EUROMET PROJECT
FINAL REPORT

1. Ref. No: **548**	2. Subject Field: **MetChem**		
3A: Partners: (institutions)	**IFA, Eco, Force, IRMM, BNM-LNE, KGI KVI, CRAA (withdrawn), Uni Po, GSSR, LGC (abbreviations given in page 4 of this report)**	3B: CEC funded? **No** JRC funded? **Yes**	
4. Participating countries:	**Austria, Czech Republic, Denmark, European Commission, France, Hungary, Italy, Poland, Slovakia, United Kingdom**		
5. Title:	**trace elements in sediment (limited to Cd and Pb in order to align with the CCQM-K13)**		

6. Result:

The aim of this project was to establish and demonstrate international comparability of measurements of trace elements in sediment and accordingly establish the degree of equivalence of the participating laboratories. Identical samples with the CCQM-K13 key comparison were used and the KCRV of this KC was used as reference :

- **CCQM-K13 reference value for Cd measurement: 5.41 ± 0.17 nmol/g (*k*=2)**
- **CCQM-K13 reference value for Pb measurement: 169.9 ± 1.6 nmol/g (*k*=2)**

The EUROMET Project 548 participants' results are given in tables (page 2) and graphically presented (page 3) in this report.

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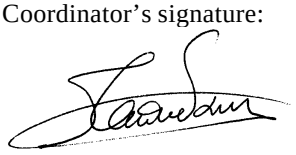
8. Completion Date: **February 2001**	9. Coordinator's signature: 	10. Date: **Feb 2002**

EUROMET project 548
Cd and Pb in sediment
Participants' results

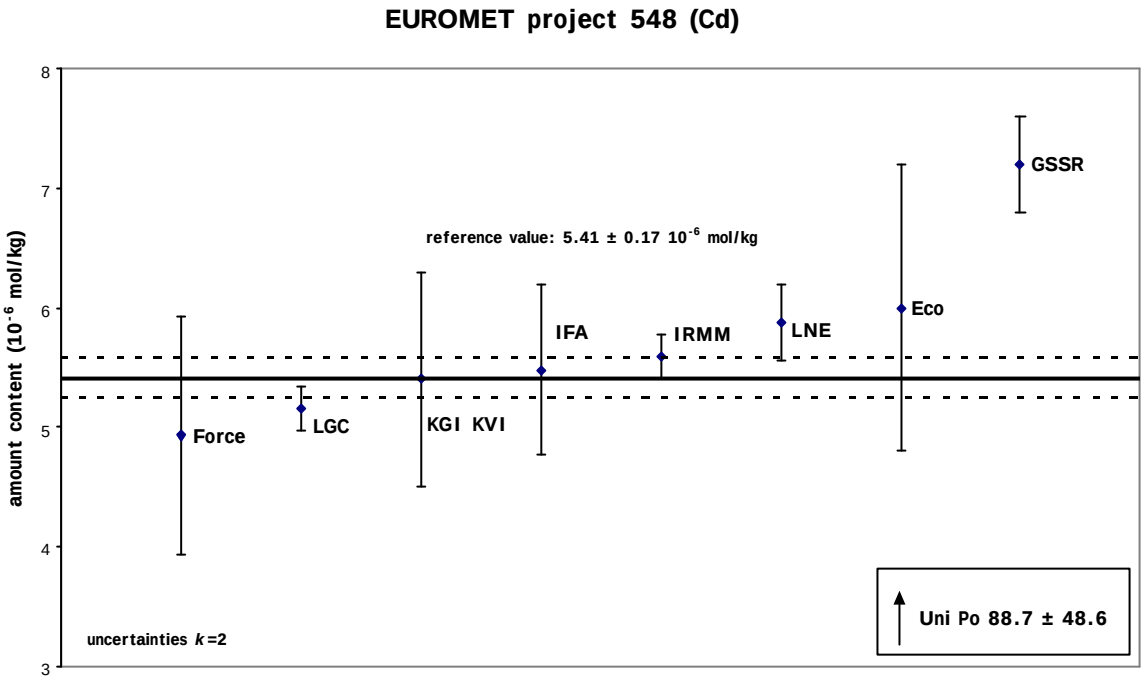
Results for Cd measurement

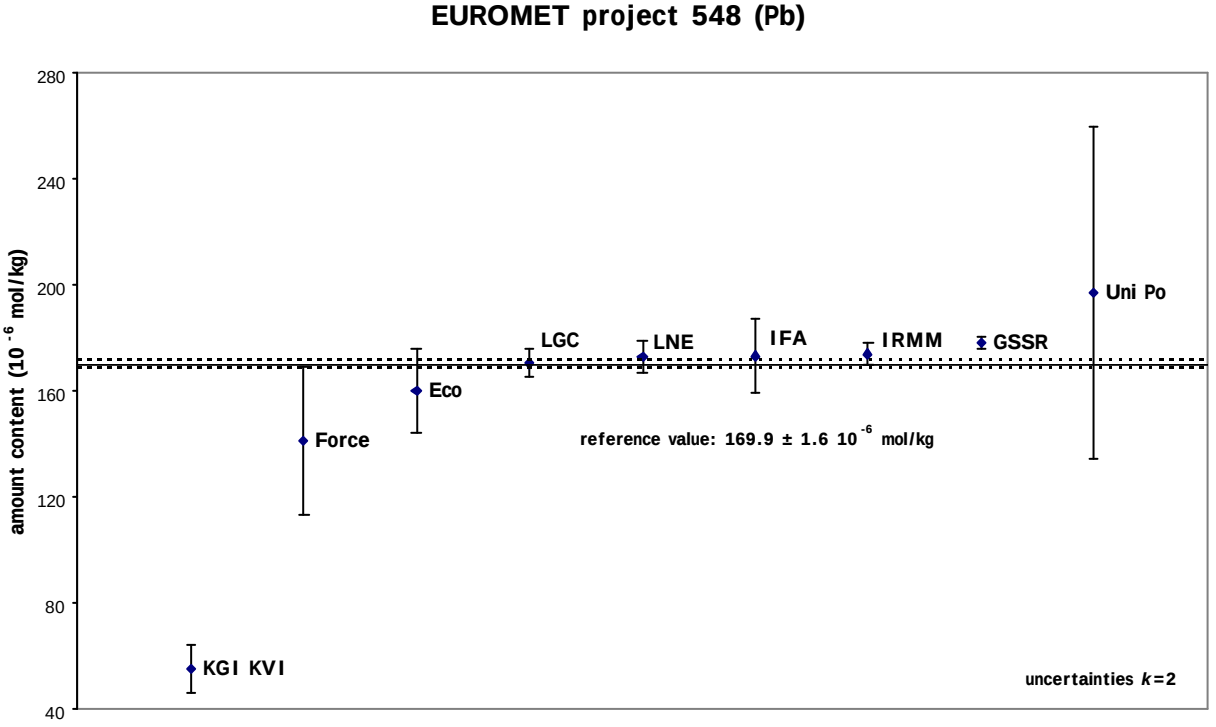
participant	*reported value* $nmol \cdot g^{-1}$	*uncertainty* $nmol \cdot g^{-1}$	*relative uncertainty (%)*
Force	4.93	0.99	20.1
LGC	5.15	0.19	3.7
KGI KVI	5.4	0.9	16.7
IFA	5.48	0.71	13.0
IRMM	5.59	0.19	3.4
LNE	5.87	0.32	5.5
Eco	6	1.2	20.0
GSSR	7.2	0.4	5.6
Uni Po	88.7	48.6	54.8
CRAA	withdrawn	withdrawn	-

Results for Pb measurement

participant	*reported value* $nmol \cdot g^{-1}$	*uncertainty* $nmol \cdot g^{-1}$	*relative uncertainty (%)*
KGI KVI	55	9	16.4
Force	141	28	0.2
Eco	160	16	10.0
LGC	170.2	5.2	3.1
LNE	172.7	6.4	3.7
IFA	173	14	8.1
IRMM	173.8	4	2.3
GSSR	178	2	1.1
Uni Po	197	63	32.0
CRAA	withdrawn	withdrawn	-

EUROMET project 548
Cd and Pb in sediment
Participants' results graphical display





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Cd and Pb in sediment
Analytical methods and instrumental techniques

Cd measurement

participant	*method*	*instrumentation*
Force	AAS	ET-AAS
LGC	IDMS	ICP-magnetic sector field MS
KGI KVI	OES	ICP-OES
IFA	AAS	ET-AAS
IRMM	IDMS	ICP-QMS
LNE	IDMS	ICP-QMS
Eco	Standard addition	ICP-MS
GSSR	AAS	ET-AAS
Uni Po	AAS	GF-AAS
CRAA	-	-

Pb measurement

participant	*method*	*instrumentation*
KGI KVI	AAS	GF-AAS
Force	OES	ICP-OES
Eco	Standard addition	ICP-MS
LGC	IDMS	ICP-magnetic sector field MS
LNE	IDMS	ICP-QMS
IFA	AAS	ET-AAS
IRMM	IDMS	ICP-QMS
GSSR	XRF	XRF
Uni Po	AAS	GF-AAS
CRAA	-	-

EUROMET project 548
Cd and Pb in sediment
Participants list

institution / laboratory	origin
IFA Institute for Agrobiotechnology	**Austria**
Eco Ecochem Praha	**Czech Republic**
Force Force Institute	**Denmark**
IRMM Institute for Reference Materials and Measurements	**European Commission**
BNM-LNE Laboratoire National d'Essais	**France**
KGI KVI	**Hungary**
CRAA Centre of Radiochemistry and Activation Analysis	**Italy**
Uni Po Technical University Poznan	**Poland**
GSSR Geological Survey of Slovak Republic	**Slovak Republic**
LGC Laboratory of the Government Chemist	**United Kingdom**