

South West of England Regional Development Agency

Wave Hub

Appendix B to the Environmental Statement

June 2006



Halcrow



South West of England
Regional Development Agency

NATIONAL LABORATORY SERVICE ANALYSIS REPORT

Richard Walters
Fugro Engineering Services Limited
Fugro House
Hithercroft Road
Wallingford
Oxfordshire
OX10 9RB

REPORT : COM102644

Issue Date 24 May 2006

Order Number 20089

Dear Richard,

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

Samples Received 10/11/2005 Sample Date 09/11/2005

Batch Description: Heavy metals and organotins analysis

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

Rhian Roberts - Team Leader
Tel: 01554 757031 ext3361
Fax: 01554 771256

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 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 act or omissions made on the basis of the analysis or advice or interpretation provided.

NATIONAL LABORATORY SERVICE
ANALYSIS REPORT

REPORT : COM102644

Fugro Engineering Services Limited

Lab ID: **LL0350830**

Sample Date: 09/11/2005

Sample Time: 10:00

Sample Description: VC-E1 0m

Quote / Group: LL05-00536 / 1

Accreditation

Analyte	Result	Units	Status	Analysing Lab
Carbon, Organic : Dry Wt as C	6.426	%	none	Llanelli
Mercury : Dry Wt	0.003	mg/kg	UKAS	Llanelli
Solids at 105 C	91.10	%	UKAS	Llanelli
Arsenic : Dry Wt	26.200	mg/kg	UKAS	Llanelli
Cadmium : Dry Wt	0.079	mg/kg	UKAS	Llanelli
Chromium : Dry Wt	3.340	mg/kg	UKAS	Llanelli
Copper : Dry Wt	13.600	mg/kg	UKAS	Llanelli
Lead : Dry Wt	8.900	mg/kg	UKAS	Llanelli
Nickel : Dry Wt	4.450	mg/kg	UKAS	Llanelli
Zinc : Dry Wt	34.700	mg/kg	UKAS	Llanelli
Dibutyl Tin : Dry Wt as Cation	<7	ug/kg	UKAS	Exeter
Tributyl Tin : Dry Wt as Cation	<8.00	ug/kg	UKAS	Exeter

Lab ID: **LL0350831**

Sample Date: 09/11/2005

Sample Time: 10:00

Sample Description: VC-E1 1.05m

Quote / Group: LL05-00536 / 1

Accreditation

Analyte	Result	Units	Status	Analysing Lab
Carbon, Organic : Dry Wt as C	4.012	%	none	Llanelli
Mercury : Dry Wt	<0.001	mg/kg	UKAS	Llanelli
Solids at 105 C	85.40	%	UKAS	Llanelli
Arsenic : Dry Wt	15.300	mg/kg	UKAS	Llanelli
Cadmium : Dry Wt	0.040	mg/kg	UKAS	Llanelli
Chromium : Dry Wt	3.470	mg/kg	UKAS	Llanelli
Copper : Dry Wt	13.700	mg/kg	UKAS	Llanelli
Lead : Dry Wt	6.950	mg/kg	UKAS	Llanelli
Nickel : Dry Wt	5.160	mg/kg	UKAS	Llanelli
Zinc : Dry Wt	32.500	mg/kg	UKAS	Llanelli
Dibutyl Tin : Dry Wt as Cation	<7	ug/kg	UKAS	Exeter
Tributyl Tin : Dry Wt as Cation	<8.00	ug/kg	UKAS	Exeter

NATIONAL LABORATORY SERVICE
ANALYSIS REPORT

REPORT : COM102644

Fugro Engineering Services Limited

Lab ID: **LL0350832**

Sample Date: 09/11/2005

Sample Time: 10:00

Sample Description: VC-E2 0m

Quote / Group: LL05-00536 / 1

Accreditation

Analyte	Result	Units	Status	Analysing Lab
Carbon, Organic : Dry Wt as C	1.112	%	none	Llanelli
Mercury : Dry Wt	0.007	mg/kg	UKAS	Llanelli
Solids at 105 C	68.00	%	UKAS	Llanelli
Arsenic : Dry Wt	32.700	mg/kg	UKAS	Llanelli
Cadmium : Dry Wt	0.072	mg/kg	UKAS	Llanelli
Chromium : Dry Wt	11.300	mg/kg	UKAS	Llanelli
Copper : Dry Wt	35.300	mg/kg	UKAS	Llanelli
Lead : Dry Wt	15.800	mg/kg	UKAS	Llanelli
Nickel : Dry Wt	8.530	mg/kg	UKAS	Llanelli
Zinc : Dry Wt	43.000	mg/kg	UKAS	Llanelli
Dibutyl Tin : Dry Wt as Cation	<7	ug/kg	UKAS	Exeter
Tributyl Tin : Dry Wt as Cation	<8	ug/kg	UKAS	Exeter

Lab ID: **LL0350833**

Sample Date: 09/11/2005

Sample Time: 10:00

Sample Description: VC-E2 1m

Quote / Group: LL05-00536 / 1

Accreditation

Analyte	Result	Units	Status	Analysing Lab
Carbon, Organic : Dry Wt as C	<0.400	%	none	Llanelli
Mercury : Dry Wt	0.002	mg/kg	UKAS	Llanelli
Solids at 105 C	77.80	%	UKAS	Llanelli
Arsenic : Dry Wt	7.520	mg/kg	UKAS	Llanelli
Cadmium : Dry Wt	0.019	mg/kg	UKAS	Llanelli
Chromium : Dry Wt	9.490	mg/kg	UKAS	Llanelli
Copper : Dry Wt	3.980	mg/kg	UKAS	Llanelli
Lead : Dry Wt	2.770	mg/kg	UKAS	Llanelli
Nickel : Dry Wt	7.620	mg/kg	UKAS	Llanelli
Zinc : Dry Wt	15.800	mg/kg	UKAS	Llanelli
Dibutyl Tin : Dry Wt as Cation	<7	ug/kg	UKAS	Exeter
Tributyl Tin : Dry Wt as Cation	<8	ug/kg	UKAS	Exeter

NATIONAL LABORATORY SERVICE
ANALYSIS REPORT

REPORT : COM102644

Fugro Engineering Services Limited

Lab ID: **LL0350834** Sample Date: 09/11/2005 Sample Time: 10:00

Sample Description: VC-E3 0m

Quote / Group: LL05-00536 / 1

Analyte	Result	Units	Accreditation	
			Status	Analysing Lab
Carbon, Organic : Dry Wt as C	<0.400	%	none	Llanelli
Mercury : Dry Wt	0.006	mg/kg	UKAS	Llanelli
Solids at 105 C	68.20	%	UKAS	Llanelli
Arsenic : Dry Wt	46.200	mg/kg	UKAS	Llanelli
Cadmium : Dry Wt	0.063	mg/kg	UKAS	Llanelli
Chromium : Dry Wt	8.260	mg/kg	UKAS	Llanelli
Copper : Dry Wt	48.500	mg/kg	UKAS	Llanelli
Lead : Dry Wt	13.700	mg/kg	UKAS	Llanelli
Nickel : Dry Wt	7.210	mg/kg	UKAS	Llanelli
Zinc : Dry Wt	40.700	mg/kg	UKAS	Llanelli
Dibutyl Tin : Dry Wt as Cation	<7	ug/kg	UKAS	Exeter
Tributyl Tin : Dry Wt as Cation	<8	ug/kg	UKAS	Exeter

Lab ID: **LL0350835** Sample Date: 09/11/2005 Sample Time: 10:00

Sample Description: VC-E3 0.8m

Quote / Group: LL05-00536 / 1

Analyte	Result	Units	Accreditation	
			Status	Analysing Lab
Carbon, Organic : Dry Wt as C	<0.400	%	none	Llanelli
Mercury : Dry Wt	0.003	mg/kg	UKAS	Llanelli
Solids at 105 C	74.40	%	UKAS	Llanelli
Arsenic : Dry Wt	46.100	mg/kg	UKAS	Llanelli
Cadmium : Dry Wt	0.058	mg/kg	UKAS	Llanelli
Chromium : Dry Wt	8.360	mg/kg	UKAS	Llanelli
Copper : Dry Wt	51.600	mg/kg	UKAS	Llanelli
Lead : Dry Wt	12.800	mg/kg	UKAS	Llanelli
Nickel : Dry Wt	7.380	mg/kg	UKAS	Llanelli
Zinc : Dry Wt	36.600	mg/kg	UKAS	Llanelli
Dibutyl Tin : Dry Wt as Cation	<7	ug/kg	UKAS	Exeter
Tributyl Tin : Dry Wt as Cation	<8	ug/kg	UKAS	Exeter

NATIONAL LABORATORY SERVICE
ANALYSIS REPORT

REPORT : COM102644

Fugro Engineering Services Limited

Lab ID: **LL0350836**

Sample Date: 09/11/2005

Sample Time: 10:00

Sample Description: VC-E4 0m

Quote / Group: LL05-00536 / 1

Accreditation

Analyte	Result	Units	Status	Analysing Lab
Carbon, Organic : Dry Wt as C	0.523	%	none	Llanelli
Mercury : Dry Wt	0.006	mg/kg	UKAS	Llanelli
Solids at 105 C	75.60	%	UKAS	Llanelli
Arsenic : Dry Wt	19.700	mg/kg	UKAS	Llanelli
Cadmium : Dry Wt	0.045	mg/kg	UKAS	Llanelli
Chromium : Dry Wt	12.400	mg/kg	UKAS	Llanelli
Copper : Dry Wt	17.300	mg/kg	UKAS	Llanelli
Lead : Dry Wt	15.700	mg/kg	UKAS	Llanelli
Nickel : Dry Wt	7.070	mg/kg	UKAS	Llanelli
Zinc : Dry Wt	33.100	mg/kg	UKAS	Llanelli
Dibutyl Tin : Dry Wt as Cation	<7	ug/kg	UKAS	Exeter
Tributyl Tin : Dry Wt as Cation	<8	ug/kg	UKAS	Exeter

Lab ID: **LL0350837**

Sample Date: 09/11/2005

Sample Time: 10:00

Sample Description: VC-E5 0m

Quote / Group: LL05-00536 / 1

Accreditation

Analyte	Result	Units	Status	Analysing Lab
Carbon, Organic : Dry Wt as C	<0.400	%	none	Llanelli
Mercury : Dry Wt	0.003	mg/kg	UKAS	Llanelli
Solids at 105 C	80.80	%	UKAS	Llanelli
Arsenic : Dry Wt	5.250	mg/kg	UKAS	Llanelli
Cadmium : Dry Wt	0.247	mg/kg	UKAS	Llanelli
Chromium : Dry Wt	37.600	mg/kg	UKAS	Llanelli
Copper : Dry Wt	55.300	mg/kg	UKAS	Llanelli
Lead : Dry Wt	14.600	mg/kg	UKAS	Llanelli
Nickel : Dry Wt	32.400	mg/kg	UKAS	Llanelli
Zinc : Dry Wt	171.000	mg/kg	UKAS	Llanelli
Dibutyl Tin : Dry Wt as Cation	<7	ug/kg	UKAS	Exeter
Tributyl Tin : Dry Wt as Cation	<8	ug/kg	UKAS	Exeter

NATIONAL LABORATORY SERVICE
ANALYSIS REPORT

REPORT : COM102644

Fugro Engineering Services Limited

Lab ID: **LL0350838**

Sample Date: 09/11/2005

Sample Time: 10:00

Sample Description: VC-E5 0.7m

Quote / Group: LL05-00536 / 1

Analyte	Result	Units	Accreditation	
			Status	Analysing Lab
Carbon, Organic : Dry Wt as C	<0.400	%	none	Llanelli
Mercury : Dry Wt	0.003	mg/kg	UKAS	Llanelli
Solids at 105 C	90.70	%	UKAS	Llanelli
Arsenic : Dry Wt	13.800	mg/kg	UKAS	Llanelli
Cadmium : Dry Wt	0.497	mg/kg	UKAS	Llanelli
Chromium : Dry Wt	78.800	mg/kg	UKAS	Llanelli
Copper : Dry Wt	101.000	mg/kg	UKAS	Llanelli
Lead : Dry Wt	36.900	mg/kg	UKAS	Llanelli
Nickel : Dry Wt	46.100	mg/kg	UKAS	Llanelli
Zinc : Dry Wt	274.000	mg/kg	UKAS	Llanelli
Dibutyl Tin : Dry Wt as Cation	<7	ug/kg	UKAS	Exeter
Tributyl Tin : Dry Wt as Cation	<8	ug/kg	UKAS	Exeter

Key to Accreditation Status: UKAS = Method accredited to ISO/IEC 17025, none = Method not accredited
 MCertS = Method accredited to MCertS Performance Standard for testing of soil

Key to "Analysing Lab" field

Exeter = Analysed at NLS Laboratory at Starcross, EX6 8PE

Llanelli = Analysed at NLS Laboratory at Llanelli, SA15 4EL