



# CERTIFIED REFERENCE MATERIAL BCR<sup>®</sup> – 484

## CERTIFICATE OF ANALYSIS

SEWAGE SLUDGE AMENDED (TERRA ROSA) SOIL			
Element	Mass fraction based on dry mass		Number of accepted sets of results p
	Certified value <sup>1)</sup> [mg/kg]	Uncertainty <sup>2)</sup> [mg/kg]	
<b>EDTA-extractable</b>			
Cd	0.509	0.030	14
Cu	88	4	17
Ni	1.39	0.11	15
Pb	47.9	2.6	18
Zn	152	7	17
<b>Acetic acid-extractable</b>			
Cd	0.48	0.04	13
Cu	33.9	1.4	18
Ni	1.69	0.16	16
Pb	1.17	0.16	11
Zn	193	7	17
<sup>1)</sup> Unweighted mean value of the means of p accepted sets of data, each set being obtained in a different laboratory and/or with a different method of determination. The certified values are traceable to the extraction methods described in the certification report.			
<sup>2)</sup> Half-width of the 95 % confidence interval of the mean defined in <sup>1)</sup> .			

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 5 g.

### NOTE

This material has been certified by BCR (Community Bureau of Reference, the former reference materials programme of the European Commission). The certificate has been revised under the responsibility of IRMM.

Brussels, September 1995

Latest revision: April 2007

Signed: \_\_\_\_\_

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Indicative Values		
Element	Mass fraction based on dry mass	
	Indicative value <sup>1)</sup> [mg/kg]	Uncertainty <sup>2)</sup> [mg/kg]
<b>Calcium chloride extractable content</b>		
Cd	< 0.08	---
Cr	< 0.09	---
Cu	0.67	0.29
Ni	< 0.05	---
Pb	< 0.06	---
Zn	0.31	0.17
<b>Sodium nitrate extractable content</b>		
Cd	< 0.05	---
Cr	< 0.03	---
Cu	0.48	0.15
Ni	0.023	0.005
Pb	< 0.06	---
Zn	0.09	0.04
<b>Ammonium nitrate extractable content</b>		
Cd	0.003	0.002
Cr	< 0.06	---
Cu	1.1	0.4
Ni	0.033	0.017
Pb	< 0.06	---
Zn	0.17	0.05
<sup>1)</sup> Mean value <sup>2)</sup> Standard deviation		

## DESCRIPTION OF THE SAMPLE

The material consists of a soil sample in a glass bottle containing about 70 g of powder. Additional information on the preparation, the certified and indicative values is given in the certification report.

## ANALYTICAL METHOD USED FOR CERTIFICATION

- Electrothermal atomic absorption spectrometry
- Flame atomic absorption spectrometry
- Inductively coupled plasma emission spectrometry

## PARTICIPANTS

- Agriculture and Food Development Authority, Wexford (IE)
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- Bundesanstalt für Materialforschung und –prüfung, Berlin (DE)
- European Commission, Joint Research Centre, Environment Institute, Ispra (IT)
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## **SAFETY INFORMATION**

The usual laboratory safety precautions apply.

## **INSTRUCTIONS FOR USE**

Before a bottle is opened, it should be shaken manually so that the material is re-homogenised. The sample must be used as it is from the bottle. The correction to dry mass should be made on a separate portion of 1 g which should be dried in an oven at  $(105 \pm 2)$  °C for 3-4 h until constant mass is attained. The analysis must be carried out following strictly the extraction protocols given in the certification report (EDTA and acetic acid extraction procedures).

## **STORAGE**

The tightly closed bottles may be kept at room temperature. The material picks up moisture when in prolonged contact with humid air. After having been opened the bottle should be stored in a dry desiccator.

However, the European Commission cannot be held responsible for changes that happen during storage of the material at the customer's premises, especially of opened samples.

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## **NOTE**

A technical report on the production of BCR-484 is available on the internet (<http://www.irmm.jrc.be>). A paper copy can be obtained from IRMM on request.