THE HISTORY OF BORSEC MINERAL WATER BOTTLING

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ABSTRACT. – The History of Borsec Mineral Water Bottling. The mineral water springs of Borsec have been known to exist since ancient times. It started as a legend, presented by Orbán Balász, who mentions an author named Salzer. In his „Voyage Diaries in Transylvania“, Salzer recounts the discovery of healing springs in the area, and attributes it, like many other authors, to a Romanian shepherd called Gheorghe, who, suffering from ulcer, returning home one day, drank from one of the Borsec springs. Drinking the sour water, he felt better. Consequently, he remained there for a couple of days, drinking water from the same spot and curing his ailment. Written documents date back from the 16th century, when Bethlen Farkas, in the historical novel „Historia“, recounts that, in 1594, Sigismund Bathory, who resided in Alba Iulia, suffered from nervous exhaustion. His Italian doctor, Bucello, who knew about the curing effects of the Borsec mineral waters, prescribed a treatment using the water from the „Lobogó“ spring. The water, transported to the princely estate in large covered barrels, eventually healed Sigismund Bathory. It is easy to see why, at the end of the 16th century, the mineral water of Borsec, with its miracle properties, was well known in Transylvania and at the imperial court of Vienna. The above mentioned spring, used from the 19th century onwards, for spas and for bottling, earned great renown, especially due to the high concentration of CO2 (over 2.5 g/l). The bottled sparkling water, due to its pleasant taste and its chemical stability, is the most sought after table water. This explains why, in most cases, the notion of mineral water is associated with „Borsec“.

Keywords: mineral waters, Anton Zimmenthausen, BORSEC-Queen of Mineral Waters, international brand, mineral water bottling facility.

1. INTRODUCTION

The municipality of Borsec, from an administrative point of view, like Bilbor, Corbu and Tulgheș, belonged to Ditrău and Lăzarea communes, being donated by Maria Teresa to the border guards of the area, who administered it until 1806, when the fame of the therapeutical properties of „the borviz“ reached Vienna. Valentin Johann Günther from Vienna requested the approval of the Imperial Court to lease, transport and sell in Vienna and beyond the water of Borsec, with exclusive privileges, alongside Anton Zimmenthausen (his cousin, high dignitary in the City Council of Vienna). After obtaining the approval, they informed, on 7th April 1804, the County of Giurgeu (Gheorgheni) that they obtained the right to sell the mineral water for eight years and consequently, requested, from the communes of Ditrău and Lăzarea, the construction of a glass factory and adjacent buildings.

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To be more convincing, Günther expressed his devotion "for a country in which, with a decaying health state, before his 20th birthday... he had the fortune to become anew due to the water of Borsec", intending to transport the mineral water from the Main Spring to Vienna, as well as to other parts of the world. The mineral water of Borsec, due to its qualities, eventually defeated its competition and monopolised the Viennese market. Günther then built a glass factory, and created "a colony, on an uninhabitable mountain, especially in winter" (B. Orbán, 1868).

The contract was signed in Gheorgheni, in an officer's house, between Anton Zimmenthausen, Valentin Günther and several people designated by the provincial and military authorities of Ditrău and Lăzărea. The contract contained 20 stipulations, among which one that guaranteed the right of the local community to sell the mineral water in Hungary. The said contract went into force on 25th June 1804, being signed by 12 people and sealed by the two communities. Following this, Günther advised the most famous doctors of Europe to send their patients to Borsec "at the border of the civilised world", where he himself regained his health due to the curative properties of the local water springs.

Thus, in 1804 the "Günter-Zimmenthausen" Association obtained the lease of Borsec for an "exclusive exploitation", also acquiring the lease for the forests and orchards of Ditrău and Lăzărea, as well as the approval for the construction of a glass factory in order to ease the mineral water trade. After several months, due to the expenses involved, Günther backed down, while Zimmenthausen was forced to take two associates from Mediaş. In 1805, Zimmenthausen settled in Borsec, with his family, starting to develop the spa. Starting in 1806, the mineral water was no longer bottled in clay pots, but in glass bottles of different sizes, made in Borsec, using the local quartz sand quarry, and coal as fuel. During this period, the colonisation of miners and glass makers from the Czech Lands, Silesia, Poland and Bavaria began.

After some time, the first real issues began to emerge, partly due to count Lázár Ludovic, who tried to remove the main shareholder, by using the inhabitants of Ditrău and Lăzărea as well. Therefore, the count's first complaint dates from May 1816 and is addressed to the supreme county judge, accusing Zimmenthausen of inappropriate mineral water trade, which may cause problems for the area and for the empire.

The county judge asked for the support of the Royal University in order to ascertain the correct manner of water exploitation and avoiding forgeries. The Superior Council of the Regional Government did not admit the trial, but sent the complaint to the Superior Administrative Council "The Entity for Correcting Law Violations".

After receiving an answer from the University, the Superior Royal County Government enjoined the inscription of legal provisions on the tickets issued especially to mineral water traders.

In 1835, Zimmenthausen, financially bankrupt, asked for a loan of 880 forint from the Imperial Court in order to settle his dispute with his rival, stating the following: "Ever since 1800, the undersigned... have become aware of the healing power of Borsec mineral water... After my return to Vienna, critical times intervened due to the war with the French and only in 1806 was I able to make the journey to Borsec together with cu J.V. Günther and with the entire glassmaking staff and arrived here on 16th April of the same year" (B. Orbán, 1868).
Left alone by Günther, Zimmenthalen had to support the expenses for the construction of the glass factory and the adjacent buildings all by himself, but "I barely put the first bottle and I was already involved in a difficult trial. I was unable for 18 years solely conduct my business, I had to find an associate and leave the management of my business in the hands of a stranger, while myself, in order to defend my rights, was busy in courts, having to spend large sums of money" (B. Orbán, 1868).

Zimmenthalen was involved in other trials, such as the one filed by his associate Andras Schuster. Zimmenthalen died in 1838, sick and poor, after spending nine months in prison. His heirs continued the trials for 38 years after the initial trial began, and on 20th September 1854, the Supreme Justice Court of Vienna ruled in favour of Zimmenthalen.

Therefore, Anton Zimmenthalen is considered to be the creator of the first establishment for the usage of the therapeutical springs of Borsec. After Zimmenthalen, Borsec was leased by M. Vermecher from Reghin from 1838 to 1856. This period saw the construction of many hot baths, baths with showers and houses. Also the first analyses of the Principal and Lobogó springs were conducted by Schelle and Stenner.

The trade with Borsec mineral water developed more than its usage in spa medical therapy, the Viennese pharmacists holding the privilege to conduct this trade. Due to several scams by the pharmacists, by selling mineral water with false labels, on 13th March 1783, an order was issued which withdrew the pharmacists' privilege to trade, giving it to the local traders, so they could exploit and sell this water in Transylvania, Hungary and Tyrol, by exempting them of border taxes.

The transport of these products was being conducted in clay pots, at first by the so called „borviz men". Ever since 1822, the mineral water had been transported to Vienna, and starting in 1889 to Turkey and Greece, Hungary, after 1890 Borsec mineral water began being exported to America (New York), and in 1902 to South Africa.

The mineral water of Borsec was also being transported by rafts, to Moldova, on the Bistrițioara River, and on Mureș, to Lipova, Arad, Timişoara, in well sealed crates, while after 1887, once the connection road between Toplița and Borsec had been completed, the transport became easier, by trucks, and later by railway.

Between 1832, when the Zimmenthalen lease contract expired, and the First World War, meaning for 80 years, the spa and commercial exploitation of Borsec went through an endless string of leases. This lease system by short term auction, used by the owners of Dîtrău and Lăzarea communes, was imposed by their interest of periodically raising the lease's price, thus receiving larger and larger benefits. The entrepreneurs made considerable earnings due to the many sick people that came for treatment and the consumers of bottled mineral water. From 1856, Borsec had been leased by many wealthy people, among which Seibriger György, for 10,000 forints/year, Mandel David for 30,000 forints/year and after 1862 for 62,000 forints/year. The last lease holders of Borsec of the 19th century were a group of business people from Brașov, from 1868 to 1874.

After 1874 the Dîtrău-Lăzarea Joint Venture took back Borsec, while after 1900 we know of the bankers Fekete Mor and Chrissoveloni, and the capitalist Tischler Maurițiu from Iclodul Mare. On 14th November 1903, it was decided to lease Borsec for 50 years to Fekete Mor from Vienna, while in 1921, the baths were leased to Tischler Maurițiu, who made many investments in the area.
2. MINERAL WATER BOTTLING

The base of the enterprise was built in the 19th century by Zimenthausen, and further developed by Chrissoveloni Bank. Based on a decision adopted on 1st May 1833, for both local consumption and for selling, for locals and for foreigners, the price of a mineral water bottle was one silver kreutzer, while for other bottles, the price would be proportional to their volume, the bottles being filled with mineral water under military watch. This date was also the one when putting seals on the mineral water bottles started. According to the accounts of C. Károly (1873), in 1840, around 5,000 bottles were filled and shipped to Moldova and Austria, while in 1889 over three million bottles, using water from three springs: the Main Spring, Prince József Spring and Kossuth Spring, the water from the last two springs being only partially used, when there were issues with the Main Springs flow. Until 1940, mineral water exploitation and bottling was leased to the Chrissoveloni Bank, that had a representative in Borsec, who coordinated the spa’s activity, and also the selling of water from the Main Spring. In this period, the bottling activity was conducted in a room situated in front of the existing central pavilion, the bottling station having a modest station.

Working hours extended in some cases to 12 hours, and all bottling operations were being conducted by hand. These activities employed women who were payed very little money.

Fig. 1. No. 1 (The Main Spring) and no. 2 (Elisabetta) springs, 2012.
From 1940, the Ditrău-Lăzarea Joint Venture began to manage this activity, until 1946-1947, and controlled it through its representatives. During summer, work was conducted in two shifts, and most products were shipped to Austria and Hungary. The number of people per shift was 10-15, plus several auxiliaries (loaders, unloaders, mechanics etc).

The production volume ranged between 2,000-3,000 bottles/day, using only one liter bottles. After the nationalisation of the main production units, the spa’s mineral water resources and the natural curative factors were handed over to the Ministry of Health, specifically to the Borsec Spa Administration (A.S.B.B in Romanian). The enterprise had 106 employees (87 workers, one technician and 18 auxiliaries).

Electricity was provided by a Skoda engine, a Rakoczi engine, and a semidiesel one („Timpuri Noi”). The daily production of that time was 5,000-6,000 bottles/day (A. Farkas, 2007).

On 15th November 1952, Apemin became a state enterprise under M.I.U, the plant was renovated and enlarged, and on 20th August 1954, the General Department of Mineral Waters Bucureşti was established, Borsec becoming an enterprise for the bottling and selling mineral water. As such, several new springs from other parts of the country started being administered by Apemin Borsec (Șarul Dornei, Tâmașău, Hebe).

This is also the period in which new bottling stations were set up, plus a Holstein-Koper semiautomatic machine line, with a filling capacity of 4,500 l/hour. The enterprise's surface area grew to 1959 sqm, with 227 workers, out of which 134 basic workers, which lead to an increase in production volume, reaching, in three shifts, roughly 30,000 bottles/day. The trend of bottling only one liter bottles continued, but as a novelty, the new bottles came from Belgium.

Crates were partially introduced for water packing, while transport was done almost entirely by the enterprise's trucks.

In 1953, a modern bottling station began to be erected, equipped with machinery from Germany, Nagema and Novissima machines were brought for bottle washing, and Phoenix machines for bottling. To create optimal conditions for treatment and rest in the spa, the site of the bottling station was moved 1 km away from the old station.

After the station began to operate, there was a significant increase in production, with 22,000-28,000 bottles/day/shift. Two new springs were captured by drilling in the same time period, springs with a flow of 100,000 l/day (A. Farkas, 2007).

Securing transport between Borsec and Toplița was obtained only after extending the forest railway from Capu Corbului to Borsec, and in 1954, a viaduct was built for this railway, which was opened in 1955, all the works being done by a construction enterprise from Bucharest, with approximately 1,500 men, under the management of a Polish engineer.

In 1963, through drillings done by the Geological Committee, new mineral water sources were opened in Borsec, with a flow of roughly 82 m³/day. In 1970, the enterprise was equipped with a ferisation and durisation station for mineral water. The bottling line grew to 768 m², and two modern technological lines were set up, made by the Simomazi enterprise from Italy. These lines had automatic machines, that performed the entire technological process, starting with the bottles' extraction from the crates (semiautomatic machine), washing, filling and labeling, the production being 9,000 bottles/line/hour.
In 1968, *Apemin Borsec*, was taken over by the *Local County Industry Department Harghita*, while between 1970-1973 by the *Apemin Local Enterprise*. From May 1973 until September 1977, *Apemin Borsec* was attached to the Harghita County Enterprise for Local industry.

In 1976, *Apemin Borsec* had a surface area of 2 650 m², comprising a hall (850 m²), garages, workshops, and a packing warehouse (1 620 m²), which ensured the necessary stock of packaging for five days. The loading and unloading of bottles onto the trains and vehicles was done using electocarts, while the transport of mineral water from Borsec to the Topliţa railway station, was done using the Topliţa-Bilbor-Corbu-Borsec narrow gauge railway.

In Topliţa, *Apemin Borsec* had a two story warehouse, with a storage capacity of 576,000 full bottles and 1.4 million empty bottles. The crates for bottles, made of wood, were manufactured by the *Tulgheş Crate Factory*, while later the bottles were put into plastic crates. The bottles used for water were brought from Târnăveni, Mediaş, Turda, Azuga, the capsules from Metaloglobus, Bucureşti, and the labels from Miercurea-Ciuc. In 1975, a new local product called „Deit” was introduced, based on sugar and fruit, which was exported to Italy.

The mineral water of Borsec started being increasingly demanded for mass consumption, the counties with the highest quantity of consumed mineral water (in 1977) being: Constanţa (8.5 million bottles/year), Bucureşti (7.7 million bottles/year), Braşov (3.5 million bottles/year), Harghita (2.5 million bottles/year), Neamţ (1.2 million bottles/year), Sibiu (1.2 million bottles/year), Mureş (1 million bottles/year), Cluj (1 million bottles/year), Iaşi (950,000 bottles/year), Bihor (800,000 bottles/year).

On the international market, Borsec water was being shipped to Israel (1.4 million bottles/year), Germany (1.2 million bottles/year), Italy (1.1 million bottles/year), Hungary (950,000 bottles/year), Saudi Arabia (850,000 bottles/year), as well as Switzerland, Spain, Cyprus, Poland, in smaller quantities.

Several mineral water samples were taken from Borsec by specialists from the US, Brasil, United Kingdom, Canada, Venezuela, Syria, Lebanon, Kuwait, Iran, etc, a good opportunity for prospecting and for the promotion of this product, with leaflets printed in several languages (French, English, German), that would present the water’s qualitative and curative properties. Likewise, free samples were given to medical clinics, large stores and tourist centers from abroad (over 100,000 bottles). Starting in 1977, the old station was equipped with German *Nagema BF-60* machines.

In this period, the station was run by the *Starch and Beer-Alcohol Company*, until 1990. The new bottling stations of Tuşnad and Sâncraieni, also belonging to Borsec, were built then. In 1981, there were 300,000 bottled containers of mineral water, while soda production was 3 million bottles, working in three shifts, the employees numbering 450, while after 1989, exceeding 1000. The main problem facing the enterprise was the lack of one liter bottles.

After the fall of the communist regime in 1989, the enterprise went through a series of restructurings, being absorbed by the *Ministry of Industry and Resources*, the Geological Sector.
### Table 1

**Borsec mineral water production in 1992-2011**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (liters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>16,904,060</td>
</tr>
<tr>
<td>1993</td>
<td>15,136,100</td>
</tr>
<tr>
<td>1994</td>
<td>32,779,000</td>
</tr>
<tr>
<td>1995</td>
<td>61,523,000</td>
</tr>
<tr>
<td>1996</td>
<td>82,559,000</td>
</tr>
<tr>
<td>1997</td>
<td>76,144,200</td>
</tr>
<tr>
<td>1998</td>
<td>101,260,900</td>
</tr>
<tr>
<td>1999</td>
<td>133,437,700</td>
</tr>
<tr>
<td>2000</td>
<td>136,971,400</td>
</tr>
<tr>
<td>2001</td>
<td>143,060,290</td>
</tr>
<tr>
<td>2002</td>
<td>168,093,170</td>
</tr>
<tr>
<td>2003</td>
<td>159,804,020</td>
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<tr>
<td>2004</td>
<td>160,450,590</td>
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<tr>
<td>2005</td>
<td>190,297,140</td>
</tr>
<tr>
<td>2006</td>
<td>200,471,750</td>
</tr>
<tr>
<td>2007</td>
<td>180,379,055</td>
</tr>
<tr>
<td>2008</td>
<td>363,387,000</td>
</tr>
<tr>
<td>2009</td>
<td>336,225,000</td>
</tr>
<tr>
<td>2010</td>
<td>315,750,948</td>
</tr>
<tr>
<td>2011</td>
<td>316,012,890</td>
</tr>
</tbody>
</table>

**Source:** Romaqua Group Borsec.

Five types of sodas were being bottled, with local and imported concentrate, made by Stanis SRL, a Romanian-Hungarian firm from Timișoara.

Due to the halt in railway transport, production dropped to 2 million liters/month, for various reasons: lack of bottles, their poor quality, obsolete production technology, etc.

The station of Stânceni, Mureș County, with a staff of 50, was also part of Borsec enterprise.

In 1992, taking control over Apemin’s patrimony, a state run enterprise emerged, namely *SC Regina Apelor Minerale-Borsec S.A*. What followed was a difficult period for the company, with considerable efforts to stop the decline and avoid bankruptcy.

In 1993, the number of permanent employees drastically fell to 240 people, the quantity of bottled water being 15 million liters/year. Following the Law 55/1995, the firm was privatized, water sales reaching 61 million l/year, with six production lines.

In 1998, the firm was bought by *Comchim S.A*, for 25 million German marks, with investments that reached 10 billion lei for new machinery. In October of the same year, Comchim S.A merged with *Romaqua Group S.A*, the former also being the main shareholder (Romaqua Holdings).

Traditional glass bottles were replaced with plastic ones, these plastic containers being manufactured on site using the modern machinery of the *Krupp Corpplast*.

Two bottling lines were equipped with Italian *Sasib Beverage* machines, which led to an increase in production (10 million liters).

Between 1998-2001, all production technology was renewed, and currently there are no more machines that date back before 1989, an opportunity to create 200 more jobs.

The firm received the ISO-9001/2001 certificate, issued by TÜV CERT from Germany, thus confirming that European standards had been respected, at the same time guaranteeing a high level of quality of the finished product. The same institute issued the HAC-CP qualification, for the bottling line, that guarantees product security and conformity.

On 21st December 2001, still mineral water was introduced, due to continuous demand for non-sparkling water, and on 1st September 2003, four new products appeared on the market: 0.5 l and 0.7 l sparkling and still water.

According to unofficial sources, the intense activity of mineral water bottling could be one of the main causes for the ceasing of spa activities in Borsec, as the tubs and the installations of the spas required enormous quantities of water.

Currently, there are five functional bottling lines, three for plastic containers and two for glass bottles, one for 1 liter bottles, and the other one for luxury glass bottles, only for HORECA (Hotel-Restaurant-Catering), the name of the special product being *Borsec Premium*. 
Romaqua Group Borsec has a portfolio of 11 successful brands: Aple minerale naturale Borsec, Apa minerală naturală Stânceni, Apa minerală naturală Aquatique oligominerală, Giusto, Quick Cola, Lămâiţa and Cico soda beverages, „Metropolitan Caffe” coffee, Giusto Elektrik energy drink, as well as Albacher and Dorfer beers. The group currently employs 2022 people, has 10 branches and many working stations. In 2011, Borsec celebrated 205 years of tradition.

Presently, Borsec mineral water is sold in more than 15 countries, such as: United States (874,044 l), Canada (854,064 l), Hungary (843,780 l), Spain (190,152 l), Moldova (145,440 l), Israel (153,828 l), Germany (134,064 l), United Kingdom (95,964 l), Taiwan (87,012 l), Egypt (74,619 l), Greece (73,548 l), China (39,690 l), Cyprus (30,636 l), Japan (18,090 l), Dubai (15,318 l), representing 2% of the sold volume. Borsec has 26% market share, having been a leader in 2005.

2. 1. The description of the current mineral water bottling technological process

The underground mineral water is captured, and transported through sanitary approved special pipes, made of materials mainly used in the food industry, and then stored in buffer tanks to ensure the necessary flow for the technological flux.

From these tanks, the water is then taken through pipes to the MIXER, filtered, and bottled in plastic containers.

The bottling sections for the sparkling mineral water sit between the space for natural mineral water storage and the space for the reception and storage of direct products. The plastic preforms are moved from the material warehouse into the pretemperation chamber next to the formation by blowing machinery. After the temperation process, the preforms are introduced into the filling reservoir of the feeding instalation.

From here, the preforms reach the loading and unloading wheel of the formation by blowing machine, where the plastic bottles are made. The production capacity is 7200 bottles/hour, the number of mandrel takeovers at the heating wheel is 90 preforms.

The roughs (semifabricates made through plastic deformation) on the filling funnel are transported to the roll sorting instalation, taken by the return device which takes one rough at a time, turns it and delivers it to the transfer arm, transported to the transfer station and handed to the heating wheel to the blowing station, where the blowing-stretching and two stroke blowing take place. The blown bottles are handed through the transfer station to the loading/unloading wheel and then sent to the conveyor belt. The bottles are then removed from the machine area through the bottle evacuation device, being suspended on the guiding rails with the help of air currents.

With the help of the air conveyor, the plastic bottles reach a conveyor belt with plaques that put the bottles inside the filling and monoblock capsulation machine.

The empty bottles enter the machine, are set apart, the space between the bottles being equal to the distance between rinser's grapples. The bottles are correctly positioned under the grapples and guided with the help of the guiding star shaped wheel. After the bottles are rinsed, they enter the filler where the filling process begins, this process being isobaric.
Fig. 2. The states where Borsec mineral water was exported, in 2011.
The bottles, after their elevation and positioning under the filling valve, are caught so that the bottle’s „mouth” is in contact with the filling valve. The filling level is determined by the length of the filling tube.

These stoppers get inside the filling machine through an installation called elevating head.

From within the bottling-capsulation machine, the plastic bottles continue their „tour” with the help of conveyor belts towards the labeling machine, where the labels are applied to the bottle. From the conveyor belt, the bottles are taken and set apart, in order to obtain the necessary distance for the bottles to be taken and sent to the central carrousel. The pallets, in their rotation movement, come in contact with the adhesive tape roll where they take the necessary quantity of adhesive to take the label from the label cartridge.

The adhesive label is transferred on the grapple cylinder, where it is set on a sponge through some grip mechanisms. The sponge sets the label on the bottle, then the label is pressed and its final position is set with brushes. Subsequently, the bottle goes on the conveyor belt.

The labeled bottles continue their journey on the conveyor belts towards an inkjet inscription system, where the minimal validity is written.

This device is automatic and is run by a computer program. Then the bottles end up at an agglomeration table from where the package machine kicks in, with a capacity of 27 bags/minute, where the bottles are six-packed (for 1.5 liter bottles) or 12 packed (for 0.5 liter bottles), with the help of thermocontractive foil, the machine being fitted with computer run command system.

The packaged bottles move on a roll conveyor belt to the HANDLE APPLICATOR. Here, they are introduced inside the machine that applies the handle made of a cardboard band and a transparent adhesive tape.

The packages go on a steep roll conveyor belt from where they are taken and put on pallets in a particular order. The wooden pallet is then placed on a foil application device este with a ROTOPLAT rotating platform.

This device applies the stretch foil. Between the resulting levels, cardboard separators are introduced, and on top of the last level a cardboard stopper-separator is placed. From here onwards, the finite packaged product is taken by pilers to the finite products warehouse, built specially with this reason in mind, and arranged per fabrication lots. Inside the warehouse, temperature and humidity are monitored.

The delivery is made based on the FIFO principle (First IN-First OUT). Each lot has a conformity declaration which certifies the product’s quality.

In order to obtain products within the quality parameters, the storage of materials (preforms, stoppers, labels, thermocontractive foil, duct tape, wooden pallets etc), is extremely important, and must be done in dry, clean, disinfected places, without any danger of contamination.

The technological process includes the following stages:

1. natural mineral water reception, according to the SNAM analysis bulletin (The National Society of Mineral Waters of Romania), issued every six months;
2. moving into the bottling section;
3. storage in buffer tanks prior to bottling section, water filtering, carbon dioxide enrichment;
4. direct material reception (preforms, stoppers, labels, glue, ink, thermocontracting foil, handles, duct tape, stretch foil, pallets, cardboard separators);
5. preform blowing, plastic bottles, plastic bottles rinsing, filling, sealing, labeling, applying handle, pallets formation;
6. storage, delivery, transport.

3. INTERNATIONAL RECOGNITION OF BORSEC MINERAL WATER

As a recognition of its exceptional quality, Borsec mineral water received numerous prizes, over 25 medals and many other titles at the international fairs and expos of Vienna (1873) „The Medal of Merit“, „The Golden Medal“, together with the title of „The Queen of Mineral Waters“, awarded by Emperor Franz Joseph, „The Silver Medal“ and „The Honour Diploma“ at the Berlin and Triest shows (1876), „The Honour Diploma“ at the Paris World Expo (1878), „The Silver Medal“ at the Budapest Expo (1885).

In the same context of international recognition, Romaqua Group S.A is the sole Romanian bottler that is affiliated to the Organisation Mondiale de la Propriete Intelectuelle (OMPI). In the 1970s, Borsec mineral water won „The Honour Diploma“ for goods of mass consumption, at every edition of the Bucharest International Fair, for its qualities.

Moreover, with the occasion of the 1999 and 2000 editions of the „Spring of Life“ Mineral Waters Show, Borsec mineral water received the Honour Diploma, the „Golden Mark“ medal, for the best sparkling mineral water, and the excellence prize for Romanian industry. At the 2001 edition of the same show, it received „The Golden Mark“ for sparkling natural mineral water and „The Platinum Mark“ for tradition and excellence in Romanian industry. Furthermore, Larex awards the enterprise the excellence prize for product quality insurance in 2000.

In June 2001, the Romanian Accreditation Society (RENAR) awarded Romaqua with the accreditation certificate, acknowledged at European level, for Borsec laboratories' ability to perform analyses in the field of mineral water, according to modern standards and methods.


In 2004, Borsec received the title of „Best mineral water in the world“, at Berkeley Springs International Water Tasting Awards, in West Virginia, USA, the most internationally renowned competition in the field.

In 2005, Borsec sparkling natural mineral water was awarded „The Special Golden Medal“, while Borsec still mineral water received „The Golden medal“ at the „Wold's Quality Selection“, organised by the International Institute for Quality Selection from Brussels, Belgium.

In 2006, Borsec a received two remarkable titles, that of „Trusted Brand“ and that of „Superbrand“, while in 2007 and 2011 the same title of „Trusted Brand“.

As proof of the brand's international recognition, we would like to point out that, on www.mineralwaters.org, in terms of consumer appreciation, Borsec mineral water claims the 4th place in the world at the „Very good“ category, with a score of 4.19 (90 votes) out of total of 5 points.
4. CONCLUSIONS

The idea of continuity and permanence is also due to the fact that, for 205 years, Borsec has bottled roughly 34 billion liters of water. If in 1806 three million liters of mineral were bottled, the year 2011 saw more than 316 million liters of water, Romaqua Group S.A. Borsec planning to extend its operations by building mineral water bottling stations in other countries. Borsec has a 26% market share, being a market leader in 2005. Borsec is currently the most recognised and appreciated Romanian brand, a brand that kept its quality over time and managed to hold its position through earnestness, being at the same time the name synonymous with Romanian mineral water.

Under the motto „Borsec - Izvor de energie”, the brand has a new attitude that promises natural energy that all consumers require in order to deal with an increasingly dynamic and competitive environment.

Acknowledgement

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REFERENCES