

LABORATORY ANALYSIS REPORT

No. 11100603

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Belgrade, December 28, 2021.

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1 INTRODUCTION, OBJECTIVE AND PURPOSE OF THE REPORT

Based on Request no. 11100603, of the company ENVICO DOO BELGRADE, Anahem doo performed on 29.11.2021. yr. groundwater sampling.

2 GENERAL INFORMATION ON THE USER

The subject tests were performed in Valjevo, Popučke settlement, for the needs of the Hansgrohe project, on the project plot at two locations in order to determine the initial (zero) state of groundwater quality.

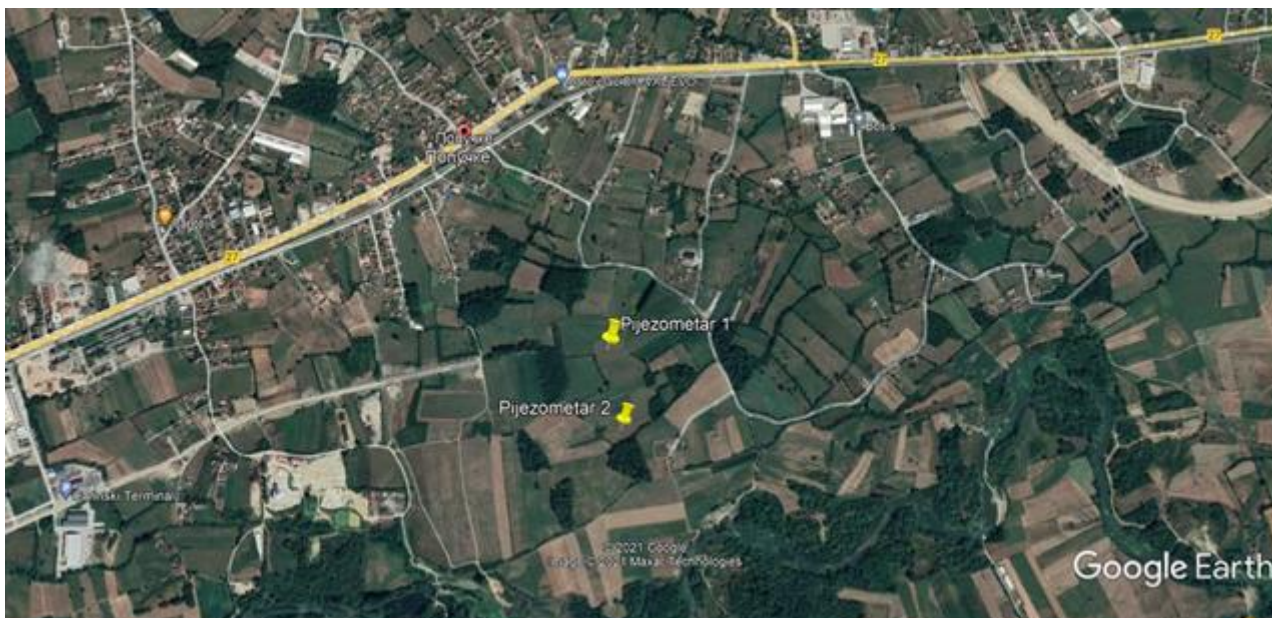


Figure 1. Sampling location display

3 DESCRIPTION AND ORIGIN OF SAMPLES

Water sampling was performed on November 29, 2021. years. Sampling was performed in accordance with the standards SRPS EN ISO 5667 - 1, SRPS ISO 5667-5. A detailed description of the measuring point and the sample is given in the section with pictures of the sample and the sampling point.

4 LABEL AND DESCRIPTION OF THE SAMPLE

Sample

1110060301:

Piezometer 2

GPS :

N: 44° 17' 0,16"

E: 19° 57' 47,40"



Sample

1110060302:

Piezometer 1

GPS :

N: 44° 17' 7,8"

E: 19° 57' 45,51"



5 MEASURING PROCEDURE AND TYPE OF MEASURING DEVICES

ATOMIC EMISSION SPECTROMETER (ICP-OES)

Manufacturer	THERMO SCIENTIFIC - USA
Model:	iCAP 6500 Duo
Serial number:	IC5D20125009
inventory number:	3022211



UV-VIS SPECTROPHOTOMETRE

Manufacturer	Perkin Elmer USA
Model:	Lambda 40
Serial number:	101N0032402
inventory number:	7080831



ION CHROMATOGRAPH

Manufacturer	DIONEX USA
Model:	DX-500
Serial number:	932011
inventory number:	7080810



TOC Zellweger labTOC 2100

Manufacturer	Z Zellweger UK
Model:	LabTOC2100
Serial number:	000101
inventory number:	7080812



SUSPENDED PARTIES	
Manufacturer	PALL CORPORATION
Model:	15403
Serial number:	/
inventory number:	3012911
BOD OXITOP	
Manufacturer	WTW GERMANY
Model:	Oxitop 18 BOD
Serial number:	/
inventory number:	4012903-27
COD	
Manufacturer	HACH USA
Model:	Hach Cod
Serial number:	/
inventory number:	7080820
GC-MS/MS	
Manufacture	Thermo Fisher Scientific USA
Model:	TSQ 8000 TripleQuad. GC-MS/MS
Serial number:	713201275
inventory number:	4032311



6 MEASURING PROCEDURE AND TYPE OF MEASURING DEVICES

The laboratory analysis included parameters that were done at the request of the Client, are shown in Table 1.

Table 1. Parameters and methods of water testing

<i>Test parameter</i>	<i>Test method</i>
<i>Physico-chemical tests</i>	
Water Temperature	EPA 170.1:1974
Air Temperature	DML 2.16:2016 ¹
Odour	DML 2.7:2016 ¹
Flavour	DML 2.7:2016 ¹
Nitrate NO ₃	ISO 10304-1:2007
Chromium Cr total	SRPS EN ISO 11885
Lead Pb	EPA 200.9:1994
Copper Cu	SRPS EN ISO 11885
Zinc Zn	SRPS EN ISO 11885
Nickel Ni	SRPS EN ISO 11885
Cadmium Cd	EPA 200.9:1994
Mercury Hg	EN ISO 12846:2013
Arsenic As	SRPS EN ISO 11969
Barium (Ba)	SRPS EN ISO 11885
Cobalt (Co)	SRPS EN ISO 11885
Antimony (Sb)	SRPS EN ISO 11885
Beryllium (Be)	SRPS EN ISO 11885
Molybdenum Mo	SRPS EN ISO 11885
Selenium Se	EPA 200.9:1994
Tin Sn	SRPS EN ISO 11885
Tellurium (Te)	SRPS EN ISO 11885
Thallium (Tl)	SRPS EN ISO 11885
Vanadium (V)	SRPS EN ISO 11885
Silver (Ag)	SRPS EN ISO 11885
Cyanide-free	SRPS EN ISO 11885
Ftalati	EPA 525.2:1995
Mineral oil C10–C40	ISO 9377-2:2000
PAH	525.2/625:1995/1984

¹ Method outside the scope of accreditation

7 REPORTS ON RESULTS OF SURFACE WATER TESTING

7.1 TEST RESULTS OF THE SAMPLE 1110060301

No.	Test parameter	unit	1110060301	1110060302	GV²
1.	The color	°C	pale yellow	pale yellow	/
2.	Smell	°C	without	without	/
3.	Water temperature, °C	/	17,8	17,0	/
4.	Air temperature, °C	/	8,7	8,8	/
5.	Nitrates	mg/l	4,9	4,4	50 ³
6.	Cyanides	µg/l	<0,01	<0,01	1500
7.	Cadmium (Cd)	µg/l	<5,0	<5,0	6
8.	Chrome (Cr)	µg/l	<10	<10	30
9.	Copper (Cu)	µg/l	<10	<10	75
10.	Nickel (Ni)	µg/l	23	<10	75
11.	Lead (Pb)	µg/l	<20	<20	75
12.	Zinc (Zn)	µg/l	<50	<50	800
13.	Mercury (Hg)	µg/l	<0,3	<0,3	0,3
14.	Arsenic (As)	µg/l	<20	<20	60
15.	Barium (Ba)	µg/l	<100	150	625
16.	Cobalt (Co)	µg/l	<10	<10	100
17.	Molybdenum (Mo)	µg/l	<10	<10	300
18.	Antimony (Sb)	µg/l	<10	<10	20
19.	Beryllium (Be)	µg/l	<10	<10	15
20.	Selenium (Se)	µg/l	<10	<10	160
21.	Tellurium (Te)	µg/l	<50	<50	70
22.	Thallium (Ti)	µg/l	<7,0	<7,0	7
23.	Tin (Sn)	µg/l	<50	<50	50
24.	Vanadium (V)	µg/l	<10	<10	70
25.	Silver (Ag)	µg/l	<20	<20	40
26.	Phenols	µg/l	<1	<1	2000

² Decree on limit values of polluting, harmful and dangerous substances in soil ("Official Gazette of RS", No. 30/2018 and 64/2019, Annex 2: remediation values of polluting, harmful and dangerous substances in the aquifer)

³ Decree on the Limit Values of Pollutants in Surface and Ground Water and Sediment and Deadlines for their reach ("Official Gazette of RS", No. 50/2012)

27.	Mineral oils	µg/l	<100	<100	600
28.	Benzene, South / l	µg/l	<1,0	<1,0	30
29.	Ethylbenzene, µg / l	µg/l	<2,0	<2,0	150
30.	Xylene, µg / l	µg/l	<0,5	<0,5	1000
31.	Styrene, µg / l	µg/l	<0,5	<0,5	70
32.	Toluene, South / l	µg/l	<1,0	<1,0	300
33.	Polycyclic aromatic Hydrocarbons (PAH), total	µg/l	<0,64	<0,64	/
34.	Anthracene	µg/l	<0,05	<0,05	5
35.	Benzo(a)anthracene	µg/l	<0,1	<0,1	0,5
36.	Benzo(a)pyren	µg/l	<0,01	<0,01	0,05
37.	Benzo(g,h,i)perylene	µg/l	<0,1	<0,1	0,05
38.	Benzo(k)fluoranthene	µg/l	<0,1	<0,1	0,05
39.	Chrysene	µg/l	<0,1	<0,1	0,2
40.	Fluoranthene	µg/l	<0,08	<0,08	1
41.	Indeno(1,2,3-cd)pyrene	µg/l	<0,01	<0,01	0,05
42.	Naphthalene	µg/l	<0,01	<0,01	70
43.	Phenanthrene	µg/l	<0,08	<0,08	5
44.	Ftalati ukupni	µg/l	<5,0	<5,0	5

8 STATEMENT OF CONFORMITY ⁴

Comparing the physico-chemical test results of the groundwater sample with the maximum permitted LIMIT VALUES (GV) prescribed by the Decree on limit values of polluting, harmful and hazardous substances in soil ("Official Gazette of RS", No. 30/2018 and 64/2019, Annex 2 : remediation values of pollutants, harmful and dangerous substances in the aquifer) and maximum permitted values according to the Decree on limit values of pollutants in surface and groundwater and sediment and deadlines for their achievement (Official Gazette of RS 50/2012), the following can be concluded :

• the quality of the tested samples, at the time of sampling WAS COMPLIANT with the said Regulations.

Sampling, laboratory testing and the data evaluation were done by the following personnel:

1. Radujkov Milica, Bc. Techn
2. Bojković Gordana, M.Sc. techn
3. Maja Vuković, M.Sc. techn
4. Jelena Radulović, M.SC. techn
5. Mr. Nadežda Racković Stefanović, M.Sc. biologist
6. Mirković Petar, tech. Zžs

Report made:

M. P

Duško Grujičić, grad. biologist

Controlled and approved by:
Head of laboratory for water
analysis

Cveta Đukić, master chemist

End of report 11100603

⁴ Applied decision rule: binary system of simple decision-making, ie "shared risk" defined on the website anahem.org.



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Date of issue

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Акредитација важи до
Date of expiry

24.03.2025.




ВД ДИРЕКТОРА
проф. др. Ацо Јаничијевић



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