

Rose Buckley
Hydrographic Surveys Ltd
The Cobbles
Crosshaven
Co Cork

Dear Rose

Please find attached the results for the batch of 3 samples described below.

Samples Registered on:	04-Jun-2013
Analysis Started on:	05-Jun-2013
Analysis Completed on:	03-Sep-2013
Results for Batch Number	20053201
Your Purchase Order Number:	00101

You will be invoiced shortly by our accounts department.

If we can be of further assistance then please do not hesitate to contact us.

Yours sincerely



William Fardon
Customer Services Team Manager
Tel: (0113) 231 2177
nls@environment-agency.gov.uk

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. Details of analytical procedures and performance data are available on request. The date of sample analysis is available on request.

The Environment Agency carries out analytical work to high standards and within the scope of its UKAS accreditation, but has no knowledge of whether the circumstances or the validity of the procedures used to obtain the samples provided to the laboratory were representative of the need for which the information was required.

The Environment Agency and/or its staff does not therefore accept any liability for the consequences of any acts or omissions made on the basis of the analysis or advice or interpretation provided.

Client: Hydrographic Surveys Ltd

Project: Courtown Marine Sediment

Folder No: 002403578

Sample Point Name: CC Hydrographic Surveys Ltd

Comments: CRT-COMP

Sampled on: 31-May-13 @ 15:15

Quote No: 9996

Matrix: Sediment

Analyte	Result	Units	Flag	MRV	Accred	Lab ID	Testcode
Density	1.83	g/ml		0.1	None	LE	881
Carbonate as C : Dry Wt	0.0100	%			None	NLS	864
Moisture Content, Air dried 105 C	NoResult	%			None	NLS	864
Carbon : Dry Wt	0.480	%	DC	0.4	UKAS	SC	404
Carbon, Organic : Dry Wt as C	0.470	%	DC	0.4	UKAS	SC	404
Grain Size Fraction : <1000 microns : {>0 phi}	100	%	DC	0	None	SC	1369
Grain Size Fraction : > 63000 microns : {< -6.0 phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 1000 to 1400 mic : {0 to -0.5phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 11200 to 16000 mic : {-3.5 to -4.0phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 1400 to 2000 mic : {-0.5 to -1.0phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 16000 to 22400 mic : {-4.0 to -4.5phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 2000 to 2800 mic : {-1.0 to -1.5phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 22400 to 31500 mic : {-4.5 to -5.0phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 2800 to 4000 mic : {-1.5 to -2.0phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 31500 to 45000 mic : {-5.0 to -5.5phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 4000 to 5600 mic : {-2.0 to -2.5phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 45000 to 63000 mic : {-5.5 to -6.0phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 5600 to 8000 mic : {-2.5 to -3.0phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 8000 to 11200 mic : {-3.0 to -3.5phi}	0.00	%	DC	0	None	SC	1369
Particle Size Report crm	Report	Text	DC		None	SC	1369
Raw Data Report Not required.	Report	Text	DC		None	SC	1369
Grain Size Inclusive Kurtosis	0.520	mm	DC	-12	UKAS	SC	1368
Grain Size Inclusive Mean	0.140	mm	DC	0	UKAS	SC	1368
Inclusive Graphic Skewness :- {SKI}	0.154	Unitless	DC	-1	UKAS	SC	1368
Kurtosis	2.55	Unitless	DC	-12	UKAS	SC	1368
Particle Diameter : Mean	0.161	mm	DC	0	UKAS	SC	1368
Particle Diameter : Median	0.143	mm	DC	0	UKAS	SC	1368
Sorting Coefficient	0.735	Unitless	DC	-3	UKAS	SC	1368
Grain Size Fraction : < 0.98 microns : {>10 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : >1000 microns : {<0 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 0.98 to 1.38 microns : {10 to 9.5 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 1.38 to 1.95 microns : {9.5 to 9 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 1.95 to 2.76 microns : {9 to 8.5 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 11.1 to 15.6 microns : {6.5 to 6 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 125 to 177 microns : {3 to 2.5 phi}	25.5	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 15.6 to 22.1 microns : {6 to 5.5 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 177 to 250 microns : {2.5 to 2 phi}	21.1	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 2.76 to 3.91 microns : {8.5 to 8 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 22.1 to 31.3 microns : {5.5 to 5 phi}	0.00	%	DC	0	UKAS	SC	1370

Grain Size Fraction : 250 to 354 microns : {2 to 1.5 phi}	11.0	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 3.91 to 5.52 microns : {8 to 7.5 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 31.3 to 44.2 microns : {5 to 4.5 phi}	0.960	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 354 to 500 microns : {1.5 to 1 phi}	2.11	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 44.2 to 62.5 microns : {4.5 to 4 phi}	5.20	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 5.52 to 7.81 microns : {7.5 to 7 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 500 to 707 microns : {1 to 0.5 phi}	0.0100	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 62.5 to 88.4 microns : {4 to 3.5 phi}	12.8	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 7.81 to 11.1 microns : {7 to 6.5 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 707 to 1000 microns : {0.5 to 0 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 88.4 to 125 microns : {3.5 to 3 phi}	21.3	%	DC	0	UKAS	SC	1370
Hydrocarbons : Total : Dry Wt as Ekofisk	10.1	mg/kg	DCD1	0.05	UKAS	SC	402
Mercury : Dry Wt	0.0150	mg/kg		0.002	None	SC	1042
Aluminium : Dry Wt	7320	mg/kg		0.02	UKAS	SC	1043
Arsenic : Dry Wt	7.14	mg/kg		0.5	UKAS	SC	1041
Cadmium : Dry Wt	0.0660	mg/kg		0.02	UKAS	SC	1041
Chromium : Dry Wt	45.3	mg/kg		0.7	UKAS	SC	1041
Copper : Dry Wt	7.55	mg/kg		1	UKAS	SC	1041
Lead : Dry Wt	7.91	mg/kg		0.2	UKAS	SC	1041
Lithium : Dry Wt	0.690	mg/kg		0.3	UKAS	SC	1041
Nickel : Dry Wt	18.4	mg/kg		0.5	UKAS	SC	1041
Zinc : Dry Wt	52.1	mg/kg		3	UKAS	SC	1041
Aldrin : Dry Wt	<1	ug/kg	DC	1	UKAS	SC	672
DDE -pp : Dry Wt	<2	ug/kg	DC	2	UKAS	SC	672
DDT -op : Dry Wt	<1	ug/kg	DC	1	UKAS	SC	672
DDT -pp : Dry Wt	<2	ug/kg	DC	2	UKAS	SC	672
Dieldrin : Dry Wt	<3	ug/kg	DC	3	UKAS	SC	672
Endrin : Dry Wt	<2	ug/kg	DC	2	UKAS	SC	672
HCH -alpha : Dry Wt	<1	ug/kg	DC	1	UKAS	SC	672
HCH -beta : Dry Wt	<1	ug/kg	DC	1	UKAS	SC	672
HCH -delta : Dry Wt	<1	ug/kg	DC	1	UKAS	SC	672
HCH -gamma : Dry Wt :- {Lindane}	<2	ug/kg	DC	2	UKAS	SC	672
Hexachlorobenzene : Dry Wt	<1	ug/kg	DC	1	UKAS	SC	672
Hexachlorobutadiene : Dry Wt	<1	ug/kg	DC	1	UKAS	SC	672
Isodrin : Dry Wt	<2	ug/kg	DC	2	UKAS	SC	672
TDE - pp : Dry Wt	<1	ug/kg	DC	1	UKAS	SC	672
Acenaphthene : Dry Wt	<2	ug/kg	DC	2	UKAS	SC	1051
Acenaphthylene : Dry Wt	4.45	ug/kg	DC	2	None	SC	1051
Anthracene : Dry Wt	5.59	ug/kg	DC	2	UKAS	SC	1051
Benzo(a)anthracene : Dry Wt	21.3	ug/kg	DC	2	UKAS	SC	1051
Benzo(a)pyrene : Dry Wt	29.8	ug/kg	DC	2	UKAS	SC	1051
Benzo(b)fluoranthene : Dry Wt	41.6	ug/kg	DC	10	UKAS	SC	1051
Benzo(ghi)perylene : Dry Wt	21.2	ug/kg	DC	10	UKAS	SC	1051
Benzo(k)fluoranthene : Dry Wt	16.5	ug/kg	DC	10	UKAS	SC	1051
Chrysene : Dry Wt	NoResult	ug/kg	DC	3	UKAS	SC	1051
NO_RESULT : Analyte not required							
Chrysene + Triphenylene : Dry Wt	23.4	ug/kg	DC	3	None	SC	1051
Dibenzo(ah)anthracene : Dry Wt	<5	ug/kg	DC	5	UKAS	SC	1051
Fluoranthene : Dry Wt	32.9	ug/kg	DC	2	UKAS	SC	1051
Fluorene : Dry Wt	<10	ug/kg	DC	10	UKAS	SC	1051
Indeno(1,2,3-c,d)pyrene : Dry Wt	25.6	ug/kg	DC	10	UKAS	SC	1051

Naphthalene : Dry Wt	<30	ug/kg	DC	30	UKAS	SC	1051
Phenanthrene : Dry Wt	14.0	ug/kg	DC	10	UKAS	SC	1051
Pyrene : Dry Wt	41.6	ug/kg	DC	3	UKAS	SC	1051
PCB - 028 : Dry Wt	<0.1	ug/kg	DC	0.1	UKAS	SC	685
PCB - 052 : Dry Wt	<0.1	ug/kg	DC	0.1	UKAS	SC	685
PCB - 101 : Dry Wt	<0.1	ug/kg	DC	0.1	UKAS	SC	685
PCB - 118 : Dry Wt	<0.1	ug/kg	DC	0.1	UKAS	SC	685
PCB - 138 : Dry Wt	<0.1	ug/kg	DC	0.1	UKAS	SC	685
PCB - 153 : Dry Wt	<0.1	ug/kg	DC	0.1	UKAS	SC	685
PCB - 180 : Dry Wt	<0.1	ug/kg	DC	0.1	UKAS	SC	685
Dibutyl Tin : Dry Wt as Cation	12.8	ug/kg	DCD1	3	UKAS	LE	897
Tributyl Tin : Dry Wt as Cation	<3	ug/kg	DCD1	3	UKAS	LE	897
Dry Solids @ 30°C	NoResult	%			None	LE	1130
Accreditation Assessment	NoResult	No.			None	LE	924
Sample Preparation	Report	Text			None	LE	924

Client: Hydrographic Surveys Ltd

Project: Courtown Marine Sediment

Folder No: 002403580

Sample Point Name: CC Hydrographic Surveys Ltd

Comments: CRT-COMP - CRM

Sampled on: 31-May-13 @ 15:15

Quote No: 9996

Matrix: Sediment

Analyte	Result	Units	Flag	MRV	Accred	Lab ID	Testcode
Density	NoResult	g/ml		0.1	None	LE	881
NO_RESULT : Analyte not applicable							
Carbonate as C : Dry Wt	<0.0100	%			None	NLS	864
Moisture Content, Air dried 105 C	NoResult	%			None	NLS	864
Carbon : Dry Wt	0.410	%	DC	0.4	UKAS	SC	404
Carbon, Organic : Dry Wt as C	<0.4	%	DC	0.4	UKAS	SC	404
Grain Size Fraction : <1000 microns : {>0 phi}	67.3	%	DC	0	None	SC	1369
Grain Size Fraction : > 63000 microns : {< -6.0 phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 1000 to 1400 mic : {0 to -0.5phi}	2.71	%	DC	0	None	SC	1369
Grain Size Fraction : 11200 to 16000 mic : {-3.5 to -4.0phi}	3.03	%	DC	0	None	SC	1369
Grain Size Fraction : 1400 to 2000 mic : {-0.5 to -1.0phi}	3.62	%	DC	0	None	SC	1369
Grain Size Fraction : 16000 to 22400 mic : {-4.0 to -4.5phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 2000 to 2800 mic : {-1.0 to -1.5phi}	3.76	%	DC	0	None	SC	1369
Grain Size Fraction : 22400 to 31500 mic : {-4.5 to -5.0phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 2800 to 4000 mic : {-1.5 to -2.0phi}	4.96	%	DC	0	None	SC	1369
Grain Size Fraction : 31500 to 45000 mic : {-5.0 to -5.5phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 4000 to 5600 mic : {-2.0 to -2.5phi}	3.68	%	DC	0	None	SC	1369
Grain Size Fraction : 45000 to 63000 mic : {-5.5 to -6.0phi}	0.00	%	DC	0	None	SC	1369
Grain Size Fraction : 5600 to 8000 mic : {-2.5 to -3.0phi}	3.83	%	DC	0	None	SC	1369
Grain Size Fraction : 8000 to 11200 mic : {-3.0 to -3.5phi}	7.07	%	DC	0	None	SC	1369
Particle Size Report	Report	Text	DC		None	SC	1369
Silty sand with stones (glass removed)							
Raw Data Report	Report	Text	DC		None	SC	1369
Not required.							
Grain Size Inclusive Kurtosis	0.575	mm	DC	-12	UKAS	SC	1368
Grain Size Inclusive Mean	0.674	mm	DC	0	UKAS	SC	1368
Inclusive Graphic Skewness :- {SKI}	-0.408	Unitless	DC	-1	UKAS	SC	1368
Kurtosis	2.85	Unitless	DC	-12	UKAS	SC	1368
Particle Diameter : Mean	2.10	mm	DC	0	UKAS	SC	1368
Particle Diameter : Median	0.398	mm	DC	0	UKAS	SC	1368
Sorting Coefficient	2.14	Unitless	DC	-3	UKAS	SC	1368
Grain Size Fraction : < 0.98 microns : {>10 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : >1000 microns : {<0 phi}	32.7	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 0.98 to 1.38 microns : {10 to 9.5 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 1.38 to 1.95 microns : {9.5 to 9 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 1.95 to 2.76 microns : {9 to 8.5 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 11.1 to 15.6 microns : {6.5 to 6 phi}	0.170	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 125 to 177 microns : {3 to 2.5 phi}	6.85	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 15.6 to 22.1 microns : {6 to 5.5 phi}	0.180	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 177 to 250 microns : {2.5 to 2 phi}	15.6	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 2.76 to 3.91 microns : {8.5 to 8 phi}	0.0400	%	DC	0	UKAS	SC	1370

Grain Size Fraction : 22.1 to 31.3 microns : {5.5 to 5 phi}	0.350	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 250 to 354 microns : {2 to 1.5 phi}	19.6	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 3.91 to 5.52 microns : {8 to 7.5 phi}	0.180	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 31.3 to 44.2 microns : {5 to 4.5 phi}	0.460	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 354 to 500 microns : {1.5 to 1 phi}	14.3	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 44.2 to 62.5 microns : {4.5 to 4 phi}	0.140	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 5.52 to 7.81 microns : {7.5 to 7 phi}	0.250	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 500 to 707 microns : {1 to 0.5 phi}	6.33	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 62.5 to 88.4 microns : {4 to 3.5 phi}	0.00	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 7.81 to 11.1 microns : {7 to 6.5 phi}	0.240	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 707 to 1000 microns : {0.5 to 0 phi}	1.61	%	DC	0	UKAS	SC	1370
Grain Size Fraction : 88.4 to 125 microns : {3.5 to 3 phi}	1.10	%	DC	0	UKAS	SC	1370
Hydrocarbons : Total : Dry Wt as Ekofisk	<0.05	mg/kg	DCD1	0.05	UKAS	SC	402
Mercury : Dry Wt	0.0140	mg/kg		0.002	None	SC	1042
Aluminium : Dry Wt	5450	mg/kg		0.02	UKAS	SC	1043
Arsenic : Dry Wt	6.58	mg/kg		0.5	UKAS	SC	1041
Cadmium : Dry Wt	0.0590	mg/kg		0.02	UKAS	SC	1041
Chromium : Dry Wt	12.3	mg/kg		0.7	UKAS	SC	1041
Copper : Dry Wt	6.65	mg/kg		1	UKAS	SC	1041
Lead : Dry Wt	8.57	mg/kg		0.2	UKAS	SC	1041
Lithium : Dry Wt	2.20	mg/kg		0.3	UKAS	SC	1041
Nickel : Dry Wt	10.4	mg/kg		0.5	UKAS	SC	1041
Zinc : Dry Wt	44.0	mg/kg		3	UKAS	SC	1041
Aldrin : Dry Wt	18.4	ug/kg	DC	1	UKAS	SC	672
DDE -pp : Dry Wt	21.1	ug/kg	DC	2	UKAS	SC	672
DDT -op : Dry Wt	19.3	ug/kg	DC	1	UKAS	SC	672
DDT -pp : Dry Wt	20.4	ug/kg	DC	2	UKAS	SC	672
Dieldrin : Dry Wt	20.4	ug/kg	DC	3	UKAS	SC	672
Endrin : Dry Wt	20.2	ug/kg	DC	2	UKAS	SC	672
HCH -alpha : Dry Wt	21.1	ug/kg	DC	1	UKAS	SC	672
HCH -beta : Dry Wt	19.2	ug/kg	DC	1	UKAS	SC	672
HCH -delta : Dry Wt	19.8	ug/kg	DC	1	UKAS	SC	672
HCH -gamma : Dry Wt :- {Lindane}	18.9	ug/kg	DC	2	UKAS	SC	672
Hexachlorobenzene : Dry Wt	22.9	ug/kg	DC	1	UKAS	SC	672
Hexachlorobutadiene : Dry Wt	23.1	ug/kg	DC	1	UKAS	SC	672
Isodrin : Dry Wt	19.1	ug/kg	DC	2	UKAS	SC	672
TDE - pp : Dry Wt	21.4	ug/kg	DC	1	UKAS	SC	672
Acenaphthene : Dry Wt	28.2	ug/kg	DC	2	UKAS	SC	1051
Acenaphthylene : Dry Wt	89.1	ug/kg	DC	2	None	SC	1051
Anthracene : Dry Wt	178	ug/kg	DC	2	UKAS	SC	1051
Benzo(a)anthracene : Dry Wt	342	ug/kg	DC	2	UKAS	SC	1051
Benzo(a)pyrene : Dry Wt	283	ug/kg	DC	2	UKAS	SC	1051
Benzo(b)fluoranthene : Dry Wt	469	ug/kg	DC	10	UKAS	SC	1051
Benzo(ghi)perylene : Dry Wt	232	ug/kg	DC	10	UKAS	SC	1051
Benzo(k)fluoranthene : Dry Wt	217	ug/kg	DC	10	UKAS	SC	1051
Chrysene : Dry Wt	NoResult	ug/kg	DC	3	UKAS	SC	1051
NO_RESULT : Analyte not required							
Chrysene + Triphenylene : Dry Wt	393	ug/kg	DC	3	None	SC	1051
Dibenzo(ah)anthracene : Dry Wt	71.3	ug/kg	DC	5	UKAS	SC	1051
Fluoranthene : Dry Wt	561	ug/kg	DC	2	UKAS	SC	1051
Fluorene : Dry Wt	53.7	ug/kg	DC	10	UKAS	SC	1051

Indeno(1,2,3-c,d)pyrene : Dry Wt	237	ug/kg	DC	10	UKAS	SC	1051
Naphthalene : Dry Wt	856	ug/kg	DC	30	UKAS	SC	1051
Phenanthrene : Dry Wt	412	ug/kg	DC	10	UKAS	SC	1051
Pyrene : Dry Wt	455	ug/kg	DC	3	UKAS	SC	1051
PCB - 028 : Dry Wt	4.48	ug/kg	DC	0.1	UKAS	SC	685
PCB - 052 : Dry Wt	5.24	ug/kg	DC	0.1	UKAS	SC	685
PCB - 101 : Dry Wt	5.16	ug/kg	DC	0.1	UKAS	SC	685
PCB - 118 : Dry Wt	4.16	ug/kg	DC	0.1	UKAS	SC	685
PCB - 138 : Dry Wt	3.52	ug/kg	DC	0.1	UKAS	SC	685
PCB - 153 : Dry Wt	5.36	ug/kg	DC	0.1	UKAS	SC	685
PCB - 180 : Dry Wt	3.12	ug/kg	DC	0.1	UKAS	SC	685
Dibutyl Tin : Dry Wt as Cation	795	ug/kg	DC	3	UKAS	LE	897
Tributyl Tin : Dry Wt as Cation	487	ug/kg	DC	3	UKAS	LE	897
Dry Solids @ 30°C	NoResult	%			None	LE	1130
Accreditation Assessment	NoResult	No.			None	LE	924
Sample Preparation	Report	Text			None	LE	924

Client: Hydrographic Surveys Ltd

Project: Courtown Marine Sediment

Folder No: 002403581

Sample Point Name: CC Hydrographic Surveys Ltd

Comments: CRT-COMP - WAC

Sampled on: 31-May-13 @ 15:15

Quote No: 9996

Matrix: Sediment

Analyte	Result	Units	Flag	MRV	Accred	Lab ID	Testcode
Dry Solids @ 105°C	75.4	%		0.5	UKAS	LE	911
Loss on Ignition @ 500°C	11.9	%		0.5	UKAS	LE	911
Conductivity : Solid sample	5010.0	uS/cm	DBDC	10.0	UKAS	LE	908
pH : Solid sample	7.56	pH Units	DBDC	0.2	UKAS	LE	908
Carbon, Organic : Dry Wt as C	0.330	%		0.1	UKAS	LE	535
PAH : Total : Dry Wt :- {Polynuclear Aromatic Hydrocarbon	0.00	mg/kg			UKAS	NLS	864
PCB : Total (28, 52, 101, 118, 138, 153, 180)	0.000	ug/kg			None	NLS	864
Soil Organic Matter :- {SOM}	0.191	%			None	NLS	864
Total Benzene Toluene Ethylbenzene and Xylene : Dry Wt	<0.00860	mg/kg			UKAS	NLS	864
Hydrocarbons >C10 - C40 (Total) : Dry Wt	<50	mg/kg	D1	50	UKAS	LE	1128
1,2-Dimethylbenzene : Dry Wt :- {o-Xylene}	<1	ug/kg	DCD1	1	UKAS	LE	928
Benzene : Dry Wt	<1	ug/kg	DCD1	1	UKAS	LE	928
Dimethylbenzene : Sum of (1,3- 1,4-) : Dry Wt	<2	ug/kg	DCD1	2	UKAS	LE	928
Ethylbenzene : Dry Wt	<0.6	ug/kg	DCD1	0.5	UKAS	LE	928
			ELEVATED_MRV : Dry weight calculation				
Toluene : Dry Wt :- {Methylbenzene}	<4	ug/kg	DCD1	3	UKAS	LE	928
			ELEVATED_MRV : Dry weight calculation				
Arsenic, Leachable :Dry Wt	<0.0430	mg/kg		0.01	UKAS	LE	431
Conductivity at 20C, Leachable	285	uS/cm		100	UKAS	LE	446
Carbon, Organic, Dissolved, Leachable : Dry Wt as C	88.4	mg/kg		2	UKAS	LE	461
Dry Solids @ 30°C	86.6	%		0.5	None	LE	1130
BS EN 12457-3 two stage leach test mgkg	1.00	Coded		0	None	LE	503
Dry weight @ 105	100	%		0.5	None	LE	503
Leaching Method	4	Coded		0	UKAS	LE	503
Soil Proportion Used	1.10	Unitless		0	None	LE	503
Stage 1 Leachate Dilution	1.25	Unitless		0	None	LE	503
Stage 1 Leachate FolderNo	002407309	N/A			None	LE	503
Stage 2 Leachate FolderNo	002407310	N/A			None	LE	503
Volume of Stage 1 eluate	355	ml		0	None	LE	503
Wet sample weight	193	g		0	None	LE	503
Mercury Leachable : Dry Wt	<0.000105	mg/kg		0.0001	UKAS	LE	508
Barium, Leachable : Dry Wt	<0.1	mg/kg		0.1	UKAS	LE	514
Antimony, Leachable : Dry Wt	<0.01	mg/kg		0.01	UKAS	LE	528
Molybdenum, Leachable : Dry Wt	0.0622	mg/kg		0.03	UKAS	LE	528
Cadmium, Leachable : Dry Wt	<0.00266	mg/kg		0.001	UKAS	LE	523
Chromium, Leachable : Dry Wt	<0.0141	mg/kg		0.005	UKAS	LE	523
Copper, Leachable : Dry Wt	0.0840	mg/kg		0.01	UKAS	LE	523
Lead, Leachable : Dry Wt	<0.02	mg/kg		0.02	UKAS	LE	523
Nickel, Leachable : Dry Wt	0.0264	mg/kg		0.01	UKAS	LE	523
Zinc, Leachable : Dry Wt	<0.0732	mg/kg		0.05	UKAS	LE	523
Chloride, Leachable : Dry Wt	3000	mg/kg		100	UKAS	LE	531
Fluoride, Leachable : Dry Wt	3.62	mg/kg		0.5	UKAS	LE	531

Sulphate, Leachable : Dry Wt as SO4	1070	mg/kg	100	UKAS	LE	531
pH, Leachable	8.54	pH Units	0.5	UKAS	LE	549
Phenols, Monohydric Leachable : Dry Wt	<0.4	mg/kg	0.4	None	LE	554
Accreditation Assessment	2	No.	1	None	LE	924
Sample Preparation	Report	Text		None	LE	924

The sample appeared to be black sandy sediment.

619.1g of the sample was taken for drying at <30degC which gave 536.8g of dried sample (weights include tray weight).

The sample was crushed using a jaw crusher.

The sample was then sieved until it passed through a 2mm sieve.

The sample was received unpreserved.


All parameters are determined on the air-dried (<30degC) portion except those requiring a wet sample fraction where as received (wet) sample was used.

Dry Weight (DW) results are reported as determined at <30degC.

Selenium, Leachable : Dry Wt	<0.0137	mg/kg	0.01	UKAS	LE	567
Total Dissolved Solids Leachable : Dry Wt	7410	mg/kg	1	UKAS	LE	608

Method Description Summary for all samples in batch Number 20053201

- 402 NLS I UVF 10.2 - HCs - methanol digested; pentane xch; by UV fluorescence spectrometry
- 404 LL I CHN 11.2 & 11.3 - combusted; determined by TCD; Organic C - acid pretreated to remove inorganic carbonates
- 431 Arsenic (leach) - by HG-AAS; DW result calculated; from "as received" sample
- 446 Conductivity (leach) - determined by specific conductivity electrode; from "as received" sample
- 461 DOC (leach) - by colorimetry; DW result calculated; from "as received" sample
- 503 LE P Leachability 01 - Leaching method - (2)-12457-1 (1stg,2:1); (3)-12457-2 (1-stg,10:1); (4)-12457-3 (2-stg,2+8:1); from "as received" sample
- 508 Mercury (leach) - by CV-AFS; DW result calculated; from "as received" sample
- 514 Metals (leach) - by ICPOES; DW result calculated; from "as received" sample
- 523 Metals (leach) - by ICPMS; DW result calculated; from "as received" sample
- 528 Metals (leach) - by ICPMS; DW result calculated; from "as received" sample
- 531 Nutrients (leach) - by colorimetry; DW result calculated; from "as received" sample
- 535 LE I TOC 01 - combusted with oxygen; thermal conductivity detection
- 549 pH (leach) - by pH electrode; from "as received" sample
- 554 Phenols (leach) - 4AMP reaction; by colorimetry; DW result calculated; from "as received" sample
- 567 Selenium (leach) - by HG-AAS; DW result calculated; from "as received" sample
- 608 TDS (leach) - by gravimetry; DW result calculated; from "as received" sample
- 672 LL O PESTICIDES - solvent extracted; determined by GCMS (SIM), larger particles manually removed prior to analysis.
- 685 LL O PCBs - solvent extracted; determined by GCMS (SIM), larger particles manually removed prior to analysis.
- 864 Parameter by calculation
- 881 Density - volume taken; mass determined; density calculated
- 897 LE O Organotins (GCMS) 01 - acetic acid/methanol extracted; derivatised; determined GCMS (SIM); from "as received" sample
- 908 LE I pH & EC 01 - pH, Conductivity - water extracted; determined by specific electrode; from "as received" sample
- 911 LE I Dry Solids & Lol 01 - Dry Solids (105C), Loss on Ignition (500C) - thermally treated; determined by gravimetry
- 924 Sample Preparation; Dry Solids (30°C); from "as received" sample
- 928 LE O VOC (GCMS) 01 - water extracted; gently heated; determined by HS-GCMS (SIM); from "as received" sample
- 1041 LL ME ICPMS 12.1 & 12.4- Metals - microwave aqua regia digested; determined by ICPMS, sieved to <2000um.
- 1042 LL ME Hg 10.8 - Mercury - microwave aqua regia digested; acidic SnCl2 reduced; determined by CV-AFS, sieved to <2000um
- 1043 LL ME ICP-OES 22.1 & 22.2 - Metals - microwave aqua regia digested; determined by ICPOES, sieved to <2000um
- 1051 LL O PAHs - solvent extracted; determined by GCMS (EI), larger particles manually removed prior to analysis.
- 1128 LE O EPH >C5-C44 (GC-FID) 01 - Hydrocarbon screen including arom/aliph banding by GC-FID; from "as received" sample
- 1130 LE P Soil Preparation 01: The sample is air-dried at <30°C in a controlled environment until a constant weight it achieved.
- 1368 NLS I Particle Size Laser - various parameters calculated from the band sizes produced by laser beam diffraction technique
- 1369 NLS I Particle Size Sieve - various band sizes >1000mm - determined by manual sieving.
- 1370 NLS I Particle Size Laser - various band sizes <1000mm - determined by laser beam diffraction instrumentation.



Steve Moss

Laboratory Site Manager

All reporting limits quoted are those achievable for clean samples of the relevant matrix. No allowance is made for instances when dilutions are necessary owing to the nature of the sample or insufficient volume of the sample being available. In these cases higher reporting limits may be quoted and will be above the MRV.

Solid sample results are determined on a "dried" sample fraction except for parameters where the method description identifies that "as received" sample was used.

Key to Results Flags:

- DB Samples received outside analysis holding times. It is possible that the results may be compromised.
- DC Analysis started outside of specified holding time. It is possible that the results may be compromised.
- D1 Sample was received in a container unsuitable for this test. It is possible results may be compromised

Please note all samples will be retained for 10 working days for aqueous samples and 30 working days for solid samples after reporting unless otherwise agreed with Customer Services

Key to Accreditation: UKAS = Methodology accredited to ISO/IEC 17025:2005, MCertS = Methodology accredited to MCertS Performance Standard for testing of soils, none = Methodology not accredited

Key to Lab ID: LE = Leeds, NM = Nottingham, SX = Starcross, SC = Sub-Contracted outside NLS, FI = Field Data - outside NLS, NLS = Calculated

Any subsequent version of this report denoted with a higher version number will supersede this and any previous versions

Key to WAC Leach Test WAC Leach test : 1 = BS 1377 leach test , 2 = single stage l/s 2:1 BS EN 12457-1 leaching test ,
3 = single stage l/s 10:1 BS EN 12457-2 leaching test , 4 = double stage l/s 10:1 BS EN 12457-3 leaching test

END OF TEST REPORT