Crystallization Analysis

Quality of Water from Water Purification Units

Evaluation

Samples Examined:

«ARLIS HISPANIA S.L.FIRMA». Water Samples: «structured water unit»

In a comparative study on a total of 2 samples taken, and from which 2 were used in this comparative evaluation, the spagyric crystallised material obtained from the liquid and solid phase of the samples was investigated.

Thereby crystals are formed from the extraction of distillate residue, which was previously incinerated and calcinated. These crystallized salts are extracted and consolidated with the distillate and applied on microscope slides. The liquid is then brought to evaporation at room temperature. This process results in the typically associated crystallization pictures of the samples, which allows reaching a conclusion about the quality of the life force in the samples.

Overview of crystallization production:

1. Distillation of the samples at low temperatures without adding water or other solvents.
2. Extraction of the crystallization salt from the distillation residue by means of incineration and calcinations.
3. These crystallized salts are then combined with the distillate and mounted on microscope slides.

- Development of the typical crystallization pictures associated to the samples -

The crystallization pictures are from the same samples, which can be reproduced at any time and always show the same typical crystallization pictures associated to the samples.

Tabular Evaluation
Quality of Water in Water Treatment Devices

Overall Evaluation

	Chemical/Physical Examination							Crystallization Analysis							Rating	
	1	2	3	4	5	6		7	8	9	10	11	12	13	14	15
	Oxygen Content in ml/l	pH Measure-ment	Conductometry Measurement µS/cm	Dry Residue mg/ Liter	Redox Poten-tial in mV	Toxic and Nitrate Content	Sub-Total	Formation	Forms	Dis-persion	Inten-sity	Angular Structures	Dark Areas	Total Points	Note	Grade
Sample	Value / +3 to -3 Pts	Value / +3 to -3 Pts	Value / +3 to -3 Pts	Value / +3 to -3 Pts	Value / +3 to -3 Pts	Value / +3 to -3 Pts	Percen-tual weight	+3 to -3 Pts	+3 to -3 Pts	+3 to -3 Pts	+3 to -3 Pts	+3 to -3 Pts :	+3 to -3 Pts	From +36 to -36 Pts	1 Best 6 Worst	Excellent to damaging
Weighting																
Group: Energising Water Treatment																
Structured Water Unit	**2**	**7,49**	**204**	**385**	**208**	**7,2**										
	-2,0	1,8	2,3	1,8	-0,5	1,6	**6,8**	2,5	2,8	2,5	3,0	2,5	3,0	**23,1**	**1,8**	**Good**
																Tendency to Very Good
Neutral Sample	**2**	**7,49**	**208**	**385**	**209**	**7,2**										
	-2,0	1,8	2,3	1,8	-0,5	1,6	**6,8**	-1,0	-1,5	-1,0	-1,0	-1,0	-1,0	**0,3**	**3,6**	**Satisfactory**
																To
																Sufficient

«FIRMA» Water Samples: «PROBE»

Two samples were investigated during this test: One neutral sample of tap water from the Bottighofen area, and a sample of water from Bottighofen treated with the Structured Water unit from the company ARLIS HISPANIA S.L.

All sample testing was carried out in accordance to the investigations used as the basis for our book “Water Vitalisation Devices”.

The investigated samples were analyzed using the same criteria, but considerably later in time, so a direct comparison would not be scientifically correct. However, an effective comparison is still possible since the investigational criteria are exactly the same.

All samples were taken under identical conditions and were subject to the same parameters, so that any external influences were clearly excluded. In this respect, all samples were treated in the same manner. The results obtained are due to specifically selected parameters that were investigated in this case, but it is not possible to reflect the entire qualitative spectrum of any water purification unit. In

this respect, although the quality of our testing was as comprehensive as possible, it cannot possibly reflect the entire performance capability. Although, in some cases, results can be achieved in this test series, which under certain circumstances may not be satisfactory for the manufacturers, it should not be presumed that the device does not fulfil its specific purpose. Under certain circumstances, the performance capacity of the water purification unit may not be completely covered by the range of examinations, but the device itself may prove its performance in other areas. Therefore, it cannot be concluded from this final evaluation whether the device has a specific value, or not. This must be determined individually in each case according to the specific circumstances. Nevertheless, this study does provide a conclusive statement to help any end users understand the quality performance capacity of the water purification unit. It is intended as a guide to aid decision-making when selecting the most suitable device on an individual basis. This often requires a further, more individual consultation. And within the scope of this study, it may also be considered as a guideline to allow manufacturers to compare their own performances with each other. In any case, the objective of such testing is to improve overall water quality and provide the manufacturers with an opportunity to give their feedback, which enables them to continue working towards better quality standards, and even improve their own current ones.

The qualitative factors were determined from the crystallization analysis and compared with the following chemical parameters for an overall assessment: oxygen measurement, pH measurement, conductivity in mS/cm, dry residue in mg/litre, nitrate content in mg/litre and redox potential, as well as all the parameters of the German Federal Drinking Water Regulations (TVO). The appraisement of the two main factors: Crystallization analysis and chemical parameters is 1:1. In the crystallisation analysis the purely qualitative aspects are shown, while the chemical parameters the measurable quantitative values are highlighted. During the crystallization analysis the evaluation is carried out in accordance with the following 5 parameters: Formation, shape, dispersion, angle structures, as well as crystallization intensity, each of equal importance. All the parameters are evaluated together and the rating of each of the samples was obtained in accordance to a specific Point System. Each of the 5 parameters of the two main factors are given a value between -3 and +3 points, resulting in a minimum value of -30 points, and a maximum of +30 points, while the grading is based on points, with the highest rating being 1, and the lowest rating being 6.

Crystallization Analysis:

The device investigated in this case belongs to the category of Water Energizing Units through multiple vortex energy (swirling). The sensory examination showed no flaws. The sample was odourless, clear, without any abnormalities, and with a neutral taste. After treatment with the Structured Water unit, there was a distinctive change in the crystal structure in comparison with the neutral sample.

While the crystals in the neutral sample were heavily compacted, the treated ones show a high surface area formation and a better distribution over the entire picture. The neutral sample shows a lot of 90° angle structures, which are not seen in the case of the structured water. This means that any toxic substances were neutralised. There are more star-shaped 60° angle structures to be

found here. This demonstrates there is a similarity to a Good to Very Good spring water quality. The surface formation of the crystals has increased sharply in comparison with the neutral sample, which indicates a considerable increase in the bioavailability of the minerals in the sample. The treated sample is more suitable as a food product since it provides more trace elements and minerals than the neutral sample. At the same time, the general level of vitality has increased considerably. The energy balance is higher than that of the neutral sample and is generally considered to have a positive value. The sample shows a significant surplus of energy. The human metabolism is positively stimulated and supported due to the high bioavailability of trace elements and the surplus energy. In this respect, this sample can be considered to have a high-quality biological value. There are hardly any compacted areas indicating a tendency for deposits of lime, or other minerals, as can be seen in the neutral sample. Therefore, it is obvious that the technical water quality of water was greatly improved in this sample. There are no cross-shaped, dense, angular structures to be seen in the entire picture, so it can be assumed that the solubility of the minerals in the water was significantly increased. Larger crystals can precipitate and block pipes. The smaller crystals that appear here have a higher surface formation and are less prone to precipitation. This means that technical equipment operates perfectly using this quality of water. The technical quality of the water has increased tremendously while the risk of calcification has been reduced to a minimum. This is a considerable advantage for consumers in terms of maintenance and durability of their devices when using structured water units.

Further details will be described in connection with the pictures.

Chemical Parameters:

Evaluation	Oxygen Content mg/l	pH Measure ment	Conductometry µS/cm	Dry Residue mg/Litre	Redox Potential In mV	Nitrate Content in mg/Litre
Sample / Location of Sampling	**Value / from +3 to -3 Points**	**Value / from +3 to -3 Points**	**Value / from +3 to -3 Points**	**Value / from +3 to -3 Points**	**Value / from +3 to -3 Points**	**Value / from +3 to -3 Points**
Structured Water Unit	**2**	**7,49**	**204**	**385**	**208**	**7,2**
Neutral Sample Bottighofen	**2**	**7,49**	**208**	**385**	**208**	**7,2**
Difference	**0**	**0**	**4**	**0**	**0**	**0**

Comments to Chemical Parameters:

The oxygen content has not changed in comparison to the neutral sample.

The pH value has not changed in comparison to the neutral sample.

The dry residue has not changed in comparison to the neutral sample.

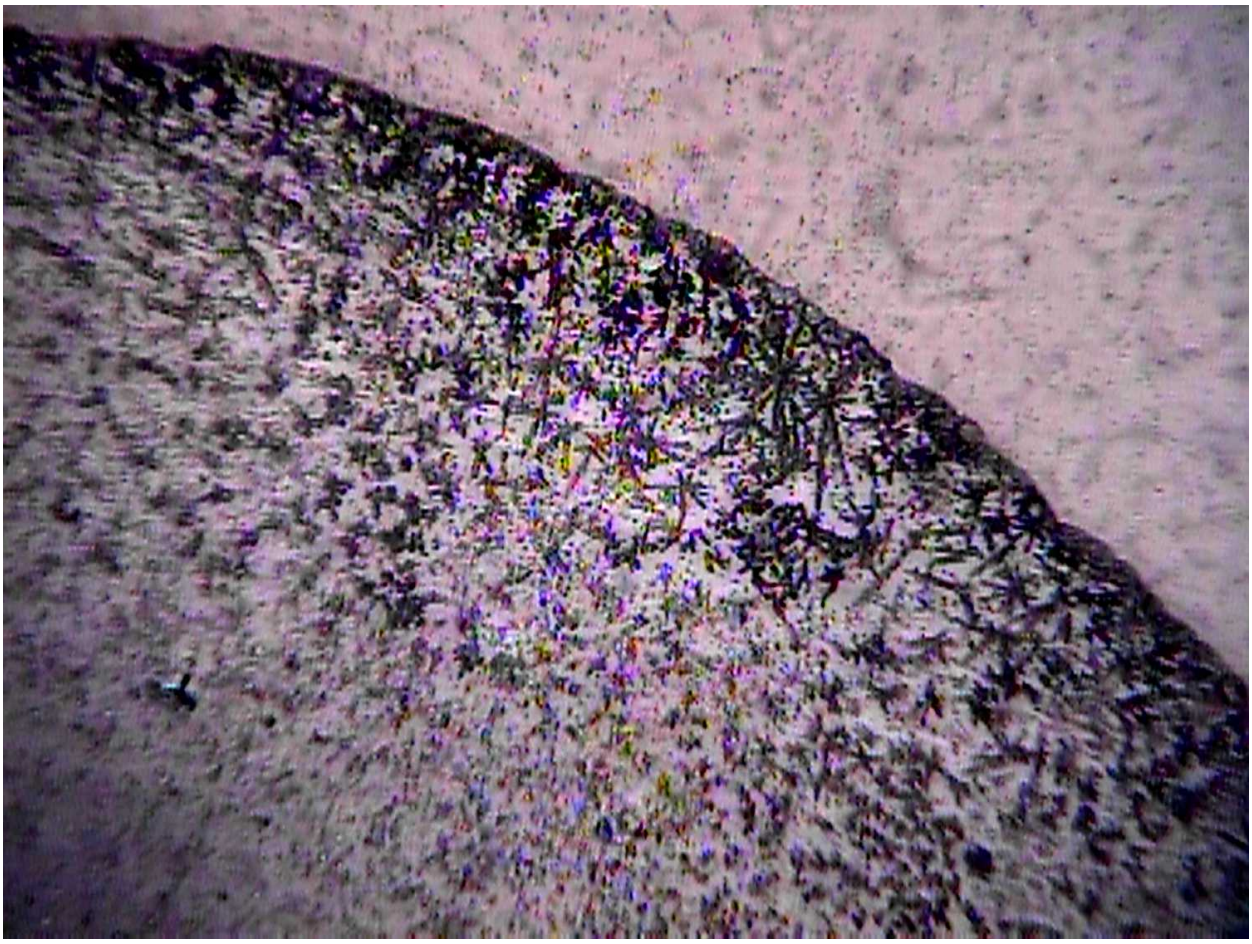
The redox potential has not changed from the tolerance range in comparison with the neutral sample.

The conductometry has improved slightly in comparison to the neutral sample.

The improvement of the conductometry indicates a slight improvement of quality in comparison to the neutral sample, which results in a somewhat better evaluation of the chemical examination as against the neutral sample.

1. Full Scale Picture
Enlarged 40x

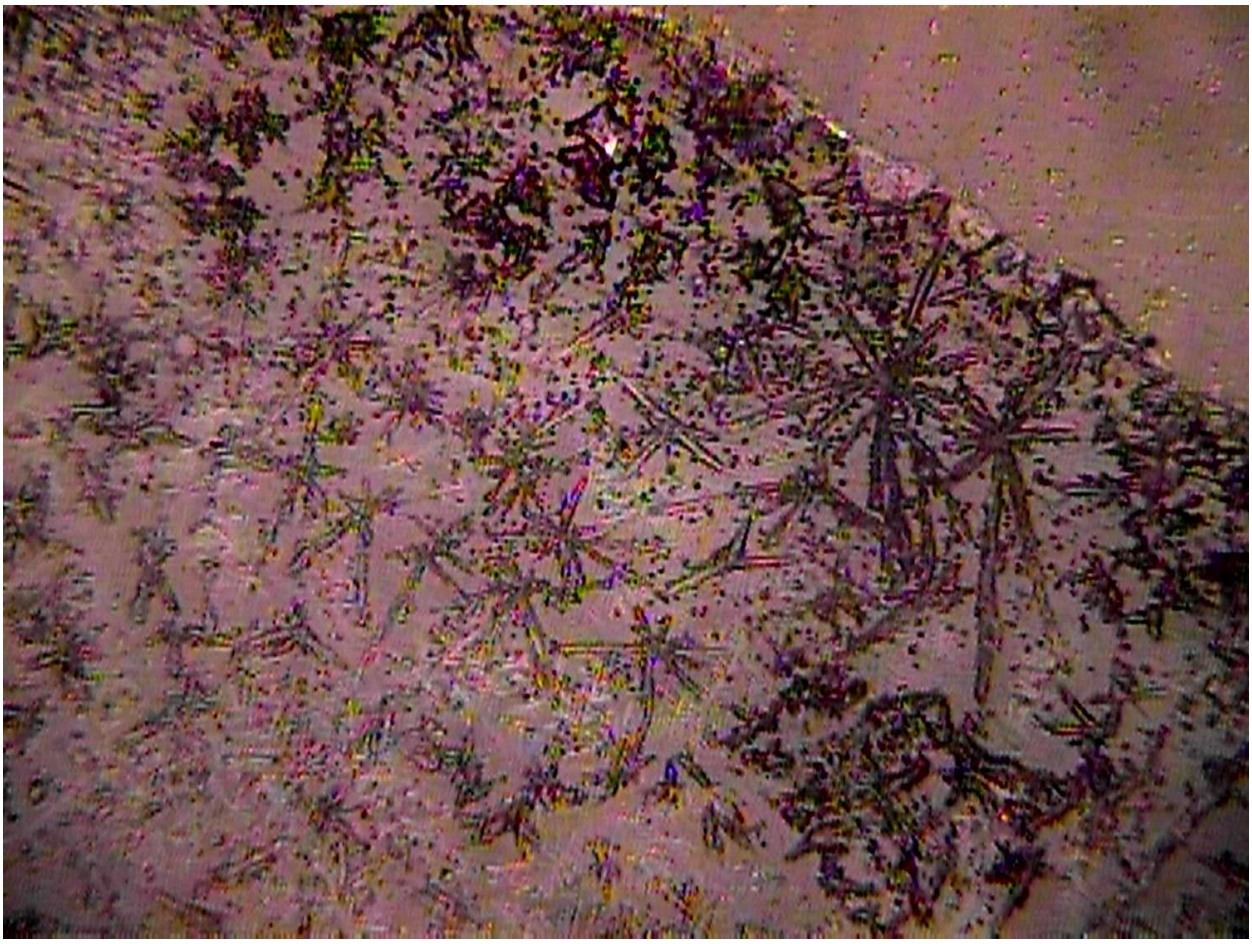
«ARLIS HISPANIA S.L.» Water Samples: «structured water unit»



In the full size picture, very regular crystal structures can be seen, especially at the edges. A similarity to the 60° angles, as found in high-quality spring water, can clearly be seen. There were hardly any 90° angular structures in this crystallization, so that it can be assumed that the harmful substances contained in the neutral sample were completely neutralized in the sample of structured water. The energy level of this sample has increased significantly. It can be assumed that there is a positive energy balance. Consumers of this water sample, after treatment by the combination of these units, showed a more stimulated and vitalized metabolism.

2. Half-Scale Picture
Enlarged 100x

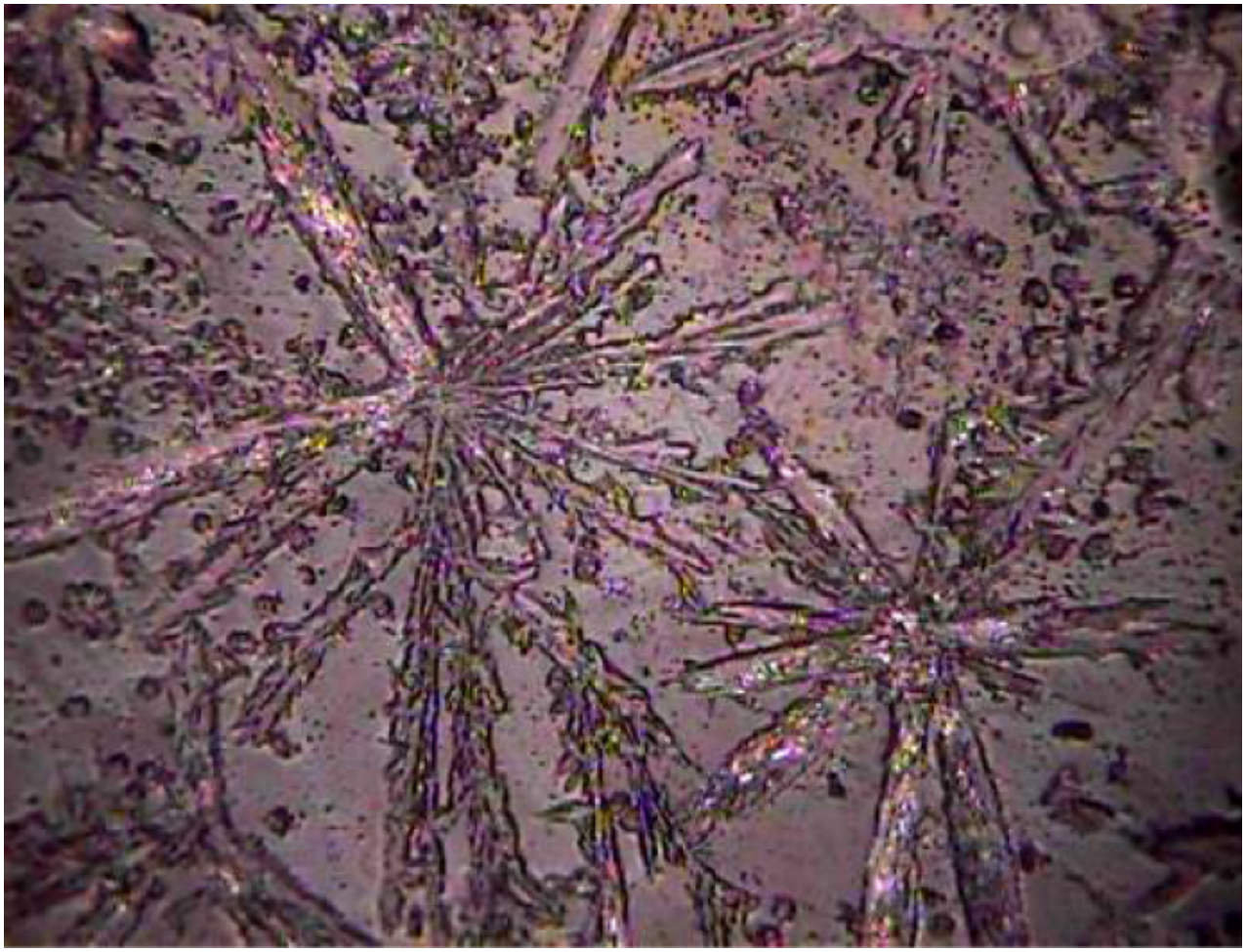
«ARLIS HISPANIA S.L.FIRMA» Water Samples: «structured water unit»



Various star-shaped crystal structures are shown in the half–scale picture that did not exist in that form in the neutral sample. At the same time there more 60° angle structure that dominates the complete picture. This is a clear indication for a highly increased quality due to the Structured Water unit, since such structures can only appear in very high quality water of a natural origin.

There are absolutely no indications of 90° angular structures, which would represent toxics or toxic substances. On the contrary, it can be established that the bioavailability and the biological quality has obviously increased. The Structured Water unit is not only able to neutralize negative effects, but it can also restructure the water, so that it obtains a significant natural positive quality.

3. Large-Scale Picture
Enlarged 400x samples :Agua estructurada /structured water unit



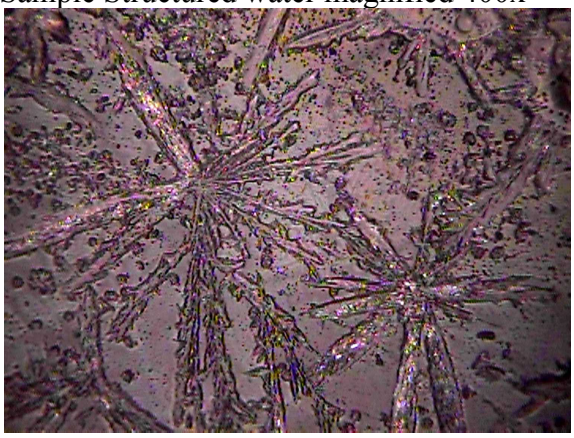
The large-scale picture shows a well-formed, star-shaped crystal complex showing fine, branchy plant-like structures that did not appear in the neutral sample. The exact 60° angle formation indicates that there has been a strong stimulating effect on the water, which has actually re-naturalised the water sample. The basic structures of the crystal structures were actually changed and newly restructured. This demonstrates that the Structured Water unit made by the company ARLIS HISPANIA S.L. could significantly increase the potential water quality of the water sample. The energy balance is therefore much more positive than in the neutral sample, and is reflected in the excellent end results obtained.

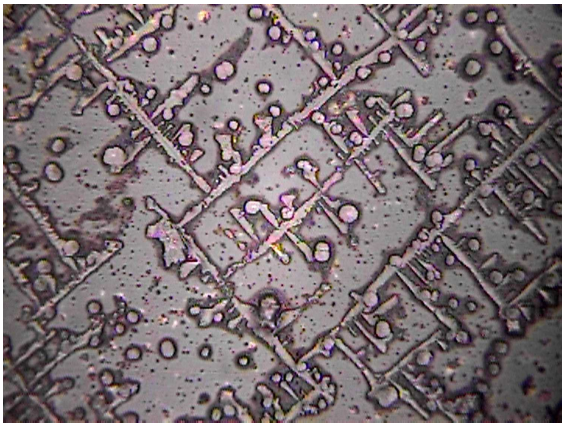
Summary:

Sample: «ARLIS HISPANIA S.L.» Water samples: «structured water unit»

Sample: Structured Water Unit magnified 400x

Sample Structured water magnified 400x





Sample: Neutral Sample Bottighofen, Magnified 400x

Not only biologically, but also in technical terms, there are very clear results that the quality of the water has increased after treatment with the Structured Water unit from the company ARLIS HISPANIA S.L. The crystallization process has had extensive restructuring in which the bioavailability of the water has been significantly improved.

Therefore, the sample has achieved a water quality level that is normally only to be found in high-quality natural spring water. In comparison with the neutral sample, or other comparable tap water, it definitely shows a considerable improvement in quality.

The sample was evaluated with the grade of 1.8 and the result was *Good* with a tendency to *Very Good*. This demonstrates a very clear advantage for the consumer when using this device.

In order to elaborate on the medical effects and provide a more specific conclusion, a blood crystal analysis must be made to provide more details. Unfortunately, this is beyond the scope of this investigation.

Bottighofen, March 20, 2012

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