



Volcano Spa, Celldömök

In 2001, the Municipality of the City of Celldömök launched the investment for designing and constructing the Health- and Wellness Centre "Vulkánfürdő" (=Volcano Spa), with the intention of accomplishing the project in several phases.

According to the initial plan, the **first phase of the investment program** was designed to cover the **building of Volcano Spa** in the 80.000 m² realty owned by the Municipality of Celldömök, situated at the foot of the "Ság-hill" (topographical **Nr. 0503/8**). Funds for overall expenses of HUF 1,120 Million were to be raised by the application for the tourism development tender bid within the framework of the Széchenyi Program's Spa Resort Development Promotion. The amount of adjudged, non-refundable funds was HUF 560 Million.

In the meantime, in order to reduce the overall investment costs, the Municipality of the town had decided to relocate the spa to be built. The new location had been decided to be within the constituency of the town, on a realty owned by Celldömök, as well. (topographical **Nr.1922/11**)

The completion of the 1st phase of the construction has been finished by the 1st of September 2005. At the same time, on a number of different tenders further funds were summoned. Out of the investment of total HUF 270 Million, HUF 132 Millions were raised by subsidies. The planned finish of the 2nd phase is the first quarter of 2006. With this, the total investment amount for the Volcano Spa is exceeding HUF 2.2 Billion.

Finished constructions of the **1st phase** (includes: buildings, pools, technical facilities):

- | | |
|--|---------------------|
| ➤ I. Distribution hall + supplying building | 460 m ² |
| ➤ II. Dressing edifice + engine housing for 7 pools' technical equipment | 1486 m ² |
| ➤ III. Foyer | 136 m ² |
| ➤ IV. Therapeutical section | 373 m ² |
| ➤ VII-VIII. Indoor Bath-Hall (25 m swimming pool, semi-inside pool, training pool, submergence pool) | 1830 m ² |
| ➤ IX. Jacuzzi pool | 55 m ² |
| ➤ XIII. Water-preparation engine room | 432 m ² |
| ➤ XIV. Sub terrestrial reservoir with buffer and interruption engines | 91 m ² |
| ➤ XV. Water circulations equipment | 437 m ² |
| ➤ XVIII. Children's slide-pool | 123 m ² |
| ➤ Fencing, internal infrastructural connections | |

The **2nd phase** aims to extend the possibilities of the utilization of the facility in summer season:

- | | |
|---|--------------------|
| ➤ Spare thermal water source in 1250m depth | |
| ➤ Adventure-pool | 558 m ² |
| ➤ XIX. Baby paddling-pool | 113 m ² |
| ➤ XX. Equalizer-tanks for the children's pool | 37 m ² |
| ➤ Creation of a park and internal infrastructural connections | |

The construction of all other facilities, with which the maximizing of the capacity utilization can be achieved, is planned to take place in the **3rd phase**. The goal is to enrich and extend the services provided, specially aiming the summer season. The 3rd phase is planned to start in 2006-2007.

The water supply for the Volcano Spa is provided by two thermal wells (depth of 1245 m and 700 m) and two cold water wells (depth 220 m and 161,5 m).

Detailed water component analysis (thermal well 1245 m):

Translation of water component analysis

Number of work: 26804/1

Name: Celldömölk
Sample: well number 4
Depth: 1245 m

Place of sample:
surface
Water output l/m: 100
Date of sample: 10.05.2003

Cation	mg/l	mg/eél	Than %	Anion	mg/l	mg eél/l	Than %
Na ⁺	940,000	40,870	95,940	NO ₃ ⁻	1,300	0,020	0,050
K ⁺	5,900	0,150	0,350	NO ₂ ⁻	0,030	0,000	0,000
Li ⁺	0,500	0,070	0,170	Cl ⁻	557,000	15,710	37,230
NH ₄ ⁺	19,600	1,090	2,550	Br ⁻	0,940	0,010	0,030
Ca ²⁺	3,600	0,180	0,420	I ⁻	0,710	0,010	0,010
Mg ²⁺	1,200	0,100	0,230	F ⁻	6,000	0,320	0,750
Fe	2,600	0,140	0,330	SO ₄ ²⁻	<10	0,000	0,000
Mn ²⁺	0,040	0,000	0,000	HCO ₃ ⁻	1 590,000	26,070	61,780
				CO ₃ ²⁻		0,000	0,000
				PO ₄ ³⁻	1,950	0,060	0,150
				S ²⁻	<0,05	0,000	0,000
Sum	973,440	42,600	100,000		2 157,930	42,190	100,000

Sum of cations and anions: 3 131,000 mg/l

"Free" carbon acid (for orientation)	23,000 mg/l	pHmeasured 8,2	pHbalanced
Bound CO ₂	574,000 mg/l	Corrosion index:	
HBO ₂	1,110 B mg/l	m-alkaline	26,100 mmol/l
H ₂ SiO ₃	22,000 SiO ₂ mg/l	p-alkaline	mmol/l
Antimon (Sb)	2,900 µg/l	Total hardness	8,000 CaO mg/l
Arsenic (As)	2,300 µg/l	Carbonat hardness	8,000 CaO mg/l
Barium (Ba)	160,0 µg/l	not carbonat hardness	0,000 CaO mg/l
Zinc (Zn)	120,000 µg/l	E. conductivity (20°C)	3 320,000 µS/cm
Mercury (Hg)	0,170 µg/l	Rest of condense 180°C	2 390,000 mg/l
Cadmium (Cd)	<0,2 µg/l	Total dissolved minerals	3 180,000 mg/l
Chrome (Cr)	<2 µg/l	KO _{p1}	7,400 O ₂ mg/l
Nickel (Ni)	3,000 µg/l	Anionactive detergent	---
Lead (Pb)	<2 µg/l	Fenolindex	---
Copper (Cu)	<10 µg/l		
Selen (Se)	2,700 µg/l		
Cyanide	<5 µg/l	Temperature	39 °C

Physical characteristics: Yellow, slightly oppalic, little sediment

Evaluation: (---) not analysed
Based on the examined components the water sample containing many dissolved minerals, has the characteristics of natrium-hydrogen-carbonate-chlorides. The thermal water is quite soft, containing iron, fluorid and rich in iodid.

Detailed water component analysis (thermal well 700 m):

Translation of water component analysis

Number of work: 26896/1

Name: Celldömök
Sample: well number 5
Depth: 700 m

Place of sample: surface
Filter (m): 629,85-646,98
Water output l/m: 400
Date of sample: 16.06.2003

Cation	mg/l	mg/eél	Than %	Anion	mg/l	mg eél/l
Na ⁺	170,000	7,390	83,560	NO ₃ ⁻	<1,0	0,000
K ⁺	1,700	0,040	0,490	NO ₂ ⁻	<0,02	0,000
Li ⁺	0,050	0,010	0,080	Cl ⁻	17,000	0,480
NH ₄ ⁺	5,200	0,290	3,260	Br ⁻	0,040	0,000
Ca ²⁺	6,500	0,320	3,670	I ⁻	0,030	0,000
Mg ²⁺	8,800	0,720	8,180	F ⁻	<0,1	0,000
Fe	1,123	0,070	0,750	SO ₄ ²⁻	<10	0,000
Mn ²⁺	0,030	0,000	0,010	HCO ₃ ⁻	506,000	8,300
				CO ₃ ²⁻		
				PO ₄ ³⁻	0,120	0,000
				S ²⁻	<0,05	0,000
Sum	193,510	8,850	100,000		523,190	8,780
Sum of cations and anions:			717,000	mg/l		

"Free" carbon acid (for orientation)	11,5	mg/l	pHmeasured	7,8	pHbalan
Bound CO ₂	183,000	mg/l	Corrosion index:		
HBO ₂	0,030	B mg/l	m-alkaline		8,300
H ₂ SiO ₃	15,600	SiO ₂ mg/l	p-alkaline		
Antimon (Sb)	<2	µg/l	Total hardness		29,000
Arsenic (As)	13,000	µg/l	Carbonat hardness		29,000
Barium (Ba)	120,0	µg/l	not carbonat hardness		0,000
Zinc (Zn)	25,000	µg/l	E. conductivity (20°C)		700,000
Mercury (Hg)	<0,05	µg/l	Rest of condense 180°C		473,000
Cadmium (Cd)	<0,2	µg/l	Total dissolved minerals		726,000
Chrome (Cr)	<2	µg/l	KO _l p ₁		1,540
Nickel (Ni)	<2	µg/l	Anionactive detergent		---
Lead (Pb)	<2	µg/l	Fenolindex		---
Copper (Cu)	<10	µg/l			
Selen (Se)	<2	µg/l			
Cyanide	<5	µg/l	Temperature		31,8 °C

Physical characteristics: Yellow, slightly oppalic, little sediment

Evaluation: (---) not analysed

Based on the analyzed sample the water is moderate in minerals, soft and has the characteristics of natrium-hydrogen-carbonate, simple therm: content.

The aim of the Volcano Spa is to serve tourists with different needs at the same time: not solely tourists interested in health tourism (medical) services, but rather **offering complex services in the area of thermal and wellness tourism**. The Volcano Spa offers recreational services for the whole family and different generations at the same time, as every generation will find the service which each of them is looking for. The Volcano Spa belongs to the market of local and regional spa developments, which complement the spas of national and international importance.