




**LFU - Laboratory for environmental analysis Ltd.  
(Research of environmental damage)**

Germany

<p><b>LFU - Labor für Umweltanalytik GmbH</b> Umweltschadenuntersuchung Saatwinkler Damm 24 · 13627 Berlin Tel. (030) 345 91 90 · Fax (030) 345 70 54</p>		
<b>TESTREPORT</b>		<b>5565/02/96</b>
Client	Mr. Wolfgang Krahl Hillmannstraße 16 13467 Berlin	
Trade mark	no details	
Sample material	water	
Place where the samples were taken	no details	
Number of samples	2	
Receipt of the samples	27.02.1996	
Procedure of taking the samples	LFU didn't carry out the procedures of taking the samples. All the details about the identification of the samples (Place where the samples were taken et cetera) were given by the client.	
Extent of the tests	Laboratory research – see page 3-	
Subcontractor	none	
LFU- Labor für Umweltanalytik GmbH	Berlin, 11th of March 1996	
 Knut Brauer Manager	 Dr. H. U. Sommer Director of the laboratory	

## LFU - Labor für Umweltanalytik GmbH

Umweltschadenuntersuchung

Saatwinkler Damm 24 · 13627 Berlin Tel. (030) 345 91 90 · Fax (030) 345 70 54



### TESTREPORT

5565/02/96

#### List of the results of the analysis:

Sample-Nr.: 5565-001 water before the installation of the water-treatment device  
5565-02 water after the installation of the water-treatment device

#### Task:

To evaluate the effectiveness of a physical ("electrical") water-treatment device the client handed over two water-samples, which, according to him, were taken one before and one after the installation of the treatment device. According to the manufacturer, the influence of electromagnetic fields on the water, that flows through the pipes, changes the structure of the crystals of the depositing substances that are responsible for the hardness of the water (Calcium-hydrogen-carbonate-crystals), so that it is possible to avoid the sedimentation of hard deposits of boiler scale. To verify this effect, the contents of selected heavy metals, alkali and alkaline earth ions, responsible for the hardness of the water, dissolved carbon dioxide, carbonate hydrogen-carbonate, which the two water samples contained, were categorized and the remains after evaporating of the two water samples were also examined under a microscope on a clean glass-surface.

#### RESULT:

Sample / parameter	dimension	5565-001 water before the installation of the water-treatment device	5565-002 water after the installation of the water-treatment device
Iron	mg/l	0,042	0,44
Copper	mg/l	0,52	0,35
Zinc	mg/l	0,08	0,16
Sodium	mg/l	29,5	28,8
Potassium	mg/l	10,6	10,7
Calcium	mg/l	13,2	13,0
Magnesium	mg/l	11,6	11,3
Cadmium	mg/l	n.n.	n.n.
Cobal	mg/l	n.n.	n.n.
Chrome	mg/l	n.n.	n.n.
Manganese	mg/l	n.n.	n.n.
Nickel	mg/l	n.n.	n.n.
Lead	mg/l	n.n.	n.n.
Dissolved carbon dioxide	mg/l	n.n.	n.n.
Carbonate	mg/l	n.n.	n.n.
Hydrogen-carbonate	mg/l	23,49	22,57
Evaporation-remains	----	grey adhering no crystal-structure discernable	brownish easily removable no crystal-structure discernable