
	DBENZAH	1		
	FLUORENE	1		
	FLUORANT	1		
	INDPYR	1		
	NAPTH	1		
	PERYLENE	1		
	PHENANT	1		
	PYRENE	1		
	THC	1		

Laboratory Details

Explanatory Notes:
Please complete a separate worksheet for each laboratory (e.g. complete 'Laboratory_1' worksheet for 1 laboratory and complete 'Laboratory_2' worksheet for a second laboratory). If there are more than 3 laboratories then please contact MS-LOT.

Laboratory 2 Details:	
Laboratory name	BAM Ritchies - PSD Results Only
Year	2018

LabRefMat	Q1	Does the laboratory carrying out the analyses undertake the analysis of blank samples and laboratory reference materials with each batch of samples of waste and other material dumped in the maritime area that is analysed by that laboratory?	No
CompAnal	Q2	Does the laboratory carrying out the analyses undertake periodic comparative analysis of laboratory reference materials and certified reference materials?	No
QAQC	Q3	Does the laboratory carrying out the analyses undertake the compilation of quality control charts based upon the data resulting from the analyses of the laboratory reference materials and certified reference materials, and the use of those quality control charts to monitor analytical performance in relation to all samples of dumped wastes or other materials?	No
InterlabCaleb	Q4	Does the laboratory carrying out the analyses undertake periodic participation in interlaboratory comparison exercises, including, where possible, international comparison exercises?	No
InternatCaleb	Q5	Does the laboratory carrying out the analyses undertake periodic participation in national and, where possible, international laboratory proficiency schemes?	Yes
SpikedSamples	Q6	If the answer to questions 4 or 5 is 'Yes' then does the laboratory analyse samples of substances which are provided by the organisers of the scheme?	Yes
BlindSamples	Q7	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the composition of those samples is not disclosed in advance?	Yes
Ranking	Q8	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the results of the scheme for each participating laboratory are made available to all participating laboratories?	Yes
FracAnal	Q9	Enter the size fraction that is analysed i.e. Whole or less than 63µm etc.	N/A
GranMeth	Q10	PSA method	Method in line with BS1377:Part 2:1990, clause 9.2
OCMeth	Q11	Organic Carbon method	
MetExtrType	Q12	Method of extraction used for metal analysis	
MethOfDetMetals	Q13	Method of detection used for metal analysis	
PAHExtrType	Q14	Method of extraction used for poly aromatic hydrocarbon analysis	
MethOfDetPAH	Q15	Method of detection used for poly aromatic hydrocarbons analysis	
OHExtrType	Q16	Method of extraction used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
MethOfDetOH	Q17	Method of detection used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
OTExtrType	Q18	Method of extraction used for organotin analysis	
MethOfDetOT	Q19	Method of detection used for organotin analysis	

		LOD/LOQ	Precision (%)	Recovery (%)
mg/kg	Hg			
	As			
	Cd			
	Cu			
	Pb			
	Zn			
	Cr			
	Ni			
	TBT			
	DBT			
µg/kg	PCB28			
	PCB31			
	PCB44			
	PCB47			
	PCB49			
	PCB52			
	PCB66			
	PCB101			
	PCB105			
	PCB110			
	PCB118			
	PCB128			
	PCB138+163			
	PCB141			
	PCB149			
	PCB151			
	PCB153			
	PCB156			
	PCB158			
	PCB170			
	PCB180			
	PCB183			
	PCB187			
	PCB194			
	DDE			
	DDT			
	DDO			
	Dieldrin			
	Lindane			
	HCB			
	BDE17			
	BDE29			
	BDE47			
	BDE66			
	BDE85			
	BDE99			
	BDE100			
	BDE138			
	BDE153			
	BDE154			
	BDE183			
	BDE209			
	ACENAPTH			
	ACENAPHY			
	ANTHRACN			
	BA			
	BAP			
	BBF			
	BENZGHIP			
	BEP			
	BKF			
	CIN			
	C1PHEN			
	C2N			
	C3N			
	CHRYSENE			
	DBENZAH			
	FLUORENE			
	FLUORANT			
	INDPYR			
	NAPTH			
	PERYLENE			
	PHENANT			
	PYRENE			
	THC			

Laboratory Details

Explanatory Notes:
Please complete a separate worksheet for each laboratory (e.g. complete 'Laboratory_1' worksheet for 1 laboratory and complete 'Laboratory_2' worksheet for a second laboratory). If there are more than 3 laboratories then please contact MS-LOT.

Laboratory 3 Details:

Laboratory name	Concept Life Sciences - TOC only
Year	2018

LabRefMat	Q1	Does the laboratory carrying out the analyses undertake the analysis of blank samples and laboratory reference materials with each batch of samples of waste and other material dumped in the maritime area that is analysed by that laboratory?	Yes
CompAnal	Q2	Does the laboratory carrying out the analyses undertake periodic comparative analysis of laboratory reference materials and certified reference materials?	Yes
QAQC	Q3	Does the laboratory carrying out the analyses undertake the compilation of quality control charts based upon the data resulting from the analyses of the laboratory reference materials and certified reference materials, and the use of those quality control charts to monitor analytical performance in relation to all samples of dumped wastes or other materials?	Yes
InterlabCaleb	Q4	Does the laboratory carrying out the analyses undertake periodic participation in interlaboratory comparison exercises, including, where possible, international comparison exercises?	Yes
InternatCaleb	Q5	Does the laboratory carrying out the analyses undertake periodic participation in national and, where possible, international laboratory proficiency schemes?	Yes
SpikedSamples	Q6	If the answer to questions 4 or 5 is 'Yes' then does the laboratory analyse samples of substances which are provided by the organisers of the scheme?	Yes
BlindSamples	Q7	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the composition of those samples is not disclosed in advance?	Yes
Ranking	Q8	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the results of the scheme for each participating laboratory are made available to all participating laboratories?	Yes
FracAnal	Q9	Enter the size fraction that is analysed i.e. Whole or less than 63µm etc.	Whole
GranMeth	Q10	PSA method	
OCMeth	Q11	Organic Carbon method	Oxidation Infra Red
MetExtrType	Q12	Method of extraction used for metal analysis	
MethOfDetMetals	Q13	Method of detection used for metal analysis	
PAHExtrType	Q14	Method of extraction used for poly aromatic hydrocarbon analysis	
MethOfDetPAH	Q15	Method of detection used for poly aromatic hydrocarbons analysis	
OHExtrType	Q16	Method of extraction used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
MethOfDetOH	Q17	Method of detection used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
OTExtrType	Q18	Method of extraction used for organotin analysis	
MethOfDetOT	Q19	Method of detection used for organotin analysis	

		LOD/LOQ	Precision (%)	Recovery (%)
mg/kg	Hg			
	As			
	Cd			
	Cu			
	Pb			
	Zn			
	Cr			
	Ni			
	TBT			
	DBT			
µg/kg	PCB28			
	PCB31			
	PCB44			
	PCB47			
	PCB49			
	PCB52			
	PCB66			
	PCB101			
	PCB105			
	PCB110			
	PCB118			
	PCB128			
	PCB138+163			
	PCB141			
	PCB149			
	PCB151			
	PCB153			
	PCB156			
	PCB158			
	PCB170			
	PCB180			
	PCB183			
	PCB187			
	PCB194			
	DDE			
	DDT			
	DDO			
	Dieldrin			
	Lindane			
	HCB			
	BDE17			
	BDE29			
	BDE47			
	BDE66			
	BDE85			
	BDE99			
	BDE100			
	BDE138			
	BDE153			
	BDE154			
	BDE183			
	BDE209			
	ACENAPTH			
	ACENAPHY			
	ANTHRACN			
	BA			
	BAP			
	BBF			
	BENZGHIP			
	BEP			
	BKF			
	CIN			
	C1PHEN			
	C2N			
	C3N			
	CHRYSENE			
	DBENZAH			
	FLUORENE			
	FLUORANT			
	INDPYR			
	NAPTH			
	PERYLENE			
	PHENANT			
	PYRENE			
	THC			

Applicant Information

Applicant:	Ardersier Port
Description of dredging:	TBC
Total amount to be dredged (wet tonnes)	2300000

Sample Details & Physical Properties

Explanatory Notes: An example of a 'Dredge area' is: 'Dock A, Harbour X' Provide description of the dredge area and the latitude and longitude co-ordinates (WGS84) for each sample location. Co-ordinates taken from GPS equipment should be set to WGS84. Note for sample depth that the seabed is 0 metres. Gravel is defined as >2mm, Sand is defined as >63um<2mm, Silt is defined as <63um).
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Sample information:

Sample ID	Dredge area	Latitude										Longitude										Type of sample	Sample depth (m)	Total solids (%)	Gravel (%)	Sand (%)	Silt (%)	TOC (%)	Specific gravity	Asbestos	
G1	1	5	7	°	3	6	.	2	8	7	'N	0	0	4	°	0	0	.	5	6	2	'W	Grab	0.1	77.8	0	98.6	1.4	0.24		No
G11	1	5	7	°	3	6	.	1	5	1	'N	0	0	4	°	0	0	.	4	5	6	'W	Grab	0.1	80.8	0	98.9	1.1	0.08		No
G13	1	5	7	°	3	6	.	1	1	8	'N	0	0	4	°	0	0	.	3	8	3	'W	Grab	0.1	83.3	7	92	1	0.08		No
G15	1	5	7	°	3	6	.	1	1	0	'N	0	0	4	°	0	0	.	4	0	1	'W	Grab	0.1	83.2	0	99.3	0.7	0.07		No
G16	1	5	7	°	3	6	.	0	5	5	'N	0	0	4	°	0	0	.	3	4	9	'W	Grab	0.1	82.6	4	94.3	1.3	0.09		No
G17	1	5	7	°	3	6	.	0	5	6	'N	0	0	4	°	0	0	.	2	8	5	'W	Grab	0.1	82.3	0	98.8	1.2	0.1		No
G19	1	5	7	°	3	6	.	0	3	3	'N	0	0	4	°	0	0	.	2	4	6	'W	Grab	0.1	85.8	4	95.1	0.9	0.08		No
G20	1	5	7	°	3	6	.	0	4	8	'N	0	0	4	°	0	0	.	1	6	6	'W	Grab	0.1	81.3	0	99	1	0.08		No
G21	1	5	7	°	3	6	.	0	0	9	'N	0	0	4	°	0	0	.	2	0	6	'W	Grab	0.1	81.5	0	99	1	0.11		No
G22	1	5	7	°	3	6	.	0	1	0	'N	0	0	4	°	0	0	.	1	2	4	'W	Grab	0.1	82.1	0	98.2	1.8	0.09		No
G23	1	5	7	°	3	6	.	0	1	1	'N	0	0	4	°	0	0	.	0	4	2	'W	Grab	0.1	79.1	0	98.3	1.7	0.14		No
G24	1	5	7	°	3	5	.	5	7	2	'N	0	0	4	°	0	0	.	0	8	3	'W	Grab	0.1	78.3	14	80.1	5.9	0.27		No
G25	1	5	7	°	3	5	.	5	9	2	'N	0	0	4	°	0	0	.	1	9	9	'W	Grab	0.1	82.8	0	98.8	1.2	0.08		No
G26	1	5	7	°	3	5	.	5	7	3	'N	0	0	4	°	0	0	.	1	3	5	'W	Grab	0.1	79.6	0	97.7	2.3	0.15		No
G27	1	5	7	°	3	6	.				'N	0	0	4	°	5	3	.				'W	Grab	0.1	80.7	0	98	2			No
G28	1	5	7	°	3	6	.				'N	0	0	4	°	5	3	.				'W	Grab	0.1	81.1						No
G3	1	5	7	°	3	6	.	2	6	9	'N	0	0	4	°	0	1	.	0	1	9	'W	Grab	0.1	89.6	48	51.4	0.6	0.14		No
G5	1	5	7	°	3	6	.	2	3	6	'N	0	0	4	°	0	0	.	5	4	6	'W	Grab	0.1	82.9	0	98.7	1.3	0.11		No
G7	1	5	7	°	3	6	.	2	0	2	'N	0	0	4	°	0	0	.	4	7	2	'W	Grab	0.1	80.7	4	94.8	1.2	0.09		No
G9	1	5	7	°	3	6	.	1	8	5	'N	0	0	4	°	0	0	.	5	2	9	'W	Grab	0.1	82.3	0	98.9	1.1	0.09		No
G27	1	5	7	°	3	6	.	0	7	4	'N	0	0	3	°	5	9	.	8	7	3	'W	Grab	0.1		49	49	1			No
G28	1	5	7	°	3	6	.	0	4	6	'N	0	0	3	°	5	9	.	7	3	3	'W	Grab	0.1		89	10	1	0.2		
G29	1	5	7	°	3	6	.	0	2	4	'N	0	0	3	°	5	9	.	7	6	2	'W	Grab	0.1		0	99	1	0.1		
G30	1	5	7	°	3	5	.	9	9	0	'N	0	0	3	°	5	9	.	6	0	7	'W	Grab	0.1		8	90	2			
G31	1	5	7	°	3	6	.	0	1	7	'N	0	0	3	°	5	9	.	9	2	9	'W	Grab	0.1		0	99	1			
G32	1	5	7	°	3	5	.	9	8	3	'N	0	0	3	°	5	9	.	8	2	1	'W	Grab	0.1		0	88	12	0.6		
G33	1	5	7	°	3	5	.	9	5	3	'N	0	0	3	°	5	9	.	7	3	0	'W	Grab	0.1		1	96	3	<0.1		
G34	1	5	7	°	3	5	.	9	1	5	'N	0	0	3	°	5	9	.	6	1	1	'W	Grab	0.1		3	94	3	0.8		
G35	1	5	7	°	3	5	.	9	7	0	'N	0	0	3	°	5	9	.	9	0	8	'W	Grab	0.1		0	100	0	<0.1		
G36	1	5	7	°	3	5	.	9	4	1	'N	0	0	3	°	5	9	.	7	8	8	'W	Grab	0.1		0	98	2	<0.1		

Trace Metals & Organotins

Explanatory Notes:

Results above Action Level 1 will be highlighted in blue and above Action Level 2 in red.

Sample information:

[illegible]

Polyaromatic Hydrocarbons (PAH)

Explanatory Notes:

Results above Action Level 1 will be highlighted in blue and above Action Level 2 in red.

Definitions:

ACENAPHTH	Acenaphthene
ACENAPHTHY	Acenaphthylene
ANTHRACEN	Anthracene
BAA	Benzo(a)anthracene
BAP	Benzo(a)pyrene
BBF	Benzo(b)fluoranthene
BEP	Benzo(e)pyrene
BENZGHPH	Benzo(ghi)perylene
BKF	Benzo(k)fluoranthene
C1N1	C1-naphthalenes
C1PHEN	C1-phenanthrenes
C2N	C2-naphthalenes
C3N	C3-naphthalenes
CHRYSENE	Chrysene
DBENZAH	Diben(ah)anthracene
FLUORANT	Fluoranthene
FLUORENE	Fluorene
INDPYR	Indeno(1,2,3-cd)pyrene
NAPTH	Naphthalene
PERYLENE	Perylene
PHENANTH	Phenanthrene
PYRENE	Pyrene
THC	Total Hydrocarbon Content

Sample information:

Sample ID	Dredge area	Type of sample	Sample depth (m)	µg/kg																					
				ACENAPTH	ACENAPHY	ANTHRACN	BAA	BAP	BBF	BEP	BENZGHPH	BKF	C1N	C1PHEN	C2N	C3N	CHRYSENE	DBENZAH	FLUORANT	FLUORENE	INDPYR	NAPTH	PERYLENE	PHENANT	PYRENE
G1	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G11	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G13	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G15	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G16	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G17	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G19	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G20	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G21	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G22	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G23	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G24	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G25	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G26	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G27	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G28	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G3	1	Grab	0.1	<100	<100	357	178	<100	145	<100					<100	<100	145	<100	301	111	<100	<100	<100	178	
G5	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G7	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G9	1	Grab	0.1	<100	<100	<100	<100	<100	<100	<100					<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
G27	1	Grab	0.1																						
G28	1	Grab	0.1																						
G29	1	Grab	0.1																						
G30	1	Grab	0.1																						
G31	1	Grab	0.1																						
G32	1	Grab	0.1																						
G33	1	Grab	0.1																						
G34	1	Grab	0.1																						
G35	1	Grab	0.1																						
G36	1	Grab	0.1																						

Explanatory Notes:
Results above Action Level 1 will be highlighted in blue and above Action Level 2 in red.
(CES7 is the sum of PCB 28,52,101,138,153,180 and 118.

AHCH	alpha-Hexachlorocyclohexane
BHCH	beta-Hexachlorocyclohexane
GHCH	gamma-Hexachlorocyclohexane
DIELDRIN	Dieldrin
HCB	hexachlorobenzene
PPDDE	p,p'-Dichlorodiphenyldichloroethylene
PPDDT	p,p'-Dichlorodiphenyltrichloroethane
PPTDE	p,p'-Dichlorodiphenyldichloroethane

[illegible]

PR Details

Total amount to be dredged (wet tonnes) | 2300000

Explanatory Notes:
The values entered for each determinand should be an average wet weight concentration from all the samples representing the material to be disposed to sea. They should be entered in the units stated in the Unit of measurement column in the table below.
Results above Action Level 1 will be highlighted in blue and above Action Level 2 in red.

Average for the total dredge area:

Sample ID	Unit of measurement	
Total Solids	%	83
Gravel	%	11
Sand	%	86
Silt	%	3
Arsenic (As)	mg/kg	1.74
Cadmium (Cd)		<0.2
Chromium (Cr)		6.55
Copper (Cu)		0.5
Mercury (Hg)		0.1
Nickel (Ni)		4.64
Lead (Pb)		4.61
Zinc (Zn)		60.7
Dibutyltin (DBT)		0.062
Tributyltin (TBT)		0.046
Acenaphth	µg/kg	92
Acenaphthylene		92
Anthracen		92
BAA		113
BAP		124
BBF		138
BEP		28.8
Benzghip		105
BKF		107
C1N		35.8
C1PHEN		65.2
C2N		51.2
C3N		76.6
Chrysene		105
Debenzah		93
Flurant		104
Fluorene		92
Indypr		107
naph		92
perylene		180
phenant		42.7
pyrene		98
THC		
PCB28		<5
PCB52		<5
PCB101		<5
PCB118		<5
PCB138		<5
PCB153		<5
PCB18		
PCB105		
PCB110		
PCB128		
PCB141		
PCB149		
PCB151		
PCB156		
PCB158		
PCB170		
PCB180		<5
PCB183		
PCB187		
PCB194		
PCB31		
PCB44		
PCB47		
PCB49		
PCB66		
ICES7		
AHCH		
BHCH		
GHCH		
DIELDRIN		
HCB		
DDE		
DDT		
TDE		
BDE100		
BDE138		
BDE153		
BDE154		
BDE17		
BDE183		
BDE209		
BDE28		
BDE47		
BDE66		
BDE85		
BDE99		

Comments:

Laboratory Details

Explanatory Notes:
Please complete a separate worksheet for each laboratory (e.g. complete 'Laboratory_1' worksheet for 1 laboratory and complete 'Laboratory_2' worksheet for a second laboratory). If there are more than 3 laboratories then please contact MS-LOT.

Laboratory 1 Details:
Laboratory name:ESG
Year:2013 - See other sheet for details

LabRefMat	Q1	Does the laboratory carrying out the analyses undertake the analysis of blank samples and laboratory reference materials with each batch of samples of waste and other material dumped in the maritime area that is analysed by that laboratory?	No
CompAnal	Q2	Does the laboratory carrying out the analyses undertake periodic comparative analysis of laboratory reference materials and certified reference materials?	Yes
QAQC	Q3	Does the laboratory carrying out the analyses undertake the compilation of quality control charts based upon the data resulting from the analyses of the laboratory reference materials and certified reference materials, and the use of those quality control charts to monitor analytical performance in relation to all samples of dumped wastes or other materials?	Yes
InterlabCaleb	Q4	Does the laboratory carrying out the analyses undertake periodic participation in interlaboratory comparison exercises, including, where possible, international comparison exercises?	Yes
InternatCaleb	Q5	Does the laboratory carrying out the analyses undertake periodic participation in national and, where possible, international laboratory proficiency schemes?	Yes
SpikedSamples	Q6	If the answer to questions 4 or 5 is 'Yes' then does the laboratory analyse samples of substances which are provided by the organisers of the scheme?	Yes
BlindSamples	Q7	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the composition of those samples is not disclosed in advance?	Yes
Ranking	Q8	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the results of the scheme for each participating laboratory are made available to all participating laboratories?	Yes
FracAnal	Q9	Enter the size fraction that is analysed i.e. Whole or less than 63µm etc.	
GranMeth	Q10	PSA method	
OCMeth	Q11	Organic Carbon method	
MetExtrType	Q12	Method of extraction used for metal analysis	
MethOfDetMetals	Q13	Method of detection used for metal analysis	
PAHExtrType	Q14	Method of extraction used for poly aromatic hydrocarbon analysis	
MethOfDetPAH	Q15	Method of detection used for poly aromatic hydrocarbons analysis	
OHExtrType	Q16	Method of extraction used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
MethOfDetOH	Q17	Method of detection used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
OTExtrType	Q18	Method of extraction used for organotin analysis	
MethOfDetOT	Q19	Method of detection used for organotin analysis	

		LOD/LOQ	Precision (%)	Recovery (%)
mg/kg	Hg			
	As			
	Cd			
	Cu			
	Pb			
	Zn			
	Cr			
	Ni			
	TBT			
	DBT			
	PCB28			
	PCB31			
	PCB44			
µg/kg	PCB47			
	PCB49			
	PCB52			
	PCB66			
	PCB101			
	PCB105			
	PCB110			
	PCB118			
	PCB128			
	PCB138+163			
	PCB141			
	PCB149			
	PCB151			
	PCB153			
	PCB156			
	PCB158			
	PCB170			
	PCB180			
	PCB183			
	PCB187			
	PCB194			
	DDE			
	DDT			
	DDO			
	Dieldrin			
	Lindane			
	HCB			
	BDE17			
	BDE29			
	BDE47			
	BDE66			
	BDE85			
	BDE99			
	BDE100			
	BDE138			
	BDE153			
	BDE154			
	BDE183			
	BDE209			
	ACENAPTH			
	ACENAPHY			
	ANTHRACN			
	BA			
	BAP			
	BBF			
	BENZGHIP			
	BEP			
	BKF			
	CIN			
	C1PHEN			
	C2N			
	C3N			
	CHRYSENE			
	DBENZAH			
	FLUORENE			
	FLUORANT			
	INDPYR			
	NAPTH			
	PERYLENE			
	PHENANT			
	PYRENE			
	THC			

Laboratory Details

Explanatory Notes:
Please complete a separate worksheet for each laboratory (e.g. complete 'Laboratory_1' worksheet for 1 laboratory and complete 'Laboratory_2' worksheet for a second laboratory). If there are more than 3 laboratories then please contact MS-LOT.

Laboratory 2 Details:

Laboratory name
Year

LabRefMat	Q1	Does the laboratory carrying out the analyses undertake the analysis of blank samples and laboratory reference materials with each batch of samples of waste and other material dumped in the maritime area that is analysed by that laboratory?	
CompAnal	Q2	Does the laboratory carrying out the analyses undertake periodic comparative analysis of laboratory reference materials and certified reference materials?	
QAQC	Q3	Does the laboratory carrying out the analyses undertake the compilation of quality control charts based upon the data resulting from the analyses of the laboratory reference materials and certified reference materials, and the use of those quality control charts to monitor analytical performance in relation to all samples of dumped wastes or other materials?	
InterlabCaleb	Q4	Does the laboratory carrying out the analyses undertake periodic participation in interlaboratory comparison exercises, including, where possible, international comparison exercises?	
InternatCaleb	Q5	Does the laboratory carrying out the analyses undertake periodic participation in national and, where possible, international laboratory proficiency schemes?	
SpikedSamples	Q6	If the answer to questions 4 or 5 is 'Yes' then does the laboratory analyse samples of substances which are provided by the organisers of the scheme?	
BlindSamples	Q7	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the composition of those samples is not disclosed in advance?	
Ranking	Q8	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the results of the scheme for each participating laboratory are made available to all participating laboratories?	
FracAnal	Q9	Enter the size fraction that is analysed i.e. Whole or less than 63µm etc.	
GranMeth	Q10	PSA method	
OCMeth	Q11	Organic Carbon method	
MetExtrType	Q12	Method of extraction used for metal analysis	
MethOfDetMetals	Q13	Method of detection used for metal analysis	
PAHExtrType	Q14	Method of extraction used for poly aromatic hydrocarbon analysis	
MethOfDetPAH	Q15	Method of detection used for poly aromatic hydrocarbons analysis	
OHExtrType	Q16	Method of extraction used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
MethOfDetOH	Q17	Method of detection used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
OTExtrType	Q18	Method of extraction used for organotin analysis	
MethOfDetOT	Q19	Method of detection used for organotin analysis	

		LOD/LOQ	Precision (%)	Recovery (%)
mg/kg	Hg			
	As			
	Cd			
	Cu			
	Pb			
	Zn			
	Cr			
	Ni			
	TBT			
	DBT			
	PCB28			
	PCB31			
µg/kg	PCB44			
	PCB47			
	PCB49			
	PCB52			
	PCB66			
	PCB101			
	PCB105			
	PCB110			
	PCB118			
	PCB128			
	PCB138+163			
	PCB141			
	PCB149			
	PCB151			
	PCB153			
	PCB156			
	PCB158			
	PCB170			
	PCB180			
	PCB183			
	PCB187			
	PCB194			
	DDE			
	DDT			
	DDO			
	Dieldrin			
	Lindane			
	HCB			
	BDE17			
	BDE29			
	BDE47			
	BDE66			
	BDE85			
	BDE99			
	BDE100			
	BDE138			
	BDE153			
	BDE154			
	BDE183			
	BDE209			
	ACENAPTH			
	ACENAPHY			
	ANTHRACN			
	BA			
	BAP			
	BBF			
	BENZGHIP			
	BEP			
	BKF			
	CIN			
	C1PHEN			
	C2N			
	C3N			
	CHRYSENE			
	DBENZAH			
	FLUORENE			
	FLUORANT			
	INDPYR			
	NAPTH			
	PERYLENE			
	PHENANT			
	PYRENE			
	THC			

Laboratory Details

Explanatory Notes:
Please complete a separate worksheet for each laboratory (e.g. complete 'Laboratory_1' worksheet for 1 laboratory and complete 'Laboratory_2' worksheet for a second laboratory). If there are more than 3 laboratories then please contact MS-LOT.

Laboratory 3 Details:

Laboratory name
Year

LabRefMat	Q1	Does the laboratory carrying out the analyses undertake the analysis of blank samples and laboratory reference materials with each batch of samples of waste and other material dumped in the maritime area that is analysed by that laboratory?	
CompAnal	Q2	Does the laboratory carrying out the analyses undertake periodic comparative analysis of laboratory reference materials and certified reference materials?	
QAQC	Q3	Does the laboratory carrying out the analyses undertake the compilation of quality control charts based upon the data resulting from the analyses of the laboratory reference materials and certified reference materials, and the use of those quality control charts to monitor analytical performance in relation to all samples of dumped wastes or other materials?	
InterlabCaleb	Q4	Does the laboratory carrying out the analyses undertake periodic participation in interlaboratory comparison exercises, including, where possible, international comparison exercises?	
InternatCaleb	Q5	Does the laboratory carrying out the analyses undertake periodic participation in national and, where possible, international laboratory proficiency schemes?	
SpikedSamples	Q6	If the answer to questions 4 or 5 is 'Yes' then does the laboratory analyse samples of substances which are provided by the organisers of the scheme?	
BlindSamples	Q7	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the composition of those samples is not disclosed in advance?	
Ranking	Q8	If the answer to questions 4 or 5 is 'Yes' then does the laboratory confirm that the results of the scheme for each participating laboratory are made available to all participating laboratories?	
FracAnal	Q9	Enter the size fraction that is analysed i.e. Whole or less than 63µm etc.	
GranMeth	Q10	PSA method	
OCMeth	Q11	Organic Carbon method	
MetExtrType	Q12	Method of extraction used for metal analysis	
MethOfDetMetals	Q13	Method of detection used for metal analysis	
PAHExtrType	Q14	Method of extraction used for poly aromatic hydrocarbon analysis	
MethOfDetPAH	Q15	Method of detection used for poly aromatic hydrocarbons analysis	
OHExtrType	Q16	Method of extraction used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
MethOfDetOH	Q17	Method of detection used for organohalogens inc PCBs, pesticides, flame retardants etc analysis	
OTExtrType	Q18	Method of extraction used for organotin analysis	
MethOfDetOT	Q19	Method of detection used for organotin analysis	

		LOD/LOQ	Precision (%)	Recovery (%)
mg/kg	Hg			
	As			
	Cd			
	Cu			
	Pb			
	Zn			
	Cr			
	Ni			
	TBT			
	DBT			
	PCB28			
	PCB31			
µg/kg	PCB44			
	PCB47			
	PCB49			
	PCB52			
	PCB66			
	PCB101			
	PCB105			
	PCB110			
	PCB118			
	PCB128			
	PCB138+163			
	PCB141			
	PCB149			
	PCB151			
	PCB153			
	PCB156			
	PCB158			
	PCB170			
	PCB180			
	PCB183			
	PCB187			
	PCB194			
	DDE			
	DDT			
	DDO			
	Dieldrin			
	Lindane			
	HCB			
	BDE17			
	BDE29			
	BDE47			
	BDE66			
	BDE85			
	BDE99			
	BDE100			
	BDE138			
	BDE153			
	BDE154			
	BDE183			
	BDE209			
	ACENAPTH			
	ACENAPHY			
	ANTHRACN			
	BA			
	BAP			
	BBF			
	BENZGHIP			
	BEP			
	BKF			
	CIN			
	C1PHEN			
	C2N			
	C3N			
	CHRYSENE			
	DBENZAH			
	FLUORENE			
	FLUORANT			
	INDPYR			
	NAPTH			
	PERYLENE			
	PHENANT			
	PYRENE			
	THC			