

# Evaluation of the Effects of the Leela Quantum Bloc on the Redox Potential of Rainwater

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**Location:** Lower Saxony, Germany

**Study Period:** May 19 - October 4, 2024

## Introduction

The redox potential, also known as the oxidation-reduction potential (ORP), is a crucial parameter for assessing water quality and the chemical reactions taking place within it. This report documents measurements of the redox potential in rainwater samples taken from a rain barrel in the garden, focusing on how the application of the Leela Quantum Bloc affects these measurements.

## Methodology

Samples of rainwater were collected in 200 mL portions on various days during the study period. The water samples were characterized as clear, yellow solutions without suspended particles, with a consistent pH value of 6, which was recorded before and after the measurements.

## Measurement Procedure

The initial redox potential of the fresh sample was recorded without the influence of the Leela Quantum Bloc. Measurements were taken over several hours to determine the equilibrium state of the samples, which was primarily influenced by temperature adjustments.

Each sample was then exposed to the Leela Quantum Bloc for the specified duration before the redox potential was measured again. Variations in the initial measurements without the Leela Quantum Bloc can be attributed to differences in the composition of the rainwater and the ambient temperature on the days of sampling.

## Results

The results of the redox potential measurements are summarized below. Each measurement includes the potential without the field of the Leela Quantum Bloc, the potential after exposure, and the percentage increase in the redox potential.

### Average Results:

- Initial redox potential: 168 mV
- Final redox potential: 211 mV
- Average percentage increase: 25%

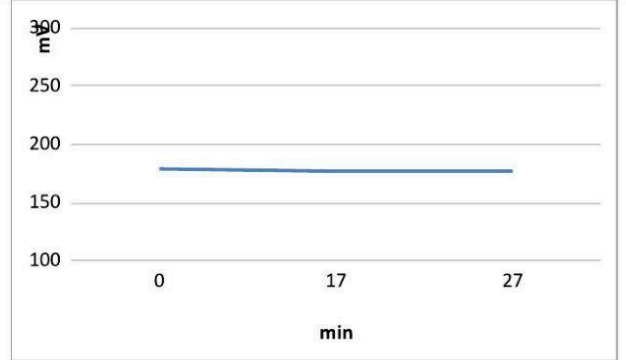
# Evaluation of the Effects of the Leela Quantum Bloc on the Redox Potential of Rainwater

Ohne Feld

$$\% \text{ Schwankung} = (HW-TW)/MW*100$$

## 1. Messung

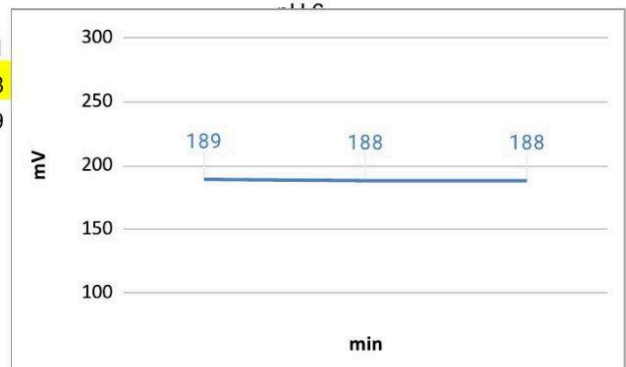
min	0	17	27
mV ohne Feld	179	177	177
°C	24.6	24.7	24.7
MW	178		
TW	177		
HW	179		



1.1 % Schwankung

## 2. Messung

min	0	321	326	351
mV ohne Feld	217	189	188	188
°C	21.2	24	24	23.9
MW	188 (Mittelwert)			
TW	188 (tiefster Wert)			
HW	189 (höchster Wert)			

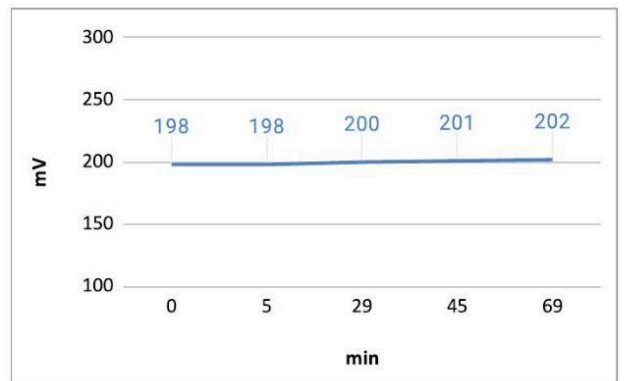


-100.5 % Schwankung

## 3. Messung

min	0	5	29	45	69
mV ohne Feld	198	198	200	201	202
°C	24.7	24.7	24	25	25.2
MW	199.8				
TW	198				
HW	202				

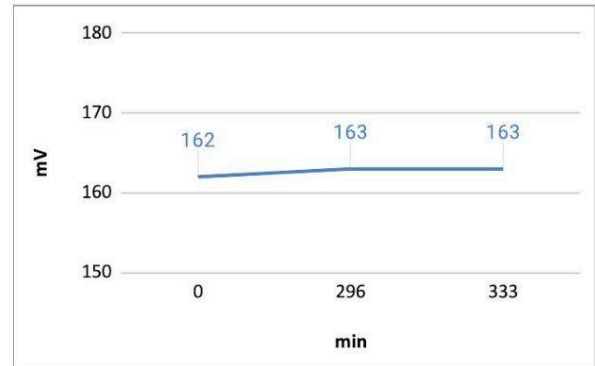
2 % Schwankung



# Evaluation of the Effects of the Leela Quantum Bloc on the Redox Potential of Rainwater

## 4. Messung

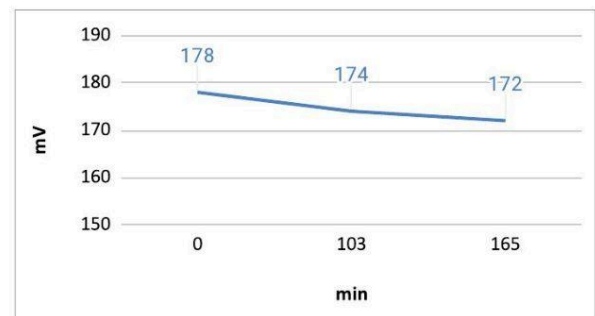
min	0	296	333
mV ohne Feld	162	163	163
°C	24	23.8	24.2
MW	162.6		
TW	162		
HW	163		



0,6 % Schwankung

## 5. Messung

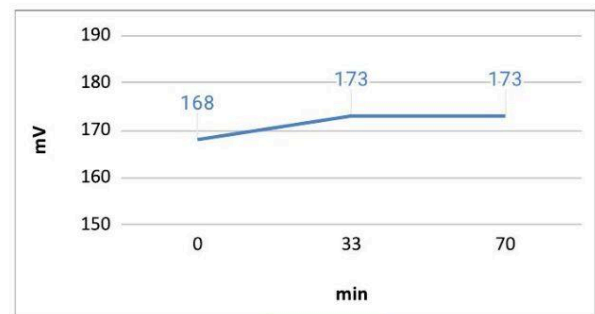
min	0	103	165
mV ohne Feld	178	174	172
°C	21.6	22	21.9
MW	174.6		
TW	172		
HW	178		



3,5 % Schwankung

## 6. Messung

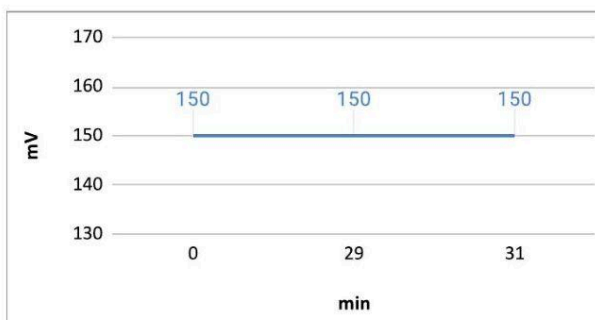
min	0	33	70
mV ohne Feld	168	173	173
°C	21.1	21.4	21.7
MW	171		
TW	168		
HW	173		



3 % Schwankung

## 7. Messung

min	0	29	31
mV ohne Feld	150	150	150
°C	19.7	20.2	20.5
MW	150		
TW	150		
HW	150		

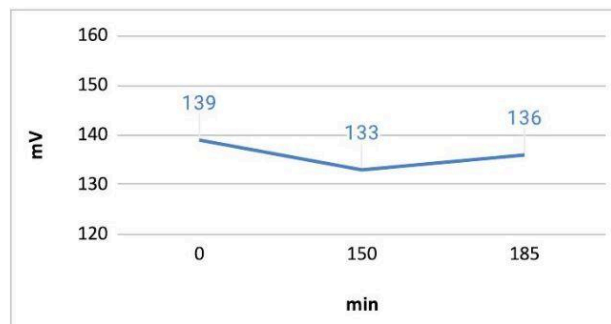


0 % Schwankung

# Evaluation of the Effects of the Leela Quantum Bloc on the Redox Potential of Rainwater

## 8. Messung

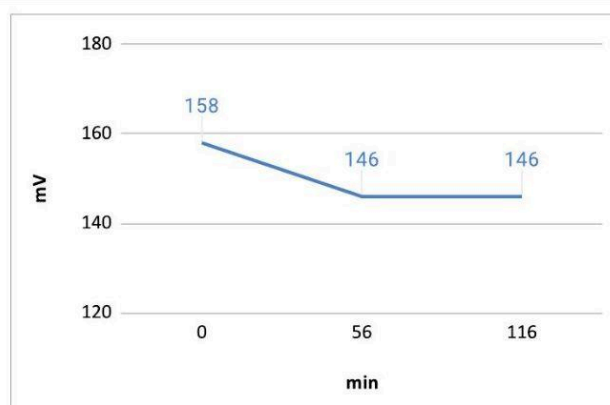
min	0	150	185
mV ohne Feld	139	133	136
°C	20.6	21.9	21.9
MW	136		
TW	133		
HW	139		



4.4 %Schwankung

## 9. Messung

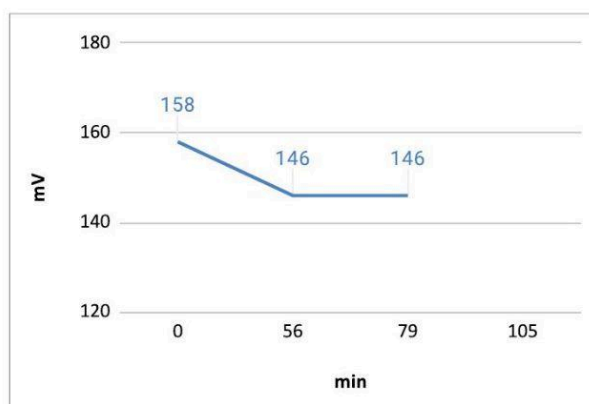
min	0	56	116
mV ohne Feld	158	146	146
°C	22.2	22.5	22.6
MW	150		
TW	146		
HW	158		



8.0 %Schwankung

## 10. Messung

min	0	56	79	105
mV ohne Feld	175	168	169	170
°C	20.4	21.7	22	22
MW	170.5			
TW	168			
HW	175			



4.1 %Schwankung

# Evaluation of the Effects of the Leela Quantum Bloc on the Redox Potential of Rainwater

**Nach Feld**

**% Anstieg = (HWn - MW)/MW\*100**

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**1. Messung**

	ü. Nacht				
min	1	5	10	60	330
mV nach Feld	177	183	195	225	254
°C	24.7	24.7	24.9	25	25
HWn	254				

**% Anstieg 43**

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**2. Messung**

	1	5	10	60
mV nach Feld	187	186	201	258
°C	23.9	23.9	23.9	24.3
HWn	258			

**pH 6**

**% Anstieg 37**

HWn = höchster Wert nach Feld

**3. Messung**

	5	10	30	60
mV nach Feld	191	185	206	263
°C	25.1	25.1	25	25.3
HWn	263			

**% Anstieg 32**

**4. Messung**

	ü. Nacht			
min	10	30	60	438
mV nach Feld	160	163	168	196
°C	24.4	24.4	24.5	24.6
HWn	196			

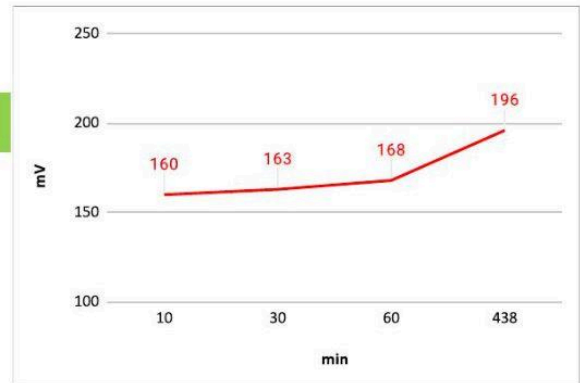
**% Anstieg 21**

# Evaluation of the Effects of the Leela Quantum Bloc on the Redox Potential of Rainwater

## 4. Messung

	ü. Nacht			
min	10	30	60	438
mV nach Feld	160	163	168	196
°C	24.4	24.4	24.5	24.6
HWn	196			

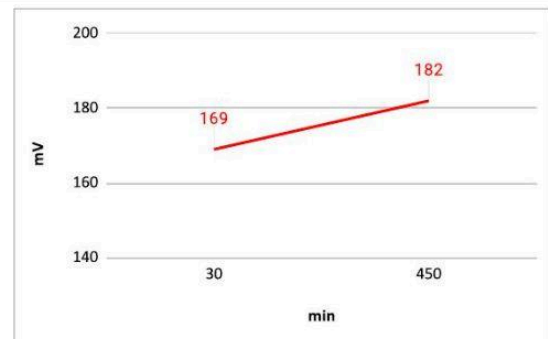
% Anstieg  
21



## 6. Messung

	über Nacht	
min	30	450
mV nach Feld	169	182
°C	21.7	22
HWn	182	

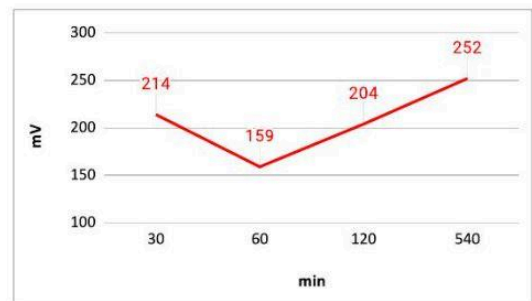
% Anstieg  
6



## 7. Messung

	ü. Nacht			
min	30	60	120	540
mV nach Feld	214	159	204	252
°C	21.5	20.5	21.8	21.9
HWn	252			

% Anstieg  
68



## 8. Messung

min	60	166	459	539	619	725
mV nach Feld	132	133	143	160	161	160
°C	22.4	22.7	22.8	22.5	22.2	22.1
HWn	161					

% Anstieg  
18

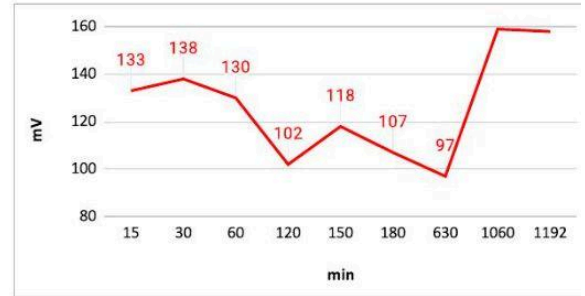


# Evaluation of the Effects of the Leela Quantum Bloc on the Redox Potential of Rainwater

## 9. Messung

	über Nacht							dann ohne Feld stehen lassen	
min	15	30	60	120	150	180	630	1060	1192
mV nach Feld	133	138	130	102	118	107	97	159	158
°C	22.6	22.5	22.5	22.1	22.4	22.4	23.8	22.3	22.9
HWn	159								

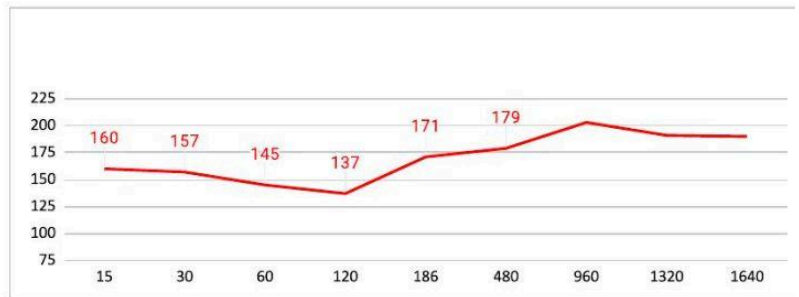
% Anstieg  
6



## 10. Messung

	stehen lassen ohne Feld									
min	15	30	60	120	186	480	960	1320	1640	
mV nach Feld	160	157	145	137	171	179	203	191	190	
°C	22	22	21.9	23.2	23.9	23	21.5	20.6	20.6	
HWn	203									

% Anstieg  
19



## Average Results:

- Initial redox potential: 168 mV
- Final redox potential: 211 mV
- Average percentage increase: 25%

## Evaluation of the Effects of the Leela Quantum Bloc on the Redox Potential of Rainwater

Measurement	Initial (mV)	Final (mV)	% Increase
1	178	254	43
2	188	258	37
3	199.8	263	32
4	162.6	196	21
5	174.6	178	2
6	171	182	6
7	150	252	68
8	136	161	18
9	150	159	6
10	170.5	203	19

### Summary

The data show a significant increase in the redox potential of the rainwater samples after exposure to the Leela Quantum Bloc. Notably, the largest increases were observed after longer exposures, especially overnight, where increases of up to 68% were recorded.

These results suggest that the Leela Quantum Bloc positively influences the redox potential of rainwater and may enhance its reactivity by increasing its oxidative properties. This aligns with the established understanding that a higher ORP can indicate a more effective ability for disinfection and the neutralization of pathogenic microorganisms.