JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF TRANSPORT AND COMMUNICATIONS
MINISTRY OF ENVIRONMENT AND PHYSICAL PLANNING
CITY OF SKOPJE
PUBLIC ENTERPRISE "WATER SUPPLY AND SEWERAGE" SKOPJE

THE STUDY ON WASTEWATER MANAGEMENT IN SKOPJE IN FORMER YUGOSLAV REPUBLIC OF MACEDONIA

FINAL REPORT

APPENDIX (1)

JUNE 2009

TOKYO ENGINEERING CONSULTANTS CO., LTD. (TEC)
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THE STUDY
ON
WASTEWATER MANAGEMENT
IN
SKOPJE
IN
FORMER YUGOSLAV
REPUBLIC OF MACEDONIA

FINAL REPORT

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APPENDIX 1 BACKGROUND OF THE STUDY

1.1 Establishment and composition of the Steering Committee

REPUBLIC OF MACEDONIA

MINISTRY OF TRANSPORT AND COMMUNICATIONS

Cabinet of the Minister

Our ref.: 02 - 8698/6

Based on Article 55, paragraph 1 of the Law on Organization and Working of the State Administration Bodies (Official Gazette of RM No 58/2000 and 44/2002), and pursuant to the Scope of works for the preparatory study for development of the wastewater treatment in Skopje, Republic of Macedonia, signed on 8 March, 2007 in Skopje, between the representatives of the Team for preparation of the Study of Japan International Cooperation Agency and the Ministry of Transport and Communications, the Ministry of Environment and Physical Planning and the City of Skopje, as well as the Notification for approving the implementation of the Study for wastewater management in Skopje, Republic of Macedonia,, approved on 18 July, 2007, by the Main Office of Japan International Cooperation Agency, the Minister of Transport and Communications, on 15 November, 2007, adopted the following

DECISION
ON THE ESTABLISHMENT OF A STEERING COMMITTEE

for smooth implementation of the process of realization of the "Study for Development of the Wastewater Treatment in Skopje", Republic of Macedonia

Article 1

Establishment and composition of the Steering Committee

For the purposes of providing smooth implementation of the process of realization of the "Study for Development of the Wastewater Treatment in Skopje, Republic of Macedonia", a Steering Committee was established, consisting of the following members:

from the Ministry of Transport and Communications:

Mr. Bozidar STOJCEV, B.sc.civ.eng..... State Counselor for Housing/Communal Affairs and Infrastructure

from the Ministry of Environment and Physical Planning:

Mrs. Kaja SUKOVA, B.sc.tech..... Head of Department for Sustainable Development and Investments

1000Skopje, street "Crvena Skopska Opstina" 4, http:...
Phone number: 02/ 3123-292, fax: 3126-228

from the Ministry of Agriculture, Forestry and Water Economy, Administration for Water Economy

Mr. Vasko NACEVSKI, B.sc.civ.eng.....	Head of Department for Maintenance and Use of a Water Regime and Water-economic facilities

from the Ministry of Agriculture, Forestry and Water Economy, Administration for Hydrometeorology

Mrs. Radmila BOJKOVSKA, B.sc.physics.....	Head of Department for Analysis of the Quality of Water, Air and Soil

from the City of Skopje

Mrs. Cvetanka IKONOMOVA – MARTINOVSKA, B.sc.eng.arch.	Head of Department for environment and Nature Protection

from the Public Enterprise "Vodovod i kanalizacija" - Skopje

Mr. Slobodan DIMITROVSKI, B.sc.civ.eng.....	Deputy Director

JICA Study Team

Mr. Kazufumi MOMOSE	Project Manager
Mr. Katsuyoshi TOMOMO.....	Finance and Institute
Mr.Nabuyuki SATO	Planning of Conduit
Mr. Tashikazu NAKATAKE.....	Planning of WWTP
Mr. Norio TANAKA.....	Mechanical and Electrical Equipment
Mr. Tetsuo IZAWA	Planning of Industrial Wastewater Treatment
Mr. Tomomi INOUE	Water Quality Analysis
Mr. Shouko YAMADA	Environmental Impact Assessment
Mr. Kenichi SAITO	Business Assistant

Representative JICA Skopje Branch

Mr. Ladislav LESNIKOVSKI	Technical Coordinator

Representative of Japan ODA in the Secretariat for European Affairs in the Government of the Republic of Macedonia

Ms. Nahomi NISHIO	*Advisor for Japan ODA, Secretariat for European Affairs*

Article 2

Responsibilities of the Steering Committee

The Steering Committee from Article 1 of this Decision shall provide for smooth implementation of the process of realization of the "Study for Development of the Wastewater Treatment in Skopje, Republic of Macedonia".

The Steering Committee shall be responsible for the following:

- Follows the activities pertaining to the implementation of the process of realization of the Study;
- Coordinates the activities of all responsible bodies and institutions:
- Reviews the progress of preparation of the Study as regards the achieving of the defined goals;
- Contributes to the effective and quality preparation of the Study;
- Continuously communicates with the parties participating in the process of realization of the Study, as well as the other relevant parties in order to provide exchange of documents, opinions, experiences, information and data on the issues of joint interest;
- Examines the proposals from the members for any corrective measures to ensure the achievement of the objectives;
- Examines and approves the monthly and final progress reports;
- Adopts decisions on any point deemed necessary for the purposes of successful realization of the Study;
- The decisions of the Committee are to be taken by consensus. In case that no consensus is reached the Committee will make decisions on the basis of a simple majority of the voting members present at the meeting;
- The meetings of the committee are to be held upon the initiative of the each member of the Committee, at least once a month;
- Minutes of the Meeting will be prepared for each meeting of the Steering Committee and agreed by the member parties;
- The Minutes are prepared by the JICA study team, and are afterwards submitted to all institutions that have members in the Steering Committee.

Article 3

Entry into force

This Decision enters into force on the day of its adoption.

Minister of Transport and Communications

of the Republic of Macedonia,

Mile Janakieski

Submitted to:
- Steering Committee members
- Archives of MoTC
- JICA Balkan Office

APPENDIX 2, PART I (B/P)

Present Condition of Vardar River and Tasks for Mitigation of Water Quality

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APPENDIX 2 PRESENT CONDITION OF VARDAR RIVER AND TASKS FOR MITIGATION OF WATER QUALITY

2.1 Current Flow Rate and Water Quality of Vardar River

Table 2.1 Current Situation of Vardar River (Low Water Level)

NODE No.	Sampling Point	Low Water Level				River Condition				BOD	Temp
		Flow rate (m3/s)	Flow velocity (m/s)	Depth (mm)	Cross section area (m2)	Bot width (m)	Bank slope 1:x	Bot level (m)	Location (km)	(mg/l)	(℃)
N1	Vlae Bridge	19.6	0.80	720	24.59	30	1.5	253.3	202.000	1.51	23.8
N2	UN Bridge	19.6	0.80	720	24.59	30	1.5	251.2	201.481	-	23.8
N3	Bardovci	-	-	-	-	35	1.5	249.1	200.400	-	23.8
N4	8-Mi Septemvri Bridge	23.5	0.83	1220	28.47	35	1.5	244.2	198.458	-	23.8
N5	Stone Bridge	-	-	-	-	35	1.5	241.5	195.200	2.06	23.8
N6	Zelezen Bridge	25.7	0.77	1240	33.17	35	1.5	240.5	194.502	-	23.8
N7	Sajmiste Bridge	-	-	-	-	35	1.5	238.9	193.800	2.82	23.8
N8	Blvd Serbia, Bridge	-	-	-	-	40	1.5	233.6	191.159	-	23.8
N9	Vardariste 2	-	-	-	-	40	1.5	228.7	188.093	4.45	23.8
N10	After Markova River Inlet	-	-	-	-	40	1.5	228.0	187.145	-	23.8
N11	Jurumleri Bridge	29.8	0.77	2140	38.86	40	1.5	224.0	183.770	4.95	23.8
N12	Taor	29.8	0.77	2140	38.86	40	1.5	220.0	173.471	6.83	23.8

Conduit No.	Node		Reach length (km)	Manning Formula				
	Upstream	Downstream		Channel slope (m/m)	Manning (n)	Bot width (m)	Side slope (R) 1:x	Side slope (L) 1:x
C1	N1	N2	0.52	0.0040	0.040	30	1.5	1.5
C2	N2	N3	1.08	0.0023	0.040	30	1.5	1.5
C3	N3	N4	1.94	0.0023	0.040	35	1.5	1.5
C4	N4	N5	3.26	0.0009	0.040	35	1.5	1.5
C5	N5	N6	0.70	0.0014	0.040	35	1.5	1.5
C6	N6	N7	0.70	0.0023	0.040	35	1.5	1.5
C7	N7	N8	2.64	0.0020	0.040	35	1.5	1.5
C8	N8	N9	3.07	0.0016	0.040	40	1.5	1.5
C9	N9	N10	0.95	0.0007	0.040	40	1.5	1.5
C10	N10	N11	3.38	0.0012	0.040	40	1.5	1.5
C11	N11	N12	10.30	0.0004	0.040	40	1.5	1.5

2.2 Temperature

Table 2.2 Temperature

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2002 year	-2.7	6.6	10.1	12.2	18.0	23.2	24.9	21.9	17.0	12.3	7.8	3.2
2003 year	2.7	-0.5	6.9	10.6	20.2	23.8	25.2	26.2	17.7	12.6	8.4	1.9
2004 year	0.4	4.0	8.2	13.5	15.3	21.3	24.1	23.0	18.8	15.1	6.6	3.3
2005 year	1.8	0.2	7.2	12.6	18.0	20.9	24.1	22.1	19.1	12.8	5.1	3.1
2006 year	-0.8	2.1	7.5	13.5	17.8	20.6	23.4	23.3	19.5	14.0	6.3	2.4
Average		1.4						23.8				

2.3 Environmental Standard

Table 2.3 Organoleptic Indicators

Indicators:	Upper values and concentrations per class				
	Class I	Class II	Class III	Class IV	Class V
A. Organoleptic Indicators:					
1. Visible waste	None	None	None	None	
2. Visible color	None	None	Little turbidity	Turbidity	
3. Notable smell	None	None	Hardly notable	Notable	
4. Color	<15	15-25	26-40	>40	>40
5. Turbidity NTU	<0.5	0.5-1.0	0.1-3.0	>3.0	>3.0
6. Transparency Secci m (1)	>7	7.0-4.0	3.9-2.0	<2.0	<2.0

(1)Given values refer only on lakes and reservoirs
Source: Sub-law for classification of waters

Table 2.4 Indicators of Acidity

Indicators:	Upper values and concentrations per class				
	Class I	Class II	Class III	Class IV	Class V
B. Indicators of Acidity:					
1. pH value	6,5-8,5	6,5-6,3	6,3-6,0	6,0-5,3	< 5,3
2. Alcality mg/l $CaCO_3$	> 200	200-100	100-20	20-10	< 10

Source: Sub-law for classification of waters

Table 2.5 Oxygen Regime Indicators

Indicators:	Upper values and concentrations per class				
	Class I	Class II	Class III	Class IV	Class V
C. Oxygen Regime Indicators :					
1. Dissolved oxygen mg/l O_2	> 8,00	7,99 – 6,00	5,99 – 4,00	3,99 – 2,00	< 3,00
2. Oxygen saturation					
Epilimnion % O_2 (1)	90 - 105	75 – 90	50 – 75	30 – 50	< 30
		105 - 115	115 - 125	125 – 150	> 150
Hipolimnion % O_2 2	75 - 90	50 - 75	30 - 50	30 - 10	< 10
Total % O_2	75 - 90	50 – 75	50 – 30	30 – 10	< 10
		105 - 115	115 - 125	125 – 150	> 150
3. Biochemical oxygen demand for 5 days at 20 ^oC / BOD_5 / mg/l O_2	< 2,00	2,01 – 4,00	4,01 – 7,00	7,01 – 15,0	> 15,0
4. Chemical oxygen demand – per-manganate mg/l O_2	< 2,50	2,51 – 5,00	5,01 – 10,0	10,0 – 20,0	> 20,0
5. Total organic carbon mg/l C	< 2,50	2,51 – 4,20	4.21 – 6.70	6.71-10.0	> 10,0

(1)Given values refer only on lakes and reservoirs
Source: Sub-law for classification of waters

Table 2.6 Mineralization Indicators

Indicators:	Upper values and concentrations per class				
	Class I	Class II	Class III	Class IV	Class V
D. Mineralization Indicators :					
1. Suspended matter mg/l	< 10	10 - 30	30 - 60	60 - 100	> 100
2. Total dry residue after filtration / total dissolved solids –TDS / mg/l:					
❖ Surface water	350	500	1,000	1,500	> 1,500
❖ Groundwater – karstic	350	500	1,000	1,500	> 1,500
❖ Groundwater – not karstic	800	1,000	1,500	1,500	> 1,500

Source: Sub-law for classification of waters

Table 2.7 Eutrophication Indicators

Indicators:	Upper values and concentrations per class				
	Class I	Class II	Class III	Class IV	Class V
E. Eutrophication Indicators :					
1. Total phosphorus P µg/l l	<10	10 – 25	25 – 50	50 – 125	> 125
	/ < 15 / (1)	/ 15 – 40 /	/ 40 – 70 /	/ 75 – 190 /	/ > 190 /
2. Total nitrogen N µg/l	< 200	200 - 325	326 - 450	> 450	> 450
-	/ < 200 /	/ 200–325 /	/ 326-450 /	/ > 450 /	/ > 450 /
3. Chlorophyll "a " µg/l	< 2,0	2,01–3.79	3.79–7.50	7.51-10.0	> 10.0
	/ < 2,0 /	/ 2.01-3.79/	/3.79-7.50/	/ 7.51-10.0/	/ > 10.0 /
4.Primary production (2) µgC/m^2/a	< 25	26-50	51-90	> 90	> 90
5. Saprobic	Oligo-saprobic	Meso saprobic β-α	Meso saprobic α-β	α -Meso saprobic-polisabrobic	Polisa-probic
6. Saprobic Index – Puntel Buck	< 1,50	1.50-2.50	2.51-3.50	3.51-4.50	> 4.51
7. Level of biological productivity	Trophic ligotrophic	Meso-trophic	Moderate eutrophic	Eutro-phic	Hyper-Trophic

(1) Given values on brackets refer only on lakes and reservoirs
(2) Given values refer only on lakes and reservoirs
(a) Mean value of investigation in summer period
Source: Sub-law for classification of waters

Table 2.8 Eutrophication Indicators

Indicators:	Upper values and concentrations per class				
	Class I	Class II	Class III	Class IV	Class V
F. Eutrophication Indicators :					
1.Most probable number of termo-tolerant coliform bacteria No/100 ml	5	5 – 50	50 – 500	> 500	> 500

Source: Sub-law for classification of waters

Table 2.9 Radiological Indicators

Indicators:	Upper values and concentrations per class				
	Class I	Class II	Class III	Class IV	Class V
G. Radiological Indicators :					
1. Level of radioactivity	Total activity of heavy radioactive waste materials which can be released into the surface water - water course during one year, shall be calculated by a following formula:				
	F/O ($\Sigma A_i/MDK_i$)				
	where: A_i - total activity of i-th nucleid releised into water course during one year in Bq. MDK_i – maximum allowed concentration of i-th radio nucleid in drinking water for ion radiation Bq/m^3 O – average yearly discharge of the river in m^3/s F – safety factor and reserve, a number depending on radio-ecological and hydrodynamical conditions of the river, of the river water use, the number and position of the inflow of radfioation within the catchment and other information, calculated in a way to provide protection of ionic radiation.				

Source: Sub-law for classification of waters

Table 2.10 Metals and its Compounds

Num.	Harmful and Dangerous Matter - Name -	Unit	Upper values and concentrations		
			Class I-II	Class III-IV	Class IV
I. Metals and its Compounds :					
01.	Aluminium	µg/l Al	1,500	1,500	> 1,500
02.	Antimony	µg/l Sb	30	50	> 50
03.	Arsenic	µg/l As	30	50	> 50
04.	Copper	µg/l Cu	10	50	> 50
05.	Barium	µg/l Ba	1,000	4,000	> 4,000
06.	Beryllium	µg/l Be	0.2	1	> 1
07.	Bismuth	µg/l Bi	50	50	> 50
08.	Zink	µg/l Zn	100	200	> 200
09.	Cadmium	µg/l Cd	0.1	10	> 10
10.	Cobalt	µg/l Co	100	2,000	> 2,000
11.	Selenium - inorganic	µg/l Sn	100	500	> 500
12.	Chromium – total	µg/l Cr	50	100	> 100
	Chromium – six-valent	µg/l Cr^{6+}	10	50	> 50
13.	Manganese	µg/l Mn	50	1,000	> 1,000
14.	Molybdenum	µg/l Mo	500	500	> 500
15.	Nickel	µg/l Ni	50	100	> 100
16.	Lead	µg/l Pb	10	30	> 30
17.	Palladium	µg/l Pd	2	20	> 20
18.	Silver	µg/l Ag	2	20	> 20
19.	Thallium	µg/l Ta	3	30	> 30
20.	Titanium	µg/l Ti	100	100	> 100
21.	Vanadium	µg/l V	100	200	> 200
22.	Iron	µg/l Fe	300	1,000	> 1,000
23.	Mercury – total	µg/l Hg	0.2	1	>1
	Total organic-Mercury compounds.	µg/l Hg	0.02	0.1	>0.1
II. Other Inorganic Parameters :					
24.	Ammonia	µg/l NH_3	20	500	> 500
		µg/l NH_4	1,000	10,000	>10,000
25.	Asbestos	µg/l	May not be present		
26.	Boron	µg/l B	200	750	> 750
27.	Cyanides	µg/l CN^-	1	100	> 100
28.	*Fluoride*	µg/l F^-	300	1,500	> 1,500
29.	*Phosphorus - elementary*	µg/l P	0.01	0.1	> 0.1
30.	*Chlorine*	µg/l Cl_2	2	10	> 10
31.	Nitrate	µg/l N	10,000	15,000	> 15,000

Num.	Harmful and Dangerous Matter - Name -	Unit	Upper values and concentrations		
			Class I-II	Class III-IV	Class IV
32.	Nitrite	µg/l N	10	500	> 500
33.	Selenium	µg/l Se	10	10	> 10
34.	Sulfides –total	µg/l S^{-2}	2	50	> 50
III. Phenols :					
35.	Phenol	µg/l	1	50	> 50
36.	Cresol / o-, m-, p- /	µg/l	2	20	> 20
37.	Nonylphenol	µg/l	1	10	> 10
38.	2-chlorophenol	µg/l	0.1	10	> 10
39.	2, 4-dichlorophenol	µg/l	0.3	5	> 5
40.	2, 4, 5-trichlorophenol	µg/l	1	10	> 10
41.	Pentachlorophenol	µg/l	1	10	> 10
42.	o-nitrophenol	µg/l	1	50	> 50
43.	m-nitrophenol	µg/l	10	50	> 50
44.	p-nitrophenol	µg/l	10	50	> 50
45.	2, 4-dinitrophenol	µg/l	30	50	> 50
46.	Picric acid	µg/l	10	50	> 50
47.	4, 6-dinitro-o-cresol	µg/l	10	50	> 50
48.	Aminophenol / o-, m-, p- /	µg/l	10	50	> 50
IV. Hydrocarbons :					
49.	Oil	µg/l	10	50 / 100 / [(1)]	> 100
50.	Benzene	µg/l	1,5	10 / 50 /	> 50
51.	Toluene	µg/l	50	100 / 500 /	> 500
52.	Xylene / o-, m-, p- /	µg/l	50	100 / 500 /	> 500
53.	Ethylbenzene	µg/l	50	100 / 500 /	> 500
54.	Styrene	µg/l	20	100 / 500 /	> 500
55.	Mesitylene	µg/l	5	100 / 500 /	> 500
56.	Diisopropyl benzene	µg/l	50	100 / 500 /	> 500
57.	Naphthalene , methyl naphthalene	µg/l	1	10 / 100 /	> 100
58.	Fluorene	µg/l	5	50	> 50
59.	Phenanthrene	µg/l	5	50	> 50
60.	Anthracene	µg/l	5	50	> 50
61.	Acenaphthene	µg/l	5	50	> 50
62.	Fluoranthene	µg/l	5	50	> 50
63.	Polynuclear aromatic hydrocarbons /higher homologous/-cancerogenous	µg/l	0.01	0.04	> 0.04
64.	Ethylene	µg/l	50	100 / 500 /	> 500
65.	Propilene	µg/l	50	100 / 500 /	> 500
66.	Isobutylene	µg/l	50	100 / 500 /	> 500
67.	1-butene	µg/l	20	100 / 500 /	> 500
68.	Isoprene	µg/l	5	100 / 500 /	> 500
69.	Cyclohexane	µg/l	20	100 / 500 /	> 500
70.	Cyclohexene	µg/l	20	100 / 500 /	> 500
71.	Biphenyl propane	µg/l	10	100 / 500 /	> 500
-	**V. Halogenated Hydrocarbons :**				
72.	Methylchloride	µg/l	2	20	> 20
73.	Methylbromide	µg/l	2	20	> 20
74.	Dichloromethane	µg/l	2	20	> 20
75.	Bromodichlormethane	µg/l	2	20	> 20
76.	Bromoform	µg/l	2	20	> 20
77.	Chloroform	µg/l	2	20	> 20
78.	Tetrachlorcarbon	µg/l	2	20	> 20
79.	1,2-dichloroethane	µg/l	7	100	> 100
80.	1,1.2-trichloroethane	µg/l	3	50	> 50
81.	1,1,1-trichloroethane	µg/l	25	100	> 100
82.	1,1,2,2-tetrachloroethane	µg/l	2	15	> 15
83.	Hexachloroethane	µg/l	6	10	> 10
84.	Vinyl chloride	µg/l	5	50	> 50
85.	Dichloroethylene	µg/l	1,5	25	> 25

Num.	Harmful and Dangerous Matter - Name -	Unit	Upper values and concentrations		
			Class I-II	Class III-IV	Class IV
86.	Trichloroethylene	µg/l	20	75	> 75
87.	Tetrachloroethylene	µg/l	2	4	>4
88.	Monochlorobenzene	µg/l	20	100	> 100
89.	Dichlorobenzene	µg/l	2	20	> 20
90.	Trichlorobenzene	µg/l	10	20	> 20
91.	Pentachlorobenzene	µg/l	0.5	5	> 5
92.	Hexachlorobenzene	µg/l	1	1	> 1
93.	Trichloronaphthalene	µg/l	4	4	> 4
94.	Tetrachloronaphthalene	µg/l	1,5	1,5	> 1,5
95.	Pentachloronaphthalene	µg/l	0,4	0,4	> 0,4
96.	Hexachloronaphthalene	µg/l	0,15	0,15	> 0,15
97.	Dekachloronaphthalene	µg/l	0,1	0,1	> 0,1
98.	Dichloropropane	µg/l	50	200	> 200
99.	Dichloropropene	µg/l	1	20	> 20
100.	1.3-dichlorobutane	µg/l	20	50	> 50
101.	Dichlorocyclohexane	µg/l	20	50	> 50
102.	Tetrachloropropane	µg/l	10	50	> 50
103.	Tetrachloropenthane	µg/l	5	50	> 50
104.	Tetrachloroheptanee	µg/l	3	30	> 30
105.	Tetrachlorononane	µg/l	3	30	> 30
106.	Tetrachlorodekane	µg/l	7	50	> 50
107.	Pentachloroheptane	µg/l	20	100	> 100
108.	Hexsachlorobutadiene	µg/l	1	10	> 10
109.	Heksachlorociklobutadiene	µg/l	1	10	> 10
110.	Heksachlorobutane	µg/l	10	100	> 100
111.	2, 3, 7, 8-tetrachlorodibenzo-p-				
	dioksin / TKDD /	µg/l	$4{,}5\ 10^{-7}$	$4{,}5\ 10^{-7}$	$4{,}5\ 10^{-7}$
VI.	**Nitrated Hydrocarbons :**				
112.	Nitrobenzene	µg/l	20	50	> 50
113.	Dinitrobenzene	µg/l	10	50	> 50
114.	2, 4-dinitrochlorobenzene	µg/l	10	50	> 50
115.	Nitrotoluen / o-, m-, p- /	µg/l	10	50	> 50
116.	Nitrochlorobenzene	µg/l	20	50	> 50
117.	Dinitrotoluene	µg/l	1	10	> 10
118.	2, 4, 6-trinitrotoluene	µg/l	20	50	> 50
119.	Dinitronaphthalene	µg/l	1	10	> 10
120.	Nitromethane	µg/l	5	50	> 50
121.	Nitropropane	µg/l	5	50	> 50
122.	Nitroethane	µg/l	5	50	> 50
123.	Nitrobutane	µg/l	5	50	> 50
124.	Nitroform	µg/l	10	50	> 50
125.	Tetranitrometane	µg/l	20	50	> 50
126.	Nitrocyclohexsane	µg/l	20	50	> 50
127.	N-nitrosodimethylamine	µg/l	0.03	0.034	0.03
128.	N-nitrosodiethylamine	µg/l	0.01	0.01	0.01
129.	N-nitrosodibutilamine	µg/l	0.015	0.015	0.015
130.	N-nitrosopirolidine	µg/l	0.1	0.1	0.1
131.	Benzidine	µg/l	$2{,}0\ 10^{-3}$	$1\ 10^{-2}$	$1\ 10^{-2}$
132.	3,3-dihlorbenzidine	µg/l	$2{,}0\ 10^{-2}$	$2{,}0\ 10^{-2}$	$2{,}0\ 10^{-2}$
VII.	**Pesticides :**				
133.	Aldrin	µg/l	0,003	0,2	> 0,2
134.	Dieldrin and metabolites	µg/l	0,003	0,003	0,003
135.	DDT	µg/l	0.001	0.001	0.001
136.	Endrin	µg/l	0,004	0.04	> 0.04
137.	Lindane	µg/l	0,01	0,1	> 0,1
138.	Methoxychlor-DDT	µg/l	0,03	0,3	> 0,3
139.	Polihlorinated biphenyl PCBs	µg/l	0.001	0.01	0.01
140.	Toxsaphene / kamphechlor /	µg/l	0.005	0.05	0.05

Num.	Harmful and Dangerous Matter - Name -	Unit	Upper values and concentrations		
			Class I-II	Class III-IV	Class IV
141.	Heptachlor	µg/l	0.001	0.001	0.001
142.	Chlordane	µg/l	0,01	0,1	0,1
143.	Common kriterium for otherOrganic				
	chlornated pesticides	µg/l	0,01	0,1	0,1
144.	Karbophos / Malathion /	µg/l	0,1	1	1
145.	Merkaptophos / Demeton /	µg/l	0,1	1	1
146.	Tiophos / Parathion /	µg/l	0,04	0,4	0,4
147.	Common kriterium for otherOrganic -				
	Phosphorus and carbamic pesticides	µg/l	0,1	1	1
VIII.	**Other Organic Compounds :**				
148.	Acetone	µg/l	100	2000	2000
149.	Acetone cyanohydrin	µg/l	1	1	1
150.	Acrolein	µg/l	2	10	10
151.	Acrylonitril	µg/l	0,1	200	200
152.	Anion detergents	µg/l	100	500	> 500
153.	Kation detergents	µg/l	50	100	> 100
154.	Non-ionic detergents	µg/l	100	500	> 500
155.	Surface active materials	µg/l	1,000 /3,000(2)/	5,000	> 5,000
156.	Amini / $C_7 – C_9$ /	µg/l	100	100	> 100
	Amini / $C_{10} – C_{16}$ /	µg/l	40	500	500
	Amini / $C_{17} – C_{20}$ /	µg/l	30	50	50
157.	Benzoic acid	*mg/l*	BOD_5 not more than allowed concentration for certain water class		
158.	Buten-1	µg/l	100	10,000	10,000
159.	Butanol	µg/l	1,000	5,000	5,000
160.	Butyl acrilat	µg/l	15	1,000	1,000
161.	Butyric acid / BOD_5 /	mg/l	5	10	10
162.	Butyl xantate	µg/l	1	-	-
163.	n-Butylmercaptan	µg/l	6	-	-
164.	Hydrogen sulphide	µg/l	3	3	3
165.	Dimethyl sulphide	µg/l	3	300	300
166.	Diisopropyl amine	µg/l	500	50	500
167.	Cyclohexanol	µg/l	500	500	500
168.	Cyclohexanone	µg/l	20	20	20
169.	Cyclohexanonoksim	µg/l	1,000	1,000	1,000
170.	Diphenylhidrazine	µg/l	0,4	20	20
171.	Ethylacrilat	µg/l	5	50	> 50
172.	Ethylamine	µg/l	300	500	500
173.	Ehylenglicol	µg/l	1,000	1,000	1,000
174.	Formaldehyde	µg/l	300	500	500
175.	Phtalic ester	µg/l	3	30	30
176.	Heptanol	µg/l	5	5	5
177.	Isophorone	µg/l	6	60	60
178.	Isobutanol	µg/l	1,000	5,000	5,000
179.	Ethyl-merkuric chlorid	µg/l	0,1	0,1	0,1
180.	Kaprolactam	µg/l	500	1,000	1,000
181.	Potassiumdiethylditio-phosphate	µg/l	200	2,000	2,000
182.	Potassiumisopropyl-ditio-phosphate	µg/l	20	1,000	1,000
183.	Maleic anhydride	µg/l	1,000	1,000	1,000
184.	Mercaptoethyldiethyl-amin □-	µg/l	100	1,000	1,000
185.	Methyldithiocarbamat Na-sol	µg/l	20	500	500
186.	Methanol	µg/l	100	500	500
187.	Methylacrilat	µg/l	20	200	200
188.	Methylbenzoat	µg/l	1	100	100
189.	Maslena acid	µg/l	500	1,000	1,000
190.	Milk acid	µg/l	500	2,000	2,000
191.	Mravja acid	µg/l	1,000	4,000	> 4,000
192.	Nonil alcohol	µg/l	10	10	> 10

Num.	Harmful and Dangerous Matter - Name -	Unit	Upper values and concentrations		
			Class I-II	Class III-IV	Class IV
193.	Oktil alcohol	µg/l	50	500	500
194.	Sintetic masni acid C_5-C_{20}	µg/l	1,000	5,000	5,000
195.	Tannin	µg/l	500	10,000	> 10,000
196.	Terpentin	µg/l	200	5,000	> 5,000
197.	Tetraethylselenium	µg/l	0,2	20	20
198.	Tetraethyllead	µg/l	-	0,1	0,1
199.	Tributilphosphate	µg/l	10	100	100
200.	Carbondisulfide	µg/l	3	3	> 3
201.	Dimethylformamide	mg/l	BOD_5 not more than allowed concentration for certain water class		
202.	Methyllethyl ceton	mg/l	BOD_5 not more than allowed concentration for certain water class		
203.	Propilen glicol	mg/l	BOD_5 not more than allowed concentration for certain water class		
204.	Triethylen glicol	mg/l	BOD_5 not more than allowed concentration for certain water class		

(1)Values given in brackets refer to water Class IV
(2) the value in the brackets refers to class II
Source: Sub-law for classification of waters

2.4 River Water Quality (Health Protection, Vodovod, Hydro Meteological Institute)

2.4.1 City Health Protection Institute

(1) Summary

Table 2.11 Average River Water Quality (CHPI)

Water Quality (River)	Unit	By Health Protection	0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge	Class I	Class II	Class III	Class IV	Class V
Visible waste materials (residuals)	-		0	0	0	0	0	0	0	0	none	none	none	none	none
Smell at 25 Degrees			0	0	0	0	0	0	0	0.5	none	none	ttle turbidit	turbidity	-
Color	Degree Pt-Co		10.4	22.5	12.5	12.7	14.6	14.4	18.1	18.4	<15	15-25	26-40	>40	>40
Turbidity	NTU > than		1.1	5.4	1.6	1.0	3.0	2.7	2.3	3.6	<0.5	0.5-1.0	1.1-3.0	>3.0	>3.0
pH	-		8.2	8.1	8.2	8.2	8.2	8.2	8.2	8.2	6.5-8.5	6.5-6.3	6.3-6.0	6.0-5.3	<5.3
Alkality	mg/l CaCO3		200.0	174.9	160.7	167.2	177.1	179.7	190.8	191.0	>200	200-100	100-20	20-10	<10
Dissolved Oxygen	mg/l		11.0	10.2	10.6	10.5	10.4	10.4	9.8	9.8	>8.00	7.99-6.00	5.99-4.00	3.99-2.00	<3.0
Saturation of Oxygen	%		113.2	105.2	109.9	109.4	104.7	105.6	99.5	99.1	90-105	75-90 105-115	50-75 115-125	30-50 125-150	<30 >150
BOD	mg/l		2.3	2.1	2.5	1.9	2.1	2.6	4.3	4.3	<2.00	2.01-4.00	4.01-7.00	7.01-15	>15
COD	mg/l		2.6	1.9	2.1	1.9	1.9	1.9	2.2	2.0	<2.50	2.51-5.00	5.01-10.0	1.0.-20.0	>20.0
Suspended particles	mg/l		26.1	50.0	31.2	32.5	31.2	33.0	36.6	42.2	<10	10-30	30-60	60-100	>100
Dry matters on filter	mg/l		241	268	200	199	214	218	220	227	350	500	1000	1500	>1500
Phoshates - orto	µg/l		6.6	67.6	15.0	7.8	22.4	34.0	74.4	82.1	10	25	50	125	
Amonia as NH4	µg/l		211.55556	288.05263	262.77778	215.29412	234.88889	276.55556	625.27778	679.72222	200	325	450		
Amonia as Nitrogen	?		163.33333	211.20833	132.43333	137.65833	246.9	224.26667	472.63333	486.16667					
Most probable number of colimorphic bacteria	No. bacteria / l		1.8E+05	1.9E+05	1.9E+05	2.0E+05	2.1E+05	2.1E+05	1.9E+05	1.9E+05	5	5-50	50-500	>500	>500
Alluminium	µg/l		29.87	125.51	62.15	43.40	62.32	50.21	39.20	41.19	1500	1500	1500	1500	>1500
Cadmium	µg/l		0.03	0.02	0.02	0.01	0.01	0.02	0.01	0.02	0.1	0.1	10	10	>10
Chromium 6+	µg/l		3.29	9.34	10.01	9.17	8.26	8.02	9.37	9.62	10	10	50	50	>50
Total chromium	µg/l		3.77	3.73	6.31	5.68	5.15	5.26	3.56	3.88	50	50	100	100	>100
Cianides	µg/l		1.14	2.44	1.23	1.12	1.28	1.89	1.88	2.44	1	1	100	100	>100
Copper	µg/l		1.32	1.89	1.39	1.43	1.26	1.83	2.08	2.10	10	10	50	50	>50
Fenols	µg/l		0.112	0.680	0.000	0.000	0.000	1.135	0.000	0.697	1	1	50	50	>50
Iron	µg/l		35.52	88.53	41.43	33.10	60.97	67.13	99.56	88.60	300	300	1000	1000	>1000
Lead	µg/l		2.44	4.24	2.86	3.71	2.62	2.65	3.31	3.29	10	10	30	30	>30
Zinc	µg/l		5.79	11.45	6.90	5.86	10.18	8.28	9.74	8.33	100	100	200	200	>200
Nitrates as Nitrogen	µg/l		841.0	1375.9	1175.7	1006.7	1137.4	1221.9	1268.6	1303.9	10000	10000	15000	15000	>15000
Nitrites as Nitrogen	µg/l		12.3	41.9	28.5	26.3	32.7	35.7	47.4	48.0	10	10	500	500	>500

(2) Organoleptic Indicators

Table 2.12 Organoleptic Indicators (CHPI)

Organoleptic Indicators — Measured by Health Protection — Class I — Class II — Class III — Class IV

			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Visible waste materials (residuals)		23-Apr-03	0		0	0	0			
		24-Apr-03		0				0	0	0
		30-May-03	0	0	0	0	0	0	0	0
		27-Jun-03	0	0	0	0	0	0	0	0
		31-Jul-03	0		0	0	0	0	0	0
		01-Aug-03		0						
		27-Aug-03	0		0					
		28-Aug-03		0		0	0	0	0	0
		26-Sep-03	0	0	0	0	0	0	0	0
		04-May-04	0	0	0	0	0	0	0	0
		28-May-04	0	0	0	0	0	0	0	0
		23-Jun-04	0		0					
		24-Jun-04		0		0	0	0	0	0
		27-Jul-04	0		0					
		28-Jul-04		0		0	0	0	0	0
		26-Aug-04	0		0	0	0	0	0	0
		27-Aug-04		0						
		05-Oct-04	0	0	0	0	0	0	0	0
		28-Apr-05	0			0	0	0		
		29-Apr-05		0	0				0	0
		02-Jun-05	0	0	0	0	0	0	0	0
		30-Jun-05	0	0	0	0	0	0	0	0
		28-Jul-05	0	0	0	0	0	0	0	0
		23-Aug-05	0	0	0	0	0	0	0	0
		28-Sep-05	0	0	0	0	0	0	0	0
		03-May-06	0	0	0	0	0	0	0	0
		26-May-06	0	0	0	0	0	0	0	0
		30-Jun-06	0	0	0	0	0	0	0	0
		31-Jul-06	0	0	0	0	0	0	0	0
		30-Aug-06	0	0	0	0	0	0	0	0
		28-Sep-06	0	0	0	0	0	0	0	0
		25-Apr-07	0	0	0	0	0	0	0	0
		23-May-07	0	0	0	0	0	0	0	0
		26-Jun-07	0	0	0	0	0	0	0	0
		18-Jul-07	0	0	0		0	0	0	0
		30-Aug-07	0	0	0	0	0	0	0	0
		01-Oct-07	0	0	0	0	0	0	0	0
	Average		0	0	0	0	0	0	0	0
	25% value		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	75% value		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Smell at 25 Degrees	Points	23-Apr-03	0		0	0	0			
		24-Apr-03		0				0	0	0
		30-May-03	0	0	0	0	0	0	0	0
		27-Jun-03	0	0	0	0	0	0	0	0
		31-Jul-03	0		0	0	0	0	0	0
		01-Aug-03		0						
		27-Aug-03	0		0					
		28-Aug-03		0		0	0	0	0	0
		26-Sep-03	0	0	0	0	0	0	0	0
		04-May-04	0	0	0	0	0	0	0	0
		28-May-04	0	0	0	0	0	0	0	15
		23-Jun-04	0		0					
		24-Jun-04		0		0	0	0	0	0
		27-Jul-04	0		0					
		28-Jul-04		0		0	0	0	0	0
		26-Aug-04	0		0	0	0	0	0	0
		27-Aug-04		0						
		05-Oct-04	0	0	0	0	0	0	0	0
		28-Apr-05	0			0	0	0		
		29-Apr-05		0	0				0	0
		02-Jun-05	0	0	0	0	0	0	0	0
		30-Jun-05	0	0	0	0	0	0	0	0
		28-Jul-05	0	0	0	0	0	0	0	0
		23-Aug-05	0	0	0	0	0	0	0	0
		28-Sep-05	0	0	0	0	0	0	0	0
		03-May-06	0	0	0	0	0	0	0	0
		26-May-06	0	0	0	0	0	0	0	0
		30-Jun-06	0	0	0	0	0	0	0	0
		31-Jul-06	0	0	0	0	0	0	0	0
		30-Aug-06	0	0	0	0	0	0	0	0
		28-Sep-06	0	0	0	0	0	0	0	0
		25-Apr-07	0	0	0	0	0	0	0	0
		23-May-07	0	0	0	0	0	0	0	0
		26-Jun-07	0	0	0	0	0	0	0	0
		18-Jul-07	0	0	0		0	0	0	0
		30-Aug-07	0	0	0	0	0	0	0	0
		01-Oct-07	0	0	0	0	0	0	0	0
	Average		0	0	0	0	0	0	0	0.5
	25% value		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	75% value		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Organoleptic Indicators — Measured by Health Protection — Class I — Class II — Class III — Class IV

			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Color	Degree Pt-Co	23-Apr-03	10		10	10	20			
		24-Apr-03		20				10	20	20
		30-May-03	5	15	15	15	15	15	20	20
		27-Jun-03	15	70	20	20	20	20	30	30
		31-Jul-03	15		15	20	20	20	20	20
		01-Aug-03		30						
		27-Aug-03	5		10					
		28-Aug-03		20		10	15	15	15	15
		26-Sep-03	10	25	20	25	20	20	25	20
		04-May-04	15	35	30	15	25	25	30	30
		28-May-04	10	10	1	10	10	15	15	
		23-Jun-04	10		15					
		24-Jun-04		20		10	15	10	15	15
		27-Jul-04	10		10					
		28-Jul-04		20		10	10	10	20	20
		26-Aug-04	10		15	15	15	15	15	20
		27-Aug-04		35						
		05-Oct-04	5	20	10	10	15	10	25	30
		28-Apr-05	0			0	0	0		
		29-Apr-05		0.43	0				0	0
		02-Jun-05	5	5	5	5	5	5	5	10
		30-Jun-05	20	20	20	20	20	25	25	25
		28-Jul-05	15	25	20	20	20	20	25	25
		23-Aug-05	10	15	10	10	10	10	20	15
		28-Sep-05	10	10	15	15	10	10	35	20
		03-May-06	20	35	25	20	30	20	20	20
		26-May-06	1	1	5	5	5	10	1	1
		30-Jun-06	10	35	15	15	20	20	20	20
		31-Jul-06	1	1	5	5	5	10	1	1
		30-Aug-06	10	20	10	10	10	15	15	15
		28-Sep-06	2	2	1	1	1	1	2	2
		25-Apr-07	27	34	8	14	18	18	22	20
		23-May-07	12	25	20	28	25	22	23	17
		26-Jun-07	4	46	5	7	10	7	11	23
		18-Jul-07	17	28.5	17		26	27	29	43
		30-Aug-07	7	26	11	11	12	16	32	28
		01-Oct-07	20	19	13	13	11	12	8	8
	Average		10.4	22.5	12.5	12.7	14.6	14.4	18.1	18.4
	25% value		5	15	8.5	10	10	10	15	15
	75% value		15	29.625	16.5	15	20	20	25	23
Turbidity	NTU > than	23-Apr-03	1.0		0.9	0.9	1.0			
		24-Apr-03		1.5				1.0	1.5	1.4
		30-May-03	0.1	0.9	1.0	1.1	1.0	0.9	1.5	1.4
		27-Jun-03	1.9	10.0	2.4	2.1	2.6	2.3	2.3	2.7
		31-Jul-03	1.1		1.2	1.4	1.2	2.5	2.8	3.3
		01-Aug-03		3.4						
		27-Aug-03	0.0		0.0					
		28-Aug-03		0.7		0.3	0.3	0.1	0.1	0.3
		26-Sep-03	0.7	2.0	1.0	1.3	1.4	1.5	1.9	2.0
		04-May-04	0.6	3.0	1.6	0.5	1.0	0.9	1.4	1.4
		28-May-04	1.6	1.4	0.5	1.2	0.9	1.4	1.5	2.1
		23-Jun-04	0.4		1.2					
		24-Jun-04		2.0		1.9	1.8	1.2	1.5	1.9
		27-Jul-04	0.2		0.5					
		28-Jul-04		1.4		0.3	0.5	0.4	0.8	0.7
		26-Aug-04	0.1		0.4	0.5	0.7	0.6	0.9	1.5
		27-Aug-04		3.6						
		05-Oct-04	0.1	1.5	0.5	0.5	0.9	0.4	0.7	0.9
		28-Apr-05	0.0			0.0	0.2	0.4		
		29-Apr-05		0.5	0.5				0.2	0.7
		02-Jun-05	0.4	1.4	0.8	0.7	0.8	0.7	0.9	1.0
		30-Jun-05	0.9	1.0	0.7	0.8	1.1	1.2	1.4	1.3
		28-Jul-05	0.4	1.1	0.5	0.3	0.6	0.7	0.9	1.2
		23-Aug-05	0.5	0.4	0.6	0.5	0.4	0.6	0.6	0.4
		28-Sep-05	0.6	0.6	0.8	1.1	0.7	0.4	0.8	1.1
		03-May-06	1.3	3.4	1.7	1.3	2.1	2.2	1.9	1.4
		26-May-06	0.2	2.2	0.5	0.8	0.4	0.6	0.6	1.3
		30-Jun-06	0.3	3.1	1.4	1.0	2.0	1.3	1.9	1.3
		31-Jul-06	0.0	1.8	0.0	0.2	0.3	0.1	0.1	0.1
		30-Aug-06	0.7	0.8	0.5	0.7	0.5	0.8	3.4	0.8
		28-Sep-06	1.3	2.2	0.3	1.1	0.9	1.0	1.6	1.3
		25-Apr-07	2.6	11.2	1.9	1.2	1.3	1.8	1.9	2.4
		23-May-07	0.3	0.4	0.3	0.2	3.2	2.5	1.2	0.5
		26-Jun-07	3.4	0.0	5.6	2.4	0.0	0.0	3.9	0.0
		18-Jul-07	7.2	47.5	17.1		55.3	49.0	25.9	66.1
		30-Aug-07	0.3	4.6	0.8	0.7	0.8	0.8	1.6	2.5
		01-Oct-07	5.1	7.8	4.2	3.6	5.3	3.4	2.2	4.9
	Average		1.1	5.4	1.6	1.0	3.0	2.7	2.3	3.6
	25% value		0.2	0.9	0.5	0.5	0.6	0.6	0.8	0.8
	75% value		1.2	3.3	1.4	1.2	1.4	1.5	1.9	2.0

(3) Indicator of Acidity

Table 2.13 Indicator of Acidity (CHPI)

Indicators of Acidity		Measured by Health Protection					Class I	Class II	Class III	Class IV	
			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
pH	-	23-Apr-03	8.1		8	8.2	8.1			
		24-Apr-03		8.1				8.1	8.1	8
		30-May-03	8.3	8.3	8.1	8.1	8.2	8	8	8
		27-Jun-03	8.3	8.3	8.1	8.2	8.2	8.2	8.1	8.1
		31-Jul-03	8.2		8.2	8.2	8.2	8.3	8.1	8.2
		01-Aug-03		8.3						
		27-Aug-03	8.3		8.2					
		28-Aug-03		8.3		8.3	8.3	8.1	8	8
		26-Sep-03	7.7	8	8.2	8.1	7.9	8.1	7.8	8
		04-May-04	8.3	2.7	8.2	8.2	8.3	7.9	8	8.1
		28-May-04	8.2	8.3	8.4	8.3	8.2	8.3	8.2	8.7
		23-Jun-04	8.1		8.2					
		24-Jun-04		8.4		8.3	8.3	8.3	8.3	8.4
		27-Jul-04	8.5		8.6					
		28-Jul-04		8.6		8.6	8.5	8.6	8.5	8.5
		26-Aug-04	8.7		8.6	8.6	8.6	8.6	8.6	8.6
		27-Aug-04		8.6						
		05-Oct-04	8.4	8.5	8.4	8.4	8.7	8.7	8.4	8.3
		28-Apr-05	8.2			8	8	8.1		
		29-Apr-05		7.6	8				8	7.9
		02-Jun-05	8.5	8.3	8.3	8.37	8.4	8.5	8.4	8.4
		30-Jun-05	8.3	8.2	8.2	8.3	8.2	8.1	8.1	8.1
		28-Jul-05	8.4	8.6	8.5	8.5	8.6	8.6	8.6	8.6
		23-Aug-05	8.3	8.3	8.2	8.3	8.2	8.2	8.1	8.3
		28-Sep-05	8.1	8.1	7.9	7.9	7.9	7.9	7.8	7.8
		03-May-06	8.1	7.9	8	7.9	8	7.9	8.1	8
		26-May-06	8.7	8.6	8.4	8.5	8.6	8.5	8.5	8.5
		30-Jun-06	8.3	8.1	7.8	7.9	7.8	8.1	8.1	8.1
		31-Jul-06	8.4	8.5	8.4	8.4	8.4	8.5	8.4	8.4
		30-Aug-06	8.8	9	8.6	8.8	8.8	8.8	8.9	8.8
		28-Sep-06	8.3	8.5	8.4	8.4	8.5	8.6	8.4	8.3
		25-Apr-07	7.2	7.8	8.2	7.8	7.8	7.8	7.7	7.7
		23-May-07	8.2	8.1	8.1	8.2	8.1	8.2	8.1	8.2
		26-Jun-07	7.9	8	7.9	8	8	7.9	7.8	7.8
		18-Jul-07	8	8.2	8.1		8.1	7.9	7.9	8
		30-Aug-07	8.1	8.2	8.2	8.1	7.6	7.5	7.8	7.9
		01-Oct-07	8	8.2	8	8	8.1	8.1	8.1	8.1
	Average		8.2	8.1	8.2	8.2	8.2	8.2	8.2	8.2
	25% value		8.1	8.1	8.1	8.1	8.0	8.0	8.0	8.0
	75% value		8.4	8.5	8.4	8.4	8.4	8.5	8.4	8.4
Alkality	mg/l CaCO3	23-Apr-03	175.2		140.1	175.2	160.1			
		24-Apr-03		125.1				160.1	160.1	165.2
		30-May-03	185.0	125.1	110.1	135.1	150.1	170.2	150.1	160.1
		27-Jun-03	210.2	130.1	115.1	135.1	145.1	150.1	155.1	160.1
		31-Jul-03	247.7		184.2	204.7	215.2	209.7	235.7	240.2
		01-Aug-03		231.7						
		27-Aug-03	255.2		125.1					
		28-Aug-03		215.2		155.1	135.1	165.2	170.2	180.2
		26-Sep-03	227.2	199.2	121.6	121.1	221.2	235.7	240.7	243.2
		04-May-04	195.2	0.0	120.1	150.1	150.1	150.1	145.1	155.1
		28-May-04	121.1	130.6	175.7	139.6	148.1	142.1	160.1	136.1
		23-Jun-04	215.2		120.1					
		24-Jun-04		125.1		90.1	135.1	140.1	150.1	185.2
		27-Jul-04	180.2							
		28-Jul-04		200.2	170.2	175.2	180.2	200.2	190.2	185.2
		26-Aug-04	184.7		178.7	171.2	183.2	173.2	181.7	196.2
		27-Aug-04		205.7						
		05-Oct-04	215.2	225.2	180.2	170.2	195.2	185.2	210.2	220.2
		28-Apr-05	220.2			170.2	185.2	160.1		
		29-Apr-05		150.1	160.1				170.2	175.2
		02-Jun-05	228.2	145.6	156.1	151.1	167.2	153.6	182.7	174.2
		30-Jun-05	190.2	150.1	150.1	150.1	155.1	155.1	195.2	190.2
		28-Jul-05	212.7	193.2	212.7	212.7	202.2	208.2	223.7	219.2
		23-Aug-05	195.2	245.2	155.1	215.2	215.2	185.2	230.2	215.2
		28-Sep-05	195.2	220.2	185.2	175.2	185.2	210.2	205.2	205.2
		03-May-06	170.1	130.1	165.1	155.1	145.1	149.1	160.1	155.1
		26-May-06	196.7	128.6	132.1	153.6	174.2	156.6	164.2	152.1
		30-Jun-06	177.7	123.1	101.1	132.6	122.6	142.1	158.6	155.1
		31-Jul-06	215.2	185.2	185.2	200.2	180.2	195.2	205.2	185.2
		30-Aug-06	175.7	217.7	172.2	181.7	183.2	238.2	187.2	183.2
		28-Sep-06	120.1	205.2	180.2	150.1	210.2	180.2	185.2	190.2
		25-Apr-07	192.2	157.6	143.1	179.2	179.2	174.7	177.7	178.7
		23-May-07	203.2	132.6	162.2	158.6	156.1	154.6	168.2	132.6
		26-Jun-07	215.2	190.2	195.2	220.2	190.2	200.2	215.2	240.2
		18-Jul-07	222.7	222.0	200.2		226.2	240.2	252.2	261.7
		30-Aug-07	210.2	225.2	205.2	205.2	210.2	205.2	230.2	230.2
		01-Oct-07	248.2	265.2	220.2	215.7	207.2	200.2	262.7	260.7
	Average		200.0	174.9	160.7	167.2	177.1	179.7	190.8	191.0
	25% value		184.8	130.2	134.1	150.1	151.4	154.8	161.1	161.4
	75% value		215.2	217.1	183.2	181.7	200.4	200.2	213.9	218.2

(4) Oxygen Regine Indicator

Table 2.14 Oxygen Regine Indicator (CHPI)

Oxygen Regime Indicators		Measured by Health Protection				Class I	Class II	Class III	Class IV	
			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Dissolved Oxygen	mg/l	23-Apr-03	12.3		12.3	12.2	12.4			
		24-Apr-03		12.9				12.5	12.4	12.4
		30-May-03	9.8	9.6	9.7	9.7	9.3	9.0	9.0	8.8
		27-Jun-03	9.1	9.3	9.3	8.9	9.0	8.9	9.1	9.3
		31-Jul-03	9.0		9.1	9.3	10.0	10.0	9.0	9.0
		01-Aug-03		8.4						
		27-Aug-03	8.3		8.3					
		28-Aug-03		8.2		8.8	8.7	9.5	7.8	8.0
		26-Sep-03	9.2	9.6	10.6	9.9	9.3	9.5	7.5	7.9
		04-May-04	15.2	12.4	12.7	13.4	12.9	13.2	11.9	11.9
		28-May-04	10.8	11.1	11.3	10.8	10.5	10.8	10.4	11.9
		23-Jun-04	10.8		10.4					
		24-Jun-04		9.6		10.3	9.8	8.8	9.1	8.9
		27-Jul-04	10.2		9.5					
		28-Jul-04		8.6		9.0	8.6	8.5	8.2	8.4
		26-Aug-04	9.8		9.1	9.4	8.5	8.5	8.9	8.8
		27-Aug-04		8.6						
		05-Oct-04	10.8	9.2	9.8	9.9	11.8	11.7	8.4	8.9
		28-Apr-05	13.0			11.5	10.5	11.6		
		29-Apr-05		11.7	11.5				11.0	11.4
		02-Jun-05	12.6	11.1	11.3	11.8	10.8	10.7	10.7	10.9
		30-Jun-05	9.7	9.1	9.1	9.2	9.0	9.1	8.6	8.8
		28-Jul-05	10.0	8.6	9.7	8.9	9.2	9.4	8.9	8.9
		23-Aug-05	13.3	11.1	11.8	13.4	11.4	11.5	11.1	11.2
		28-Sep-05	11.3	10.5	11.0	11.1	10.0	10.5	9.0	9.6
		03-May-06	14.0	13.6	13.7	13.8	13.7	14.0	12.8	13.1
		26-May-06	11.4	10.6	10.7	10.8	10.8	11.1	10.6	10.9
		30-Jun-06	11.3	8.0	10.9	9.4	9.1	9.5	9.2	9.0
		31-Jul-06	10.4	9.5	9.8	9.9	9.5	9.1	9.5	9.3
		30-Aug-06	10.1	7.4	9.8	9.7	9.9	9.4	9.8	8.9
		28-Sep-06	9.7	9.4	10.0	10.2	9.5	10.2	9.1	9.2
		25-Apr-07	13.0	13.0	13.3	13.2	14.0	14.5	12.3	12.8
		23-May-07	9.8	9.4	9.8	9.5	9.2	8.4	9.1	8.9
		26-Jun-07	14.7	13.2	12.5	12.0	13.0	13.8	14.3	11.6
		18-Jul-07	8.2	10.9	9.8		10.3	10.2	9.0	9.6
		30-Aug-07	11.0	9.2	9.8	9.9	9.5	8.6	7.8	8.5
		01-Oct-07	11.7	10.8	11.3	10.1	11.3	11.1	9.5	9.0
	Average		11.0	10.2	10.6	10.5	10.4	10.4	9.8	9.8
	25% value		9.8	9.2	9.7	9.4	9.2	9.1	8.9	8.9
	75% value		12.1	11.1	11.3	11.5	11.2	11.4	10.7	11.1
Saturation of Oxygen	%	23-Apr-03	110.7		113.9	112.8	114.9			
		24-Apr-03		118.7				115.0	114.5	114.5
		30-May-03	93.5	91.9	91.5	90.5	85.4	82.8	86.8	84.7
		27-Jun-03	87.8	102.9	89.9	87.9	86.5	86.1	99.7	103.5
		31-Jul-03	105.3		95.4	97.1	104.3	104.8	96.5	96.0
		01-Aug-03		89.4						
		27-Aug-03	94.3		94.3					
		28-Aug-03		96.5		99.3	98.3	107.8	88.5	90.5
		26-Sep-03	90.6	92.1	106.8	99.5	95.2	93.1	75.1	80.8
		04-May-04	143.6	111.5	122.3	125.9	122.0	124.3	112.1	112.5
		28-May-04	101.6	107.2	110.9	108.2	107.6	108.5	106.4	121.8
		23-Jun-04	110.6		107.2					
		24-Jun-04		100.5		108.1	102.9	91.8	95.8	93.1
		27-Jul-04	102.3		97.6					
		28-Jul-04		87.8		92.1	88.7	87.0	84.2	86.0
		26-Aug-04	100.1		91.5	94.3	83.3	83.8	93.1	91.2
		27-Aug-04		90.3						
		05-Oct-04	106.4	92.6	98.7	99.4	121.4	122.6	89.3	92.8
		28-Apr-05	117.1			106.1	92.3	102.7		
		29-Apr-05		110.2	105.9				101.5	102.7
		02-Jun-05	124.3	111.7	114.0	120.6	101.7	100.9	103.3	104.8
		30-Jun-05	99.9	95.7	95.2	96.5	87.2	85.8	86.1	86.8
		28-Jul-05	107.0	94.2	105.6	97.5	92.1	94.3	90.3	91.1
		23-Aug-05	147.7	120.5	133.6	151.5	112.0	113.5	113.9	112.4
		28-Sep-05	108.5	98.8	105.7	107.1	96.7	100.9	90.3	96.0
		03-May-06	126.2	130.9	124.0	135.8	132.3	143.4	120.9	120.5
		26-May-06	116.9	111.3	113.9	115.3	117.7	117.7	99.9	100.7
		30-Jun-06	126.4	91.7	123.3	104.6	101.2	107.6	104.3	100.1
		31-Jul-06	115.0	107.7	110.4	110.0	89.9	89.9	99.7	95.1
		30-Aug-06	106.1	80.9	106.8	105.2	110.6	104.7	106.3	97.2
		28-Sep-06	102.0	98.3	104.5	108.9	99.8	106.5	85.9	90.4
		25-Apr-07	133.0	133.5	136.5	133.0	147.2	151.9	113.3	113.2
		23-May-07	104.5	102.2	107.0	101.4	94.1	86.3	98.9	95.0
		26-Jun-07	166.5	141.2	144.0	137.8	136.3	144.9	149.5	121.6
		18-Jul-07	90.9	122.9	110.1					
		30-Aug-07	130.7	98.2	116.4	118.3	103.6	93.5	85.5	92.2
		01-Oct-07	125.3	108.2	120.5	108.5	111.4	109.8	93.5	88.2
	Average		113.2	105.2	109.9	109.4	104.7	105.6	99.5	99.1
	25% value		101.7	93.0	100.1	99.3	92.3	91.8	89.3	91.1
	75% value		125.1	111.4	115.8	115.3	112.0	113.5	106.3	104.8

Oxygen Regime Indicators Measured by Health Protection Class I Class II Class III Class IV

			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
BOD	mg/l	23-Apr-03	2.1		2.6	2.3	2.9			
		24-Apr-03		3.0				2.7	4.8	4.3
		30-May-03	0.7	0.8	1.3	1.0	0.7	2.0	3.5	3.7
		27-Jun-03	1.8	1.2	1.0	1.3	0.8	1.6	4.2	4.2
		31-Jul-03	1.6		0.9	1.1	2.4	3.0	6.6	6.8
		01-Aug-03		1.5						
		27-Aug-03	1.2		9.3					
		28-Aug-03		2.3		1.4	1.5	5.3	5.3	9.0
		26-Sep-03	1.1	0.6	0.9	0.8	0.6	1.5	1.8	4.3
		04-May-04	3.2	2.0	3.3	2.7	3.5	4.6	5.2	5.5
		28-May-04	1.3	2.8	1.6	1.5	1.9	2.0	4.3	5.6
		23-Jun-04	2.0		2.6					
		24-Jun-04		1.8		2.0	1.5	3.5	3.4	1.1
		27-Jul-04	1.3		1.2					
		28-Jul-04		1.8		1.0	0.4	1.0	2.7	2.4
		26-Aug-04	1.2		1.0	1.0	1.2	1.8	2.2	3.0
		27-Aug-04		0.9						
		05-Oct-04	1.4	1.0	1.3	2.3	3.0	3.0	2.9	4.0
		28-Apr-05	2.0			1.1	0.0	1.3		
		29-Apr-05		1.5	7.4				1.9	3.6
		02-Jun-05	3.7	2.6	2.6	3.4	2.6	2.9	3.0	3.5
		30-Jun-05	0.9	1.3	1.5	1.4	0.5	0.9	4.7	3.1
		28-Jul-05	0.8	0.7	0.9	0.6	1.6	1.9	3.4	2.3
		23-Aug-05	4.7	3.4	4.2	3.3	4.3	3.7	6.2	5.1
		28-Sep-05	1.0	1.9	1.1	1.9	0.7	1.9	3.0	3.3
		03-May-06	3.6	4.7	4.2	4.5	4.8	4.6	4.7	4.9
		26-May-06	0.8	2.0	1.5	1.2	1.6	1.7	3.7	4.6
		30-Jun-06	2.1	1.2	3.4	2.1	1.6	1.7	1.8	2.3
		31-Jul-06	1.8	2.0	2.1	2.1	2.4	1.9	3.1	3.5
		30-Aug-06	1.1	0.5	1.6	1.9	2.3	3.4	4.2	5.2
		28-Sep-06	1.9	1.5	0.5	1.4	1.2	1.8	4.2	5.0
		25-Apr-07	13.0	4.7	5.4	5.1	5.0	5.2	12.0	3.9
		23-May-07	0.9	2.6	1.9	1.1	1.7	0.8	3.0	3.1
		26-Jun-07	5.7	4.7	4.3	3.4	5.1	5.0	7.9	5.5
		18-Jul-07	0.8	1.6	1.4		2.7	4.7	7.1	8.3
		30-Aug-07	2.3	1.8	1.3	1.6	1.8	1.5	3.9	3.8
		01-Oct-07	2.8	3.4	3.3	1.9	4.1	2.4	4.3	4.3
	Average		2.3	2.1	2.5	1.9	2.1	2.6	4.3	4.3
	25% value		1.1	1.2	1.2	1.1	1.2	1.7	3.0	3.3
	75% value		2.3	2.6	3.3	2.3	2.9	3.5	4.8	5.1
COD		23-Apr-03	2		3.4	2	2.8			
		24-Apr-03		3.36				0.8	3.6	2.8
		30-May-03	0.96	0.8	1.44	0.8	0.8	1.2	1.2	0.8
		27-Jun-03	1.12	1.2	0.96	0.96	0.8	0.48	1.2	1.12
		31-Jul-03	0.8		0.8	0.4	0.8	1.36	2.24	0.8
		01-Aug-03		0.8						
		27-Aug-03	1.68		3.84					
		28-Aug-03		2.64		4	5.52	6	4.96	3.68
		26-Sep-03	1.84	2.16	1.6	1.76	1.68	2.24	2.16	2.72
		04-May-04	2.72	4	2.32	3.4	2.4	2.4	2.24	3.04
		28-May-04	2.24	2.64	2.64	3.68	2.24	2.24	2.48	2.16
		23-Jun-04	1.92		2.4					
		24-Jun-04		1.92		1.76	1.68	2	2.08	1.6
		27-Jul-04	2.16		0.96					
		28-Jul-04		1.68		2.16	1.04	2.4	2.8	1.6
		26-Aug-04	1.76		1.92	1.76	1.76	1.52	1.68	2.08
		27-Aug-04		1.68						
		05-Oct-04	1.52	2	1.44	2	1.36	1.68	1.76	2
		28-Apr-05	1.92			1.12	1.19	1.44		
		29-Apr-05		0.96	1.36				1.44	1.59
		02-Jun-05	1.6	1.6	1.28	1.6	1.76	1.92	1.6	1.6
		30-Jun-05	6.56	5.84	6.24	5.76	6.24	6.08	6.56	6.4
		28-Jul-05	1.6	1.4	1.7	1.3	1.6	1.4	1.7	1.6
		23-Aug-05	1.2	1.2	1.12	1.6	1.04	0.96	1.04	1.6
		28-Sep-05	1.2	1.44	1.6	1.44	1.36	1.36	1.6	1.2
		03-May-06	1.77	0.8	0.56	0.72	0.88	0.8	0.88	0.8
		26-May-06	2.72	2.08	2.24	2	2.8	2.48	2.32	2.64
		30-Jun-06	0.8	0.88	0.72	0.56	0.8	0.88	0.72	0.8
		30-Aug-06	1.76	1.44	1.76	1.76	1.6	1.76	2.24	2.24
		28-Sep-06	1.6	2.8	1.6	1.76	2	2.08	2.56	2.48
		25-Apr-07	22	2	6.6	2.4	3.4	2.2	2.8	2.4
		23-May-07	2.4	1.6	2.72	1.2	1.84	1.68	1.76	2.4
		26-Jun-07	0.48	0.8	0.8	1.2	0.8	0.8	0.8	0.8
		18-Jul-07	1.6	1.32	2.4		1.68	1.28	1.76	0.96
		30-Aug-07	1.76	1.6	1.68	1.6	1.76	1.92	2.08	1.6
	Average		2.56	1.88	2.08	1.88	1.92	1.91	2.15	1.98
	25% value		1.44	1.20	1.24	1.20	1.04	1.26	1.56	1.18
	75% value		2.04	2.10	2.40	2.00	2.06	2.21	2.36	2.42

(5) Mineralization Indicators

Table 2.15 Mineralization Indicators (CHPI)

Mineralization Indicators — Measured by Health Protection — Class I — Class II — Class III — Class IV

			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Suspended particles	mg/l	23-Apr-03	13		36	23	43			
		24-Apr-03		34				24	45	39
		30-May-03	3	41	40	9	16	51	20	18
		27-Jun-03	10	62	80	49	33	54	92	76
		31-Jul-03	16		63	27	13	22	3	14
		01-Aug-03		7						
		27-Aug-03	15		27					
		28-Aug-03		59		36	44	40	8	23
		26-Sep-03	29	101	48	27	14	26	20	12
		04-May-04	10	105	17	20	22	38	13	13
		28-May-04	9	22	9	2	46	21	10	15
		23-Jun-04	13		33					
		24-Jun-04		59		62	15	4	84	21
		27-Jul-04	47		17					
		28-Jul-04		36		36	9	23	26	25
		26-Aug-04	6		22	5	23	13	27	5
		27-Aug-04		23						
		05-Oct-04	14	38	17	38	38	42	27	20
		28-Apr-05	13			12	11	24		
		29-Apr-05		10	23				17	59
		02-Jun-05	4	19	12	4	22	16	17	15
		30-Jun-05	36	36	43	63	15	47	35	19
		23-Aug-05	106	28	44	18	29	17	27	18
		28-Sep-05	26	101	43	17	47	28	120	54
		03-May-06	23	100	39	68	24	45	58	55
		26-May-06	6	60	28	60	73	41	28	75
		30-Jun-06	8	72	24	4	45	20	5	29
		31-Jul-06	27	62	24	59	20	23	46	85
		30-Aug-06	9	52	4	19	39	50	36	173
		28-Sep-06	185	72	19	71	49	75	58	70
		25-Apr-07	4	59	9	38	29	37	27	25
		23-May-07	11	46	17	46	36	46	47	35
		26-Jun-07	14	87	45	40	56	42	13	30
		18-Jul-07	73	33	63		49	40	69	96
		30-Aug-07	5	16	22	18	5	7	62	70
		01-Oct-07	22	28	38	40	40	40	22	34
	Average		26.1	50.0	31.2	32.5	31.2	33.0	36.6	42.2
	25% value		9.0	28.0	17.0	17.8	16.0	22.0	17.0	18.0
	75% value		26.0	62.0	43.0	46.8	44.0	42.0	47.0	59.0
Dry matters on filter	mg/l	23-Apr-03	201		216	194	200			
		24-Apr-03		192				199	213	215
		30-May-03	211	147	131	216	221	216	238	241
		27-Jun-03	229	192	131	161	174	180	190	192
		31-Jul-03	279		247	280	258	282	304	300
		01-Aug-03		311						
		27-Aug-03	262		110					
		28-Aug-03		269		189	159	210	210	221
		26-Sep-03	621	281	260	266	290	320	304	305
		04-May-04	248	1525	251	212	221	246	263	285
		28-May-04	130	129	222	141	119	145	152	149
		23-Jun-04	245		160					
		24-Jun-04		153		145	205	221	179	238
		27-Jul-04	249		237					
		28-Jul-04		275		227	228	213	25	259
		26-Aug-04	195		177	187	190	194	183	213
		27-Aug-04		223						
		05-Oct-04	220	234	205	175	198	151	251	228
		28-Apr-05	243			229	210	191		
		29-Apr-05		191	208				181	229
		02-Jun-05	239	154	190	201	173	186	218	188
		30-Jun-05	218	201	168	192	188	196	230	218
		23-Aug-05	240	267	237	238	229	229	283	260
		28-Sep-05	217	374	256	225	242	239	270	280
		03-May-06	200	226	254	224	258	261	194	200
		26-May-06	221	160	163	146	160	180	208	203
		30-Jun-06	225	201	141	183	167	172	206	183
		31-Jul-06	263	240	259	236	289	301	281	245
		30-Aug-06	166	240	182	162	199	314	200	219
		28-Sep-06	255	284	198	211	339	222	236	221
		25-Apr-07	255	181	189	139	223	199	193	199
		23-May-07	219	175	186	176	182	175	203	202
		26-Jun-07	209	216	188	193	191	190	211	208
		18-Jul-07	230	234.5	205		234	252	247	252
		30-Aug-07	241	264	221	217	225	232	272	200
		01-Oct-07	261	276	216	210	222	208	242	222
	Average		241	268	200	199	214	218	220	227
	25% value		217	191	177	175.75	188	190	194	202
	75% value		249	269	237	224.25	229	239	251	245

(6) Eutrofication Indicators

Table 2.16 Eutrofication Indicators (CHPI)

Eutrofication Indicators — Measured by Health Protection — Class I — Class II — Class III — Class IV

			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Phoshates - orto	µg/l	23-Apr-03	0.0		23.9	0.0	11.6			
		24-Apr-03		19.5				18.0	70.7	84.9
		30-May-03	0.0	20.0	8.6	5.4	6.0	66.2	43.7	45.7
		27-Jun-03	2.2	171.5	0.0	1.5	4.2	114.3	106.5	40.2
		31-Jul-03	0.0		32.7	0.0	7.8	52.9	176.8	217.8
		01-Aug-03		126.5						
		27-Aug-03	0.0		31.5					
		28-Aug-03		14.6		10.7	12.2	78.6	163.9	129.8
		26-Sep-03	0.0	50.2	42.8	16.5	48.2	111.2	161.4	168.3
		04-May-04	97.4	113.5	74.0	21.7	26.5	25.6	61.3	103.9
		28-May-04	22.8	42.2	0.0	8.6	35.2	57.7	115.5	18.3
		23-Jun-04	0.0		12.5					
		24-Jun-04		27.4		11.0	15.1	28.0	79.7	79.7
		27-Jul-04	0.0							
		28-Jul-04		29.5	7.5	0.0	0.0	0.0	73.3	46.3
		26-Aug-04	0.0		0.0	0.0	0.0	0.5	49.2	68.2
		27-Aug-04		42.0						
		05-Oct-04	0.0	69.1	3.9	1.8	56.8	46.4	99.4	103.5
		28-Apr-05	16.8			27.5	35.2	45.0		
		29-Apr-05		68.9	30.6				63.3	91.9
		02-Jun-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		30-Jun-05	0.0	32.3	0.0	0.0	5.9	5.7	78.6	117.1
		28-Jul-05	9.4	20.2	30.1	6.4	23.8	4.7	155.4	123.8
		23-Aug-05	0.0	52.6	53.3	12.0	16.9	17.7	19.3	42.8
		28-Sep-05	0.0	95.8	7.1	57.5	18.9	46.6	37.9	35.6
		03-May-06	0.0	26.4	8.8	0.0	161.1	8.1	15.3	20.3
		26-May-06	0.0	39.0	0.0	0.0	0.0	0.5	36.2	53.7
		30-Jun-06	0.0	48.5	0.0	0.0	4.0	2.7	21.7	23.9
		31-Jul-06	0.0	59.7	0.0	0.0	0.0	10.0	25.4	32.1
		30-Aug-06	0.0	37.4	0.0	0.0	0.0	30.0	49.2	47.3
		28-Sep-06	12.0	90.6	0.0	0.6	0.0	9.1	56.7	59.8
		25-Apr-07	31.3	112.2	75.6	39.2	63.9	99.5	131.9	164.5
		23-May-07	0.0	120.5	5.8	5.7	44.3	67.4	43.1	120.5
		26-Jun-07	0.0	68.3	0.0	0.0	30.1	24.2	40.8	47.5
		18-Jul-07	0.0	42.6	0.0		0.0	29.9	19.3	29.6
		30-Aug-07	0.0	88.1	0.0	0.0	0.0	0.0	59.2	40.4
		01-Oct-07	5.0	325.0	0.0	0.0	43.6	20.2	176.8	305.4
	Average		6.6	67.6	15.0	7.8	22.4	34.0	74.4	82.1
	25% value		0.0	30.2	0.0	0.0	0.0	6.3	38.6	40.3
	75% value		1.6	90.0	28.5	10.7	33.9	51.3	104.7	113.8
Amonia as NH4	µg/l	05-Oct-04	310	310	230	310	240	40	310	310
		02-Jun-05	100	300	125	250	150	225	400	65
		30-Jun-05	400	300	400	200	200	400	500	800
		28-Jul-05	83	83	75	150	83	83	375	1250
		23-Aug-05	310	310	320	200	310	240	620	460
		28-Sep-05	400	400	400	400	300	800	800	400
		03-May-06	400	400	250	300	400	400	400	400
		26-May-06	30	70	30	50	70	15	300	1800
		30-Jun-06	250	400	200	200	300	150	400	600
		31-Jul-06	200	300	300	300	300	300	400	400
		30-Aug-06	150	300	200	200	75	600	800	800
		28-Sep-06	0	0	0	0	0	0	0	0
		25-Apr-07	25	200	800	200	250	300	400	400
		23-May-07	200	400	300	200	200	300	750	400
		26-Jun-07	200	400	250	250	400	250	250	250
		18-Jul-07	300	350	400		500	500	500	500
		30-Aug-07	300	400	300	250	300	300	4000	3000
		01-Oct-07	150	200	150	200	150	75	50	400
	Average		211.5556	288.0526	262.7778	215.2941	234.8889	276.5556	625.2778	679.7222
	25% value		112.5	225	162.5	200	150	99.75	326.25	400
	75% value		307.5	400	315	250	300	375	590	750
Amonia as Nitrogen		23-Apr-03	200		200	160	120			
		24-Apr-03		310				120	160	310
		30-May-03	60	20	20	40	20	20	310	40
		27-Jun-03	160	20	20	60	20	20	20	20
		31-Jul-03	230		91.2	289.3	300	153.7	51.1	143.5
		01-Aug-03		300						
		27-Aug-03	60		60					
		28-Aug-03		310		60	80	230	310	310
		26-Sep-03	10	500	180	180	1400	1000	1800	1800
		04-May-04	310	480	310	120	180	240	930	930
		28-May-04	130	300	80	150	290	200	800	800
		23-Jun-04	310		160					
		24-Jun-04		20		120	60	230	160	20
		27-Jul-04	140		88					
		28-Jul-04		74.5		62.6	82.8	117.5	520.5	450.5
		26-Aug-04	120		70	100	100	50	300	700
		27-Aug-04		80						
		28-Apr-05	230			310	310	310		
		29-Apr-05		120	310				310	310
	Average		163.3333	211.2083	132.4333	137.6583	246.9	224.2667	472.6333	486.1667
	25% value		105	60.875	67.5	61.95	75	100.625	160	117.625
	75% value		230	310	185	165	292.5	232.5	590.375	725

(7) Microbiological Pollution

Table 2.17 Microbiological Pollution (CHPI)

Microbiological Pollution — Measured by Health Protection — Class I | Class II | Class III | Class IV

			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Most probable number of colimorphic bacteria	No. bacteria / l	22-Apr-03	240000	240000	240000	240000	0	240000	0	0
		27-May-03	0	0	0	0	0	240000	240000	240000
		25-Jun-03	240000	240000	240000	240000	240000	240000	240000	240000
		29-Jul-03	240000	0	0	240000	240000	240000	240000	0
		26-Aug-03	0	240000	240000	0	240000	240000	240000	240000
		23-Sep-03	240000	240000	0	240000	240000	240000	0	0
		26-Apr-04	240000	240000	240000	240000	240000	240000	240000	240000
		25-May-04	240000	240000	240000	240000	240000	240000	240000	240000
		21-Jun-04	0	240000	240000	0	240000	0	240000	240000
		26-Jul-04	240000	240000	240000	240000	240000	240000	240000	0
		23-Aug-04	0	240000	240000	240000	0	0	0	0
		28-Sep-04	240000	240000	240000	240000	240000	240000	240000	240000
		26-Apr-05	0	240000	0	240000	240000	240000	240000	240000
		24-May-05	240000	0	240000	240000	240000	240000	240000	240000
		28-Jun-05	240000	240000	240000	0	0	240000	0	240000
		26-Jul-05	0	240000	0	240000	240000	0	0	240000
		22-Aug-05	240000	0	0	240000	240000	0	240000	240000
		26-Sep-05	240000	240000	240000	240000	240000	240000	240000	240000
		26-Apr-06	240000	240000	240000	240000	240000	240000	240000	240000
		22-May-06	240000	240000	240000	240000	240000	240000	240000	240000
		26-Jun-06	240000	0	240000	240000	240000	240000	240000	240000
		26-Jul-06	240000	240000	240000	240000	240000	240000	240000	240000
		29-Aug-06	240000	0	240000	240000	240000	240000	240000	240000
		25-Sep-06	0	0	240000	0	240000	240000	240000	0
		24-Apr-07		240000		240000	240000			
		25-Apr-07	240000		240000			240000	240000	240000
		23-May-07	240000	240000	240000	240000	240000	240000	240000	240000
		26-Jun-07	240000	240000	240000	240000	240000	240000	240000	240000
		17-Jul-07	240000	240000	240000		240000	240000	240000	240000
		30-Aug-07	240000	240000	240000	240000	240000	240000	240000	240000
		27-Sep-07	240000	240000	240000	240000	240000	240000	0	240000
	No. bacteria / l		184000	185806.5	192000	198620.7	208000	208000	192000	192000
	25% value		240000	240000	240000	240000	240000	240000	240000	240000
	75% value		240000	240000	240000	240000	240000	240000	240000	240000

(8) Harmful & Dangerous Matter

Table 2.18 Harmful & Dangerous Matter

Harmful & Dangerous Matter			Measured by Health Protection				Class I, II	Class III, IV	Class V	
			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Alluminium	µg/l	23-Apr-03	0		0	0	0			
		24-Apr-03		0				0	0	0
		30-May-03	0	0	0	0	0	0	0	0
		27-Jun-03	0	0	0	0	0		0	0
		31-Jul-03	16.8		75.2	54.5	51.1	47.1	77.6	38.7
		01-Aug-03		122						
		27-Aug-03	0		120					
		28-Aug-03		70		70	200	120	70	70
		26-Sep-03	7.05	72.7	60.6	35.1	21.9	6.94	14.2	12.4
		04-May-04	70	1200	200	70	70	120	70	70
		28-May-04	40	30	180	50	0	50	0	40
		23-Jun-04	0		0					
		24-Jun-04		0		0	0	0	0	0
		27-Jul-04	42							
		28-Jul-04		281	47	8	38	64.8	16.7	21
		26-Aug-04	50		200	50		0	0	50
		27-Aug-04		150			250			
		05-Oct-04	25.9	26.5	26.4	24.9	25.6	26	25	26
		28-Apr-05	52			106	152	125		
		29-Apr-05		140	98				138	125
		02-Jun-05	9.16	74.2	23.1	25.3	33.2	27.7	26.3	77.6
		30-Jun-05	70	70	70	70	70	70	70	70
		28-Jul-05	0	0	70	50	70	30	50	0
		23-Aug-05	0	0	0	0	0	0	0	0
		28-Sep-05	68.5	125	85.9	69.1	93.5	76.2	77.3	74.1
		03-May-06	0	0	0	0	0	0	0	0
		26-May-06	27.7	39.9	117	82.5	0	0	0	0
		30-Jun-06	0	0	0	0	0	0	0	0
		31-Jul-06	0	0	0	0	0	0	0	0
		30-Aug-06	16.3	111	60.2	50.3	51.1	27.1	33.4	22.1
		28-Sep-06	61.4	27.8	0	24.4	26.4	41.9	39	41.6
		25-Apr-07	108	339	61.9	61.9	118	134	101	97.8
		23-May-07	0	379	100	106	192	181	135	140
		26-Jun-07	18	3.63	49.2	60.7	95.9	89.4	80.9	81.2
		18-Jul-07	5.23	141.55	40.3		65.3	38.6	60.5	62.4
		30-Aug-07	2.15	140	41.6	31.9	41.7	37.3	30.4	42.9
		01-Oct-07	206	206	138	158	204	143	60.7	73
	Average		29.87	125.51	62.15	43.40	62.32	50.21	39.20	41.19
	25% value		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	75% value		48.00	140.00	94.98	69.10	87.63	76.20	70.00	70.00
Cadmium	µg/l	23-Apr-03	0		0	0	0			
		24-Apr-03		0				0	0	0
		30-May-03	0	0	0	0	0	0	0	0
		27-Jun-03	0	0	0	0	0	0	0	0
		31-Jul-03	0		0	0	0	0	0	0
		01-Aug-03		0						
		27-Aug-03	0		0					
		28-Aug-03		0		0	0	0	0	0
		26-Sep-03	0.397	0.321	0.269	0.229	0.314	0.301	0.282	0.285
		04-May-04	0	0	0	0	0	0	0	0
		28-May-04	0	0	0	0	0	0	0	0
		23-Jun-04	0		0					
		24-Jun-04		0		0	0	0	0	0
		27-Jul-04	0							
		28-Jul-04		0	0	0	0	0	0	0
		26-Aug-04	0		0	0	0	0	0	0
		27-Aug-04		0						
		05-Oct-04	0	0	0	0	0	0	0	0
		28-Apr-05	0			0	0	0		
		29-Apr-05		0	0				0	0
		02-Jun-05	0	0	0	0	0	0	0	0
		30-Jun-05	0	0	0	0	0	0	0	0
		28-Jul-05	0	0	0	0	0	0	0	0
		23-Aug-05	0	0	0	0	0	0	0	0
		28-Sep-05	0	0	0	0	0	0	0	0
		03-May-06	0	0	0	0	0	0	0	0
		26-May-06	0	0	0	0	0	0	0	0
		30-Jun-06	0	0	0	0	0	0	0	0
		31-Jul-06	0	0.1	0.07	0.067	0.067	0.1	0.1	0.09
		30-Aug-06	0	0.098	0.03	0	0	0	0.011	0.1
		28-Sep-06	0	0.074	0.034	0.032	0	0.037	0.022	0.02
		25-Apr-07	0	0	0	0	0	0	0	0
		23-May-07	0	0	0	0	0	0	0	0
		26-Jun-07	0.198	0	0	0	0	0	0	0
		18-Jul-07	0	0	0		0	0	0	0
		30-Aug-07	0.08	0	0.1	0	0	0	0	0.03
		01-Oct-07	0.243	0	0.169	0	0	0.1	0	0
	Average		0.03	0.02	0.02	0.01	0.01	0.02	0.01	0.02
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Harmful & Dangerous Matter			Measured by Health Protection				Class I, II	Class III, IV	Class V	
			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Chromium 6+		23-Apr-03	7.9		18.3	13.7	12.2			
		24-Apr-03		11.5				11	27.3	27.5
		30-May-03	1.3	3.3	10.7	7.4	5.5	5.1	6.2	2.2
		27-Jun-03	6.8	16.8	12.4	13.4	6.1	3.2	12.5	13.5
		31-Jul-03	5.7		17.7	19.5	19	19.4	11.8	17.8
		01-Aug-03		15						
		27-Aug-03	6.4		12.6					
		28-Aug-03		9.9		12.7	14.6	11.5	13.1	14.8
		04-May-04	3.7	6.7	10.6	7.9	10	9.7	10.5	11
		28-May-04	3.5	11.9	12.5	9	8.6	8.8	8.7	11.2
		23-Jun-04	2		0					
		24-Jun-04		3.1		6.8	3.6	3.3	2.6	0.9
		27-Jul-04	0							
		28-Jul-04		0	7.5	3.5	1.59	2	0.6	0
		26-Aug-04	0		2.5	2.7	1.8	7.3	7.3	9.9
		27-Aug-04		15.8						
		05-Oct-04	0							
		30-Jun-05	5.5	9.2	7.6	7.7	9.8	9.5	9	8.1
		28-Jul-05	1.5	14.5	5.4	6.9	5.5	5	10	4.8
		23-Aug-05	1.8	3.7	12.3	8	9.1	8.5	2.2	3.3
	Average		3.29	9.34	10.01	9.17	8.26	8.02	9.37	9.62
			1.35	3.70	7.50	6.90	5.50	5.00	6.20	3.30
			5.65	14.50	12.50	12.70	10.00	9.70	11.80	13.50
	µg/l	26-Sep-03	4.16	4.61	21.8	17.1	13.6	10.7	9.04	7.673
Total chromium		05-Oct-04	11	14	22.5	19.7	16.1	17.2	17.4	16.6
		28-Apr-05	1.4			3.3	3.5	4.9		
		29-Apr-05		0.8	4.1				1.1	1.1
		02-Jun-05	1.69	1.4	1.58	1.69	1.26	2.82	3.14	3.55
		28-Sep-05	6.1	2.02	3.37	6.96	4.25	4.38	1.8	2.09
		03-May-06	15.1	7.08	15	10.8	8.98	12.4	5.27	5.24
		26-May-06	2.86	5.57	1.47	0.793	0.475	1.3	0.417	1.84
		30-Jun-06	0	2.6	4.9	2.1	1.6	1.5	1.8	2.1
		31-Jul-06	2.58	1.89	3.5	3.21	3.7	5.96	4.08	2.33
		30-Aug-06	0.55	5.99	3.24	2.65	1.86	2.57	0.995	1.78
		28-Sep-06	1.94	0.659	1.93	3.16	3.62	0.908	0.73	1.52
		25-Apr-07	6.63	1.27	1.77	0.68	0.8	1.13	1.27	1.87
		23-May-07	0.847	6.01	3.26	6.49	4.26	0.997	3.86	4.44
		26-Jun-07	2.81	1.83	9.55	7.87	15.9	12.5	4.35	7.01
		18-Jul-07	3.56	4.345	4.59		3.8	4.12	3.38	3.26
		30-Aug-07	2.33	2.4	3.11	1.57	1.47	3.17	1.42	2.82
		01-Oct-07	0.511	0.326	1.54	2.75	2.4	2.86	0.42	0.774
	Average		3.77	3.73	6.31	5.68	5.15	5.26	3.56	3.88
			1.40	1.40	1.93	2.00	1.60	1.50	1.10	1.84
			4.16	5.57	4.90	7.19	4.26	5.96	4.08	4.44
Cianides	µg/l	23-Apr-03	2.1		1.9	2.1	1.9			
		24-Apr-03		1.9				2	2.8	2.6
		30-May-03	1.2	2	2	1.5	1.9	2	2.4	3.1
		27-Jun-03	1.4	2.5	1.7	1.7	1.7	1.6	2.3	2.1
		31-Jul-03	0.9		1.3	0.8	1.5	18.8	2	19.3
		01-Aug-03		3						
		27-Aug-03	0.7		1.1					
		28-Aug-03		2.3		0.7	1.3	1.9	1.9	2.7
		26-Sep-03	0	0.1	0	0	0.3	0.1	0.7	0.5
		04-May-04	0.9	3.8	2	1.4	1.9	2.3	2.7	2.7
		28-May-04	0	6.4	0	0	0	0	0	0
		23-Jun-04	0.2		0.6					
		24-Jun-04		0.7		0.4	0.4	0.5	0.7	0.6
		27-Jul-04	1.1							
		28-Jul-04		2.7	1.8	1.4	1.4	1.5	2.3	2.4
		26-Aug-04	0.8		1.2	1.7	1.7	1.3	2.7	4.6
		27-Aug-04		5.7						
		05-Oct-04	1	2.3	1.7	1.4	1.6	1.1	2.6	3.2
		28-Apr-05	0.4			1.4	1.2	1.1		
		29-Apr-05		1.4	0.9				1.4	1.9
		02-Jun-05	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1
		30-Jun-05	1.8	2	1.8	1.7	2.4	2.5	2.5	2.3
		28-Jul-05	1.3	2.7	1.5	1.5	1.4	2	2.3	2.7
		23-Aug-05	1	1.3	1.4	1	1.3	1.3	1.8	1.8
		28-Sep-05	0.6	0.7	0.7	0.7	0.7	0.8	1.6	1.3
		03-May-06	2.7	4.2	2.1	1.6	2.5	2.5	2.7	2.3
		26-May-06	0.5	1.9	0.6	0.5	0.6	0.7	1.2	1.8
		30-Jun-06	0.7	3.2	1.4	0.9	1.7	1.5	1.6	1.9
		31-Jul-06	0.8	3.7	1	1.7	1.4	1.4	5.5	2.6
		30-Aug-06	0.5	1.1	0.8	0.8	0.9	1.5	1.8	1.8
		28-Sep-06	1.5	2.8	0.7	1.4	1.1	1.3	2.4	2
		25-Apr-07	3.7	3.1	1	1.6	2.9	2.3	2.3	1.8
		23-May-07	0	0.2	0.4	2.3	0.6	1.4	2.2	0.2
		26-Jun-07	0.4	4.1	0.6	0.8	1.3	0.8	0	1.1
		18-Jul-07	5.2	4.25	2.5		0.2	0.9	1.8	1.7
		30-Aug-07	0.1	0.9	0.7	0.4	0.6	0.8	1.1	1.2
		01-Oct-07	2.5	0.2	3.3	0.9	1.7	0.8	1.1	0.9
	Average		1.14	2.44	1.23	1.12	1.28	1.89	1.88	2.44
			0.43	1.15	0.70	0.70	0.63	0.80	1.25	1.23
			1.38	3.18	1.78	1.60	1.70	1.98	2.40	2.60

Harmful & Dangerous Matter			Measured by Health Protection				Class I, II	Class III, IV	Class V	
			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Copper	µg/l	23-Apr-03	0		0	0	0			
		24-Apr-03		0				0	15.15	15.25
		30-May-03	0	0	0	0	0	3.749	0	0
		27-Jun-03	0	0	0	0	0	0	0	0
		31-Jul-03	0		0	0	0	5.054	0	0
		01-Aug-03		0						
		27-Aug-03	0		0					
		28-Aug-03		0		0	0	3.651	0	0
		26-Sep-03	2.06	3.32	3.31	2.46	2.8	3	3.58	4.05
		04-May-04	2.35	8	0	1.1	0	4	1.5	2.7
		28-May-04	0	1.27	0	1.43	1.76	1.73	2.22	2.29
		23-Jun-04	0		0					
		24-Jun-04		0		0	0	0	0	0
		27-Jul-04	0							
		28-Jul-04		1.84	1.08	1.26	1.14	1.78	1.03	1.25
		26-Aug-04	0		0	0	0	0	0	0
		27-Aug-04		0						
		05-Oct-04	0	0	0	0	0	0	0	0
		28-Apr-05	0.7			1.4	2.3	1.7		
		29-Apr-05		2	1.3				2	3
		02-Jun-05	3.46	4.1	2.9	2.56	2.12	2.65	3.59	4.34
		30-Jun-05	1.68	1.91	2.49	2.2	2.11	2.36	2.59	1.9
		28-Jul-05	2.07	1.79	1.89	2.1	2.41	1.96	1.87	2.43
		23-Aug-05	2.66	3.58	3.31	3.05	4.72	3.01	2.44	3
		28-Sep-05	3.17	3.35	3.26	2.74	3.01	3.81	3.96	4.41
		03-May-06	3.48	0.829	0	2.08	0	0	0.114	0
		26-May-06	1.95	1.41	1.06	2.37	0.822	1.22	1.09	1.46
		30-Jun-06	0	2.1	6.6	6.4	0	0	0	0
		31-Jul-06	0	3.56	0	0.48	1.47	2.27	6.26	1.14
		30-Aug-06	2.95	4.52	3.26	3.71	3.07	3.23	3.36	4.18
		28-Sep-06	1.39	0.778	0.483	1.21	0.682	1.14	0.787	0.972
		25-Apr-07	3.05	2.32	3.58	1.92	2.26	2.18	3.08	2.12
		23-May-07	0	0	0	0	0	0	0	0
		26-Jun-07	0	0	0	0	0	0	0	0
		18-Jul-07	3.95	3.675	4.4		3.89	3.49	3.75	3.3
		30-Aug-07	1.32	0	0	0	0	0	0.61	1.12
		01-Oct-07	3.23	4.44	2.92	3.13	3.21	3.05	3.33	4.03
	Average		1.32	1.89	1.39	1.43	1.26	1.83	2.08	2.10
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			2.58	3.34	2.92	2.37	2.29	3.04	3.27	3.00
Fenols	µg/l	24-Apr-03		2.522				0		1.919
		30-May-03		0.784				0.495		0.3
		27-Jun-03		0				0		0
		31-Jul-03						1.503		0
		01-Aug-03		3.595						
		28-Aug-03		0				0		0
		01-Oct-03	0	0	0	0	0	0	0	0
		04-May-04		0				0		0
		28-May-04	0.448	0				4.075		3.597
		24-Jun-04		0				6.405		0
		28-Jul-04		2.452				0		0.752
		26-Aug-04						0.059		1.161
		27-Aug-04		0.738						
		05-Oct-04		0				0.444		0
		28-Apr-05	0			0	0	0		
		29-Apr-05		0.43	0				0	0
		02-Jun-05		0				0		0
		30-Jun-05		0			0			0
		28-Jul-05		1.019				1.946		0.979
		23-Aug-05		0.464				0		0
		28-Sep-05		0				0.626		0.327
		03-May-06		0			0			0
		26-May-06		0				0		0
		30-Jun-06		0				0		1.6
		31-Jul-06	0	0	0	0	0	4.79	0	0
		30-Aug-06						2.743		0
		28-Sep-06		0				0		1.768
		25-Apr-07		0				0		0
		26-Jun-07		7.038				4.464		4.952
		18-Jul-07		0				3.093		2.857
		30-Aug-07		0				0		0
		01-Oct-07		0				0		0
	Average		0.112	0.680	0.000	0.000	0.000	1.135	0.000	0.697
			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			0.112	0.533	0.000	0.000	0.000	1.725	0.000	0.979

Harmful & Dangerous Matter — Measured by Health Protection — Class I, II — Class III, IV — Class V

			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Iron	µg/l	23-Apr-03	33.1		37.2	35.1	40.7			
		24-Apr-03		55.7				35.8	50.2	51.2
		30-May-03	0	37.2	33.3	23	24.6	24.2	118.3	121.9
		27-Jun-03	5.2	162.8	20.1	8	9.9	10.1	35.8	41.8
		31-Jul-03	25.3		42.3	46.6	28	28.7	38.9	40.1
		01-Aug-03		105.2						
		27-Aug-03	45.3		48.2					
		28-Aug-03		87.5		49.4	68.8	80.3	68	72.6
		26-Sep-03	26.5	26.4	21.8	15.1	10.9	9.5	25.2	2.2
		04-May-04	30.4	1963.6	57.6	53.4	51.6	218.4	61.1	69.4
		28-May-04	72.6	51.4	11.8	46.7	38.5	62.5	43.1	44.5
		23-Jun-04	94.4		106.4					
		24-Jun-04		102.3		95.1	96.5	96.5	101.4	102.5
		27-Jul-04	3.1							
		28-Jul-04		25.2	9	5.3	6.6	6.4	43	42.2
		26-Aug-04	39.2		46.8	73.7	44.2	42.4	59.2	70.4
		27-Aug-04		165.3						
		05-Oct-04	18	13.8	17.1	16.2	15.7	15.1	14.7	13.8
		28-Apr-05	22.9			55.6	75.9	64.8		
		29-Apr-05		79.5	50.7				65.6	65.6
		02-Jun-05	2.17	45.1	12.7	15.2	22.9	16.2	22.1	13.3
		30-Jun-05	8	44.7	25.8	22.7	45.5	59	58.5	63.7
		28-Jul-05	0	0	0	0	0	0	0	0
		23-Aug-05	23.3	42.5	43.4	35.5	38.4	38.4	155.5	117.9
		28-Sep-05	29.3	74	48.6	48.1	61.1	51.7	440	386
		03-May-06	35	139.2	79	35.2	77.1	77.4	67.8	60.8
		26-May-06	31.9	37.4	102	64.8	3.99	4	4.58	6.34
		30-Jun-06	0	8.1	0	0	0	0	0	0
		31-Jul-06	5.8	122.9	23.6	31.5	38.7	33.9	46.5	43.1
		30-Aug-06	63	35.5	16.7	27.9	21.2	32.6	40	38.1
		28-Sep-06	43.4	15.3	2.89	19.3	19	30.6	105	114
		25-Apr-07	184.4	321.8	131	61.5	67	67.5	125.3	108.7
		23-May-07	0	101.9	143.3	27.4	45.9	48.3	43.4	47.5
		26-Jun-07	0	193.5	0	5.9	136.2	88.4	121.4	72.2
		18-Jul-07	116.4	455.5	93		691.1	733.3	823.9	694.4
		30-Aug-07	7	17.7	18.7	22.8	20.2	0	194.6	153.9
		01-Oct-07	99.8	0	0	18.9	29	37.8	13.7	0
	Average		35.52	160.85	41.43	33.10	60.97	67.13	99.56	88.60
			5.35	28.68	13.70	16.20	19.30	15.38	36.58	38.60
			42.35	118.48	50.18	48.10	58.73	64.23	104.10	95.03
Lead	µg/l	23-Apr-03	0		12.454	0	0			
		24-Apr-03		0				0	0	0
		30-May-03	0	15.59	0	0	0	10.635	14.945	0
		27-Jun-03	19.929	10.18	0	9.059	10.155	8.719	0	12.459
		31-Jul-03	8.9		19.564	17.247	19.149	9.99	16.446	17.49
		01-Aug-03		24.975						
		27-Aug-03	8.955		14.525					
		28-Aug-03		30.158		19.984	14.953	7.362	11.963	8.33
		26-Sep-03	3.07	2.31	2.16	0	0	2.21	1.81	1.83
		04-May-04	0	3.57	0	0	0	0	0	0
		28-May-04	0	0	0	0	0	0	0	0
		23-Jun-04	10.251		7.635					
		24-Jun-04		0		18.741	11.359	11.359	15.618	13.631
		27-Jul-04	1.1							
		28-Jul-04		1.57	1.32	1.01	0.95	1.15	1.08	1.13
		26-Aug-04	12.495		9.612	14.057	8.033	8.331	6.665	11.359
		27-Aug-04		7.141						
		05-Oct-04	0	22.537	8.563	17.839	0	0	19.716	20.432
		28-Apr-05	0.1			1.4	2.9	3.2		
		29-Apr-05		2.1	1.6				2.5	3
		02-Jun-05	2.56	3.82	1.85	1.69	3.16	2.97	2.03	3.12
		30-Jun-05	3.02	3.1	3.35	2.76	3.7	2.92	3.46	2.06
		28-Jul-05	0	0	0	0	0	0	0	0
		23-Aug-05	0	0	0	0	0	0	0	0
		28-Sep-05	0	0	0	0	0	0	0	0
		03-May-06	1.34	0	0	0	0	0	0	0
		26-May-06	0	0	0	0	0	0	0	0
		30-Jun-06	0	0	0	0	0	0	0	0
		31-Jul-06	0	1.77	1.1	2.4	2.4	1.6	1.73	1.95
		30-Aug-06	0.9	2.4	1.3	1.1	1.1	2.6	1.4	2
		28-Sep-06	0	0	0	0	0	0	0	0
		25-Apr-07	0	0	0	0	0	0	0	0
		23-May-07	0	0	0	0	0	0	0	0
		26-Jun-07	0	0	0	0	0	0	0	0
		18-Jul-07	0	0	0		0	5.7	0	0
		30-Aug-07	0	0	0.16	0	0	0	0	0
		01-Oct-07	0.536	0.261	0.608	0.395	0.713	0.705	0.065	0
	Average		2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			2.26	3.45	2.08	2.40	2.78	3.14	2.38	2.77

Harmful & Dangerous Matter			Measured by Health Protection				Class I, II	Class III, IV	Class V	
			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Zinc	µg/l	23-Apr-03			12.358	16.014	20.231			
		24-Apr-03		16.607				9.969	14.351	15.325
		30-May-03	6.652	15.67	9.977	5.543	10.157	15.949	31.473	14.407
		27-Jun-03	22.834	4.544	21.987	15.423	17.21	24.908	5.12	37.347
		31-Jul-03	0		11.085	14.232	35.883	45.986	30.983	2.992
		01-Aug-03		36.539						
		27-Aug-03	30		40.715					
		28-Aug-03		16.597		11.97	21.593	7.483	25.908	19.947
		26-Sep-03	4.04	4.65	3.53	1.93	3.89	4.07	4.01	8.26
		04-May-04	14.3	27.6	8.32	12.8	15.2	13.9	11.5	15
		28-May-04	1.85	0	0	1.27	1.35	0	1.93	0
		23-Jun-04	0		0					
		24-Jun-04		0		0	0	0	0	0
		27-Jul-04	0							
		28-Jul-04		1.13	0	0	0	7.35	1.1	0
		26-Aug-04	0		0	0	0	0	0	0
		27-Aug-04		0						
		05-Oct-04	16.1	49.726	37.354	37.41	74.895	49.82	37.416	33.26
		28-Apr-05	0.7			3.5	8.3	5.5		
		29-Apr-05		26.9	1.4				5	5.2
		02-Jun-05	0	23.7	3.52	9.19	1.43	3.57	2.98	19.7
		30-Jun-05	0	7.1	3.08	1.26	1.98	2	2.09	0
		28-Jul-05	0.989	0.257	0.79	1.91	2.09	1.4	2.25	5.28
		23-Aug-05	0.29	2.69	0	0	14.1	0.68	1.75	1.97
		28-Sep-05	8.03	0	2.3	1.65	3.91	4.84	6.89	7
		03-May-06	20.8	11.2	24.5	12.5	10	14.9	6.19	7.44
		26-May-06	0	0	0	0	0	11.1	0	0
		30-Jun-06	0	0	0	0	0	0	0	2.12
		31-Jul-06	5.44	85.2	6.54	7.12	53.9	9.66	78.2	37.7
		30-Aug-06	0.226	3.06	2.12	2.78	0.49	3.97	0.636	0.642
		28-Sep-06	0	0	0	0	0	0	2.08	1.33
		25-Apr-07	6.79	0.85	3.1	3.83	1.88	4.76	3.81	4.22
		23-May-07	0	0	0	2.53	0.633	0	3.36	0
		26-Jun-07	0	0	0	0	0	0	0	0
		18-Jul-07	0	4.415	4.3		1.88	0	2.04	4.98
		30-Aug-07	7.48	4.8	5.51	0	1.51	1.66	0.67	3.82
		01-Oct-07	0	7.18	4.53	7.05	2.88	4.89	10.6	1.88
	Average		5.79	11.45	6.90	5.86	10.18	8.28	9.74	8.33
			0.00	0.00	0.00	0.00	0.53	0.17	1.26	0.16
			6.79	16.37	7.88	9.19	13.11	9.89	9.67	12.87
Nitrates as Nitrogen	µg/l	23-Apr-03	500		1600	700	1100			
		24-Apr-03		900				1100	900	1300
		30-May-03	500	900	900	700	700	1600	900	900
		27-Jun-03	250	900	500	500	700	700	700	700
		31-Jul-03	0		500	250	0	250	250	500
		01-Aug-03		250						
		27-Aug-03	500		500					
		28-Aug-03		3600		900	900	2300	2300	2700
		26-Sep-03	4000	1300	2300	1300	1300	2500	1600	1300
		04-May-04	500	1100	900	700	700	700	1100	900
		28-May-04	0	0	0	0	0	0	250	250
		23-Jun-04	250		700					
		24-Jun-04		500		500	250	500	500	500
		27-Jul-04	500		1100					
		28-Jul-04		900		500	500	700	900	900
		26-Aug-04	530		970.7	944.9	1171.5	1106.5	1158.3	1167
		27-Aug-04		1303						
		05-Oct-04	700	2100	1800	1800	1600	1800	2100	2100
		28-Apr-05	500			900	700	900		
		29-Apr-05		700	900				900	700
		02-Jun-05	500	700	1100	500	1100	900	1100	900
		30-Jun-05	900	1100	1100	1100	1100	1100	1300	1300
		28-Jul-05	700	1100	1100	1100	1100	900	1100	1100
		23-Aug-05	1100	1800	2300	1600	1800	1600	1300	1300
		28-Sep-05	500	1600	1100	900	1100	1300	1300	1600
		03-May-06	1100	500	900	1100	900	900	900	1100
		26-May-06	500	700	1100	700	900	900	900	900
		30-Jun-06	700	900	700	700	700	700	900	900
		31-Jul-06	700	1600	1100	1100	1300	1600	1100	1300
		30-Aug-06	700	1300	900	900	2100	1300	1300	900
		28-Sep-06	900	1800	500	700	2500	1100	1300	1300
		25-Apr-07	1300	1600	1800	1600	1800	1600	1600	1600
		23-May-07	1100	2300	1600	1600	1600	1800	2900	2100
		26-Jun-07	1300	2500	2300	1600	1800	2100	1800	2700
		18-Jul-07	1600	1850	2100		1300	1600	1300	1600
		30-Aug-07	1300	2300	1100	1800	1600	1300	2300	2300
		01-Oct-07	1600	2700	1800	2500	1800	1800	2100	2300
	Average		841.0	1375.9	1175.7	1006.7	1137.4	1221.9	1268.6	1303.9
			500.0	900.0	900.0	700.0	700.0	900.0	900.0	900.0
			1100.0	1800.0	1600.0	1300.0	1600.0	1600.0	1525.0	1600.0

Harmful & Dangerous Matter			Measured by Health Protection				Class I, II	Class III, IV	Class V	
			0.River Treska, RC Saraj	0.River Lepenec, before inflow to Vardar	1.River Vardar, Saraj bridge	2.River Vardar, Vlae bridge	3.River Vardar, Stone bridge	4.River Vardar, Sajmiste bridge	5.River Vardar, After Ohis	6.River Vardar, Trubarevo bridge
Nitrites as Nitrogen	µg/l	23-Apr-03	9		30	18	24			
		24-Apr-03		30				30	30	30
		30-May-03	24	30	24	30	24	24	30	30
		27-Jun-03	30	30	30	30	30	30	30	30
		31-Jul-03	9		15	12	18	24	30	30
		01-Aug-03		12						
		27-Aug-03	6		6					
		28-Aug-03		24		9	12	15	18	30
		26-Sep-03	37	75	90	75	90	90	120	135
		04-May-04	3.7	18	18	18	18	24	30	30
		28-May-04	6	100	9	40	80	70	100	100
		23-Jun-04	6		24					
		24-Jun-04		48		36	36	36	48	48
		27-Jul-04	12		30					
		28-Jul-04		30		18	24	24	30	30
		26-Aug-04	7		10	11	12	12	13	37
		27-Aug-04		20						
		05-Oct-04	12	30	18	18	48	18	30	30
		28-Apr-05	3.7			15	18	18		
		29-Apr-05		30	15				24	24
		02-Jun-05	7	50	30	20	30	25	30	37
		30-Jun-05	15	60	48	48	60	60	60	60
		28-Jul-05	27	60	37	37	30	60	70	60
		23-Aug-05	6	60	60	30	18	18	60	60
		28-Sep-05	6	60	24	24	24	30	60	60
		03-May-06	15	24	18	18	24	24	30	30
		26-May-06	5	150	100	26	24	80	40	40
		30-Jun-06	6	60	30	24	30	30	48	48
		31-Jul-06	1.5	30	15	18	24	30	30	24
		30-Aug-06	6	15	15	18	18	30	36	48
		28-Sep-06	24	54	6	18	18	18	54	30
		25-Apr-07	48	24	30	18	30	30	30	24
		23-May-07	6	12	30	30	60	6	12	9
		26-Jun-07	12	90	30	60	90	90	90	90
		18-Jul-07	9	19.5	18		18	36	48	48
		30-Aug-07	1.5	30	9	15	18	30	180	180
		01-Oct-07	9	3.7	37	30	30	60	12	9
	Average		12.31	41.89	28.53	26.34	32.67	35.73	47.43	48.03
			6	24	15	18	18	24	30	30
			14.25	60	30	30	30	36	58.5	57

2.4.2 Vodovod

(1) River Water Quality

Table 2.19 River Water Quality in 2006 (Vodovod)

Table. River Water Quality (2006)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvvk	zarvk	kislorod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli
01 r.Vardar (Most ON)	10-Jan-06	1	5.70	354.00	8.20	257.00	0.00	0.00	81.00	55.00	81.00	55.00	9.61	77.50	7.40	1.20	0.15	0.04	3.50	0.20	10.00	7.60	0.00
	24-Jan-06	1	3.90	317.00	8.04	242.00	0.00	0.00	157.70	132.00	157.70	132.00	6.00	45.50	8.27	1.34	0.00	0.03	3.00	0.00	9.00	5.30	0.00
	07-Feb-06	1	3.40	319.00	7.87	283.00	0.10	17.30	57.70	50.45	75.00	68.05	13.75	99.60	12.64	1.61	0.40	0.06	4.00	0.20	9.00	9.40	0.01
	01-Mar-06	1	8.00	380.00	9.12	259.00	0.20	4.90	205.33	200.12	210.23	198.32	11.00	93.30	16.40	2.44	0.05	0.08	3.00	0.00	10.00	6.52	0.00
	14-Mar-06	1	5.80	335.00	8.12	287.00	0.00	0.00	171.00	125.00	171.00	125.00	13.00	104.70	9.40	1.00	0.00	0.00	4.00	0.00	10.00	9.07	0.01
	13-Apr-06	1	9.80	279.00	8.10	265.00	0.50	72.50	123.30	114.40	195.80	176.50	10.69	94.60	15.00	1.31	0.15	0.03	4.00	0.28	7.00	6.60	0.00
	27-Apr-06	1	9.00	321.00	7.98	269.00	0.05	26.20	169.02	130.07	495.20	160.70	12.38	109.50	13.20	1.16	0.00	0.05	4.00	0.00	6.00	13.69	0.01
	18-May-06	1	12.10	295.00	8.16	279.00	0.02	24.60	122.00	103.50	146.60	124.80	9.93	91.90	9.54	1.17	0.00	0.05	3.00	0.00	8.00	4.70	0.00
	22-Jun-06	1	13.60	283.00	8.00	248.00	0.00	8.20	197.00	141.50	205.20	15.40	10.80	105.00	6.95	1.51	0.00	0.06	4.00	0.00	9.00	14.52	0.00
	05-Sep-06	1	21.00	335.00	7.80	256.00	0.00	15.55	213.60	195.70	229.20	209.80	8.40	92.38	8.00	3.14	0.10	0.05	5.00	0.25	15.00	7.80	0.00
	26-Sep-06	1	12.50	316.00	7.50	347.00	0.00	41.40	181.30	144.70	222.70	173.40	11.46	106.40	9.60	1.14	0.00	0.04	4.00	0.00	10.00	6.02	0.00
	12-Oct-06	1	13.90	278.00	7.80		0.00	10.90	181.00	153.00	191.90	168.70	10.70	104.00	5.00	1.00	0.00	0.08	4.00	0.00	8.00	4.50	
	26-Oct-06	1	11.60	265.00	7.70	227.00	0.00	2.50	168.00	154.60	170.50	159.80	9.50	87.70	8.20	0.00	0.10	0.05	4.00	0.00	9.00		0.00
	09-Nov-06	1	9.40	332.00	7.90	293.00	0.00	11.50	202.00	153.00	213.50	186.00	12.68	112.00	12.00	1.67	0.00	0.16	5.00	0.00	10.00	4.68	0.00
	28-Nov-06	1	8.90	276.00	7.56	244.00	0.00	15.40	172.60	141.10	188.00	164.40	11.62	102.80	8.80	1.18	0.00	0.10	3.00	0.00	9.00	2.89	0.00
	19-Dec-06	1	8.30	305.00	6.50	157.00	0.00	12.20	150.33	150.33	162.53	162.03	11.30	95.80	7.00	1.66	0.20	0.10	4.00	0.00	9.00	23.00	0.00
02 r. Lepenec	10-Jan-06	2	3.20	361.00	8.30	262.00	0.00	0.00	205.30	184.00	205.30	184.00	7.00	53.10	7.70	1.40	0.70	0.05	4.00	0.70	11.00	15.50	0.00
	24-Jan-06	2	0.30	380.00	8.26	243.00	0.00	0.00	202.00	184.00	202.00	184.00	14.00	101.20	7.32	2.60	0.45	0.04	4.00	0.20	10.00	9.70	0.01
	07-Feb-06	2	0.50	390.00	8.12	259.00	0.00	19.90	60.10	54.90	80.00	69.50	14.76	104.00	11.40	1.47	1.08	0.04	5.00	0.90	10.00	14.20	0.01
	01-Mar-06	2	4.50	315.00	8.72	245.00	0.50	6.80	139.33	131.21	146.13	135.90	12.50	101.10	10.00	1.53	0.10	0.05	3.00	0.05	10.00	11.48	0.01
	14-Mar-06	2	4.60	306.00	8.20	275.00	0.00	0.00	213.00	156.00	213.00	156.00	13.80	105.40	10.60	1.20	0.05	0.02	3.50	0.00	10.00	15.23	0.00
	13-Apr-06	2	8.00	234.00	8.00	265.00	0.40	65.40	172.00	138.50	237.40	208.90	10.95	92.80	9.60	1.36	0.10	0.04	4.00	0.18	5.00	7.42	0.00
	27-Apr-06	2	8.00	237.00	8.17	269.00	0.20	33.10	134.30	95.90	167.40	112.42	10.63	90.12	10.30	1.36	0.00	0.08	4.00	0.00	5.00	13.75	0.00
	18-May-06	2	14.80	254.00	8.40	271.00	0.01	25.50	147.66	127.36	173.20	150.10	10.70	107.90	10.80	1.04	0.00	0.10	2.00	0.00	6.00	6.30	0.00
	22-Jun-06	2	18.60	214.00	8.00	245.00	0.30	39.50	188.60	157.20	228.10	48.10	9.68	101.90	8.86	1.78	0.00	0.20	4.00	0.00	7.00	21.91	0.00
	05-Sep-06	2	20.00	385.00	7.80	240.00	0.00	78.80	260.60	222.30	339.40	301.80	9.80	108.00	10.00	1.29	0.05	0.07	7.00	0.12	14.00	13.60	0.00
	26-Sep-06	2	12.90	402.00	7.90	361.00	0.00	65.00	271.60	201.50	336.60	256.60	9.52	88.70	10.20	1.03	0.00	0.40	5.50	0.00	13.00	9.32	0.00
	12-Oct-06	2	13.60	210.00	7.60		0.00	31.00	146.70	110.50	177.70	147.10	10.60	103.00	5.60	1.51	0.15	0.05	3.00	0.00	7.00	7.70	0.00
	26-Oct-06	2	12.10	303.00	8.00	210.00	0.00	8.10	195.70	192.40	203.80	201.50	10.30	95.50	7.58		0.35	2.00	5.00	0.00	10.00	7.20	0.00
	09-Nov-06	2	7.40	368.00	8.30	269.00	0.10	64.80	233.30	195.40	298.10	244.30	14.60	123.70	12.00	1.27	0.30	0.10	9.00	0.00	9.00	8.36	0.00
	28-Nov-06	2	6.60	360.00	7.86	238.00	0.00	47.40	231.30	193.80	278.70	237.70	12.30	99.80	10.00	1.76	0.00	0.10	5.00	0.00	10.00	10.30	0.00
	19-Dec-06	2	6.80	393.00	8.00	173.00	0.00	85.10	224.33	190.98	309.43	252.28	12.10	102.20	10.80	2.20	0.60	0.10	5.00		9.00	24.00	0.00
03 r. Vardar (s.Jurumleri)	10-Jan-06	3	9.40	373.00	8.20	263.00	0.00	0.00	200.00	155.00	200.00	155.00	12.20	108.50	8.30	2.00	0.30	0.04	7.00	0.40	10.00	10.60	0.00
	24-Jan-06	3	4.30	335.00	8.11	244.00	0.00	0.00	191.70	166.00	191.70	166.00	12.00	90.50	7.95	2.45	0.40	0.03	3.00	0.20	12.00	7.10	0.01
	07-Feb-06	3	6.90	375.00	8.07	260.00	0.10	19.80	67.20	54.30	82.00	68.80	12.83	103.40	13.80	1.20	1.20	0.04	3.00	0.60	10.00	6.79	0.00
	01-Mar-06	3	7.90	358.00	8.50	235.00	0.50	97.40	116.33	109.15	213.73	195.65	10.80	91.90	10.00	1.60	0.20	0.10	3.00	0.12	8.00	8.95	0.01
	14-Mar-06	3	11.80	332.00	8.13	269.00	0.00	0.00	186.00	136.00	186.00	136.00	11.91	110.30	12.00	2.00	0.20	0.04	4.50	0.00	10.00	12.40	0.04
	13-Apr-06	3	8.90	276.00	8.10	270.00	0.80	132.70	158.00	131.10	290.70	248.00	10.84	91.90	10.80	1.25	0.15	0.04	4.00	0.29	9.00	6.16	0.00
	27-Apr-06	3	9.00	299.00	8.12	272.00	0.20	32.00	185.60	144.00	217.60	171.70	11.97	101.40	11.80	1.53	0.10	0.08	2.00	0.30	8.00	9.18	0.00
	22-Jun-06	3	16.90	296.00	7.75	280.00	0.40	60.10	205.00	155.80	265.10	72.70	8.58	86.70	15.18	2.29	0.50	0.20	5.00	1.00	13.00	15.74	0.00
	05-Sep-06	3	14.70	396.00	7.80	242.00	0.00	44.80	257.60	214.90	302.40	248.80	13.44	135.00	9.40	1.08	1.20	0.16	5.00	1.90	16.00	8.18	0.00
	26-Sep-06	3	11.00	346.00	7.90	350.00	0.20	65.30	198.00	152.70	263.30	181.70	8.70	80.60	10.20	1.52	0.80	0.14	4.00	1.80	12.00	6.24	0.00
	12-Oct-06	3	13.20	324.00	7.60		0.10	175.30	202.00	149.70	377.30	325.90	8.85	82.00	7.20	1.22	0.60	0.20	4.00	0.00	13.00	5.70	0.00
	26-Oct-06	3	12.70	332.00	7.90	214.00	0.00	0.30	155.20	210.33	27.00	365.53	10.40	96.20	9.40		0.60	1.00	4.00	0.00	9.00	6.40	0.00
	09-Nov-06	3	9.10	402.00	7.94	268.00	0.10	30.00	275.60	230.20	305.60	274.80	9.92	87.80	3.50	1.69	0.80	0.20	6.00	1.20	13.00	7.00	0.00
	28-Nov-06	3	9.30	380.00	7.79	235.00	0.20	12.20	229.30	221.30	241.50	229.30	10.60	94.60	10.00	2.04	0.00	0.08	5.00	0.00	11.00	5.60	0.00
	19-Dec-06	3	9.00	453.00	7.65	181.00	0.40	154.80	240.33	214.87	395.10	334.87	9.77	86.50	12.70	2.30	3.20	0.14	7.00	0.90	14.00	23.00	0.00

Table 2.20 River Water Quality in 2005 (Vodovod)

Table. River Water Quality (2005)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvvk	zarvk	kislorod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli
01 r.Vardar (Most ON)																							
	13-Jan-05	1	6.60	341.00			0.00	0.00	70.66	48.00	70.66	48.00	11.76	94.91	10.99	2.00	0.12	0.02	0.90	0.20	9.00	10.00	0.00
	01-Feb-05	1	3.80	304.00			0.01	11.00	157.00	134.90	168.00	150.70	11.77	89.87	5.73	1.03	0.25	0.01	1.00	0.44	9.00	4.99	0.00
	01-Mar-05	1	4.20	307.00			0.00	12.60	201.00	150.00	213.60	166.80	12.20	93.30	6.60	1.00	0.08	0.01	1.10	0.00	13.00	5.10	0.00
	17-May-05	1	13.20	274.00		257.00	0.00	0.00	93.66	0.00	93.66	0.00	10.54	102.40	7.60	1.30	0.25	0.08	0.90	0.47	10.00	7.20	0.00
	21-Jun-04	1	16.60	317.00	8.18	285.00	0.01	31.90	132.60	0.00	164.50	0.00	0.00	0.00	47.10	10.18	0.08	0.02	1.13	0.00	8.00	7.32	0.03
	01-Nov-05	1	10.30	354.00	7.50	265.00	0.00	18.10	176.00	160.00	194.10	180.10	10.60	100.80	13.20	7.00	0.00	0.06	5.00	0.00	9.00	7.00	0.00
	15-Nov-05	1	10.30	345.00		260.00	0.00	6.00	175.33	151.40	181.33	159.33	10.84	95.97	10.60	1.00	0.05	0.04	3.00	0.00	9.00	6.32	0.00
02 r. Lepenec																							
	13-Jan-05	2	4.70	371.00			0.10	0.00	129.00	100.00	184.60	100.00	12.85	98.14	12.56	4.00	0.16	0.02	1.10	0.18	10.00	12.00	0.00
	01-Feb-05	2	1.10	395.00			0.01	18.20	231.60	212.80	245.80	225.10	14.28	103.50	4.77	0.73	0.40	0.02	0.90	0.63	12.00	9.65	0.00
	01-Mar-05	2	1.10	324.00			0.00	0.00	177.00	123.00	177.00	143.60	13.60	98.90	13.00	2.70	0.23	0.02	0.90	0.00	14.00	9.10	0.00
	17-May-05	2	19.40	226.00		245.00	0.00	0.00	56.33	0.00	56.33	0.00	10.15	111.63	8.00	1.50	0.50	0.10	0.68	0.70	6.00	9.40	0.01
	21-Jun-04	2	19.10	286.00	8.25	257.00	0.02	35.70	138.00	0.00	173.70	0.00	9.04	99.42	34.50	3.52	0.08	0.04	1.13	0.00	7.00	5.26	0.03
	01-Nov-05	2	17.10	401.00	7.60	288.00	0.00	95.00	215.00	188.00	225.50	190.00	11.30	102.00	17.60	10.00	0.50	0.08	5.00	0.00	12.00	8.30	0.03
	15-Nov-05	2	17.10	419.00		264.00	0.00	12.60	209.00	186.60	221.60	192.50	11.74	118.64	9.36	1.10	0.15	0.05	5.00	0.00	11.00	8.34	0.00
03 r. Vardar (s.Jurumleri)																							
	13-Jan-05	3	6.20	345.00			0.00	0.00	155.00	94.00	155.00	94.00	11.45	92.38	10.99	3.20	0.62	0.03	1.10	0.90	10.00	11.00	0.00
	01-Feb-05	3	3.70	343.00			0.02	14.30	297.60	267.80	290.60	221.90	12.21	93.27	11.77	3.87	0.62	0.02	0.60	0.90	13.00	6.80	0.00
	01-Mar-05	3	4.30	300.00			0.00	12.38	167.66	140.00	180.00	161.90	11.60	88.70	14.70	2.70	0.39	0.01	1.10	0.00	11.00	5.90	0.00
	17-May-05	3	18.10	293.00		247.00	0.50	0.00	87.33	0.00	87.33	0.00	9.31	98.00	9.20	2.20	1.00	0.20	0.68	1.40	11.00	8.00	0.00
	21-Jun-04	3	16.80	367.00	8.08	256.00	0.10	11.80	172.00	0.00	183.80	0.00	0.00	0.00	40.80	4.40	0.62	0.06	1.13	0.00	12.00	6.61	0.03
	01-Nov-05	3	14.10	375.00	7.70	233.00	0.10	31.70	124.00	90.00	155.70	132.00	12.60	110.00	14.40	6.60	0.50	0.09	5.00	0.00	10.00	7.00	0.00
	15-Nov-05	3	14.10	362.00		249.00	0.00	18.20	101.66	91.50	119.86	110.94	10.39	100.91	11.22	1.80	0.30	0.40	3.00	0.00	14.00	6.43	0.00

Table 2.21 River Water Quality in 2004 (Vodovod)

Table. River Water Quality (2004)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvk	zarvk	kislorod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli
01 r. Vardar (Most ON)																							
	15-Jan-04	1	9.90	267.00	8.30	279.00	0.05	14.00	130.00	74.52	144.00	100.22	12.22	123.51	11.53	5.71	0.23	0.02	1.00	0.40	10.00	7.30	0.00
	27-Jan-04	1	5.30	207.00	8.30	280.00	0.02	16.80	114.30	111.20	131.10	141.90	13.14	248.02	7.10	2.00	0.16	0.02	1.00	0.29	7.00	3.53	0.00
	10-Feb-04	1	7.50	292.00	8.90	276.00	0.00	4.50	171.66	162.70	176.16	169.00	12.83	171.20	12.64	2.00	0.16	0.03	1.10	0.20	10.00	7.80	0.00
	24-Feb-04	1	6.00	260.00	8.76	273.00	0.00	35.60	124.33	106.00	160.00	121.40	12.53	104.50	8.27	1.36	0.12	0.02	0.70	0.18	9.00	5.00	0.01
	07-Apr-04	1	9.90	295.00	8.70	321.00	0.30	29.00	156.33	140.24	185.33	165.34	11.46	101.44	8.80	1.96	1.30	0.02	0.08	0.00	9.00	5.10	0.02
	09-Sep-04	1	14.50	345.00	8.67	5.00	0.00	0.00	159.00	98.00	159.00	98.00	12.00	116.00	8.50	2.50	0.04	0.00	1.13	0.10	11.00	6.00	
	23-Sep-04	1	15.00	337.00	8.33		0.00	0.00	187.00	105.20	187.00	110.40	11.00	111.20	6.32	1.51	0.04	0.02	1.10	0.00	8.00	6.20	0.00
02 r. Lepenec																							
	15-Jan-04	2	8.90	248.00	8.78	246.00	0.20	67.20	147.66	70.22	214.80	144.52	12.69	142.67	15.70	4.02	1.20	0.02	1.13	2.10	18.00	8.70	0.00
	27-Jan-04	2	3.30	285.00	8.60	292.00	0.03	1.40	167.30	147.70	168.70	195.40	13.65	413.65	7.10	3.20	0.39	0.03	1.13	0.80	9.00	8.35	0.00
	10-Feb-04	2	4.50	249.00	8.71	264.00	0.00	19.90	143.66	102.27	163.56	118.97	12.22	271.60	6.00	4.10	0.23	0.02	1.00	0.35	10.00	10.40	0.01
	24-Feb-04	2	6.10	336.00	8.78	261.00	0.00	132.00	136.33	144.65	295.33	207.35	11.00	92.00	11.14	2.62	0.31	0.02	0.90	0.50	10.00	9.10	0.00
	07-Apr-04	2	12.30	248.00	8.80	319.00	0.50	74.20	129.00	110.13	203.20	176.23	10.95	101.41	12.60	4.30	1.00	0.02	0.04	0.00	9.00	6.70	0.04
	09-Sep-04	2	15.90	414.00	8.44	5.00	0.00	0.00	214.00	199.00	214.00	199.00	10.10	102.20	6.30	3.80	0.08	0.01	1.13	0.15	13.00	7.20	
	23-Sep-04	2	15.20	427.00	8.24		0.00	52.20	237.00	187.00	289.20	241.00	9.84	99.40	10.74	3.60	0.08	0.02	1.10	0.00	12.00	12.80	0.00
03 r. Vardar (s.Jurumleri)																							
	15-Jan-04	3	7.20	318.00	8.60	246.00	0.30	21.30	193.00	91.91	214.30	123.81	10.69	148.49	13.45	5.96	1.24	0.03	1.20	2.60	12.00	11.58	0.00
	27-Jan-04	3	2.90	288.00	8.60	298.00	0.20	9.10	168.00	144.80	177.10	215.70	12.22	421.35	10.32	3.50	0.94	0.03	1.13	1.50	10.00	9.70	0.00
	10-Feb-04	3	7.60	324.00	8.80	286.00	0.00	7.00	181.00	175.10	188.00	182.90	11.45	150.10	17.30	3.20	0.23	0.04	1.10	0.37	11.00	8.00	0.00
	24-Feb-04	3	6.50	328.00	8.56	262.00	0.10	181.50	149.20	138.30	330.70	168.70	11.00	97.64	12.73	9.23	0.83	0.03	0.90	1.50	13.00	7.00	0.00
	07-Apr-04	3	12.00	305.00	8.90	311.00	0.30	15.60	178.66	163.50	194.26	175.10	11.91	110.31	11.06	2.61	1.30	0.01	0.08	0.00	11.00	5.90	0.17
	09-Sep-04	3	14.30	368.00	8.29	6.00	0.00	0.00	167.66	128.00	167.66	128.00	7.33	71.10	7.90	4.10	0.94	0.03	1.13	0.94	12.00	7.00	
	23-Sep-04	3	16.00	399.00	7.85		0.00	6.20	197.33	120.60	203.53	127.50	6.41	64.80	11.38	4.00	1.80	0.03	0.90	0.00	15.00	9.10	0.00

Table 2.22 River Water Quality in 2003 (Vodovod)

Table. River Water Quality (2003)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvvk	zarvk	kislorod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli
01 r.Vardar (Most ON)																							
	07-Jan-03	1	5.20	307.00	7.73	156.00	0.00	0.00	75.46	38.00	70.66	48.00	11.76	94.91	11.00	2.00	0.12	0.02	0.90	1.00	9.00	10.00	0.00
	16-Jan-03	1	2.90	304.00	7.25	125.00	0.00	15.70	217.00	134.90	168.00	145.00	11.77	89.87	6.01	2.00	0.25	0.01	1.00	1.44	9.00	4.99	0.00
	06-Feb-03	1	3.60	283.00	7.74	121.00	0.00	12.60	245.60	150.00	213.60	119.90	12.20	93.30	6.56	3.00	0.08	0.01	1.10	1.20	13.00	5.10	0.00
	15-Apr-03	1	8.80	317.00	7.74	287.00	0.00	0.00	90.16	0.00	93.66	0.00	10.54	102.40	7.98	2.50	0.25	0.08	0.90	1.80	10.00	7.20	0.00
	10-Jun-03	1	13.50	387.00	8.02	254.00	0.00	7.20	154.00	141.50	205.20	15.40	10.80	105.00	7.05	1.51	0.00	0.06	4.00	4.50	9.00	14.52	0.00
	19-Jun-03	1	14.70	435.00	7.84	254.00	0.00	17.55	254.40	195.70	229.20	229.00	8.40	92.38	7.00	3.00	0.10	0.05	5.00	8.00	15.00	7.80	0.00
	18-Sep-03	1	10.30	416.00	7.55	327.00	0.00	42.10	165.40	144.70	222.70	165.00	11.46	106.40	9.50	4.00	0.00	0.04	4.00	5.40	10.00	6.02	0.00
	21-Oct-03	1	11.10	300.00	7.85	128.00	0.00	17.80	168.00	153.00	191.90	171.20	10.70	104.00	6.00	1.00	0.00	0.08	4.00	5.00	8.00	4.50	
	04-Nov-03	1	8.90	245.00	7.79	228.00	0.00	1.50	178.00	154.60	170.50	162.10	9.50	87.70	7.90	3.50	0.10	0.05	4.00	6.50	9.00		0.00
02 r. Lepenec																							
	07-Jan-03	2	3.90	324.00	7.29	145.00	0.00	0.00	169.40	110.00	184.60	100.00	12.85	98.14	11.45	4.00	0.16	0.02	1.10	1.20	10.00	12.00	0.00
	16-Jan-03	2	2.00	395.00	7.71	234.00	0.01	16.20	223.10	212.80	245.80	282.10	14.28	103.50	4.97	2.00	0.40	0.02	0.90	1.63	12.00	9.65	0.00
	06-Feb-03	2	2.50	214.00	7.26	125.00	0.00	0.00	117.30	123.00	177.00	143.60	13.60	98.90	14.55	2.70	0.23	0.02	0.90	1.30	14.00	9.10	0.00
	15-Apr-03	2	10.20	454.00	7.30	249.00	0.00	0.00	52.23	0.00	56.33	0.00	10.15	111.63	7.90	1.50	0.50	0.10	0.68	1.90	6.00	9.40	0.01
	10-Jun-03	2	16.50	422.00	8.04	212.00	0.20	59.50	156.60	157.20	228.10	48.10	9.68	101.90	9.00	2.60	0.00	0.20	4.00	4.80	7.00	21.91	0.00
	19-Jun-03	2	16.70	354.00	7.20	258.00	0.00	58.80	287.90	222.30	339.40	324.00	9.80	108.00	18.00	7.50	0.05	0.07	7.00	8.00	14.00	13.60	0.00
	18-Sep-03	2	15.80	392.00	7.60	311.00	0.00	75.20	298.60	201.50	336.60	251.00	9.52	88.70	10.70	4.50	0.00	0.40	5.50	6.10	13.00	9.32	0.00
	21-Oct-03	2	12.30	298.00	7.66	135.00	0.00	37.50	175.70	110.50	177.70	134.30	10.60	103.00	6.04	1.51	0.15	0.05	3.00	4.70	7.00	7.70	0.00
	04-Nov-03	2	9.80	363.00	8.80	219.00	0.00	7.10	124.50	192.40	203.80	205.40	10.30	95.50	7.00	2.80	0.35	2.00	5.00	6.60	10.00	7.20	0.00
03 r. Vardar (s.Jurumleri)																							
	07-Jan-03	3	4.99	300.00	7.94	140.00	0.00	0.00	145.60	84.00	155.00	94.00	11.45	92.38	11.25	3.20	0.62	0.03	1.10	1.50	10.00	11.00	0.00
	16-Jan-03	3	3.60	343.00	7.50	254.00	0.01	17.30	254.40	267.80	290.60	234.90	12.21	93.27	12.34	5.50	0.62	0.02	0.60	1.30	13.00	6.80	0.00
	06-Feb-03	3	4.00	296.00	7.61	185.00	0.00	17.38	168.87	140.00	180.00	132.20	11.60	88.70	13.78	6.60	0.39	0.01	1.10	1.80	11.00	5.90	0.00
	15-Apr-03	3	11.10	321.00	7.82	277.00	0.50	0.00	81.23	0.00	87.33	0.00	9.31	98.00	8.78	4.50	1.00	0.20	0.68	2.10	11.00	8.00	0.00
	10-Jun-03	3	16.80	387.00	7.25	235.00	0.30	66.10	285.00	155.80	265.10	72.70	8.58	86.70	16.08	4.90	0.50	0.20	5.00	8.50	13.00	15.74	0.00
	19-Jun-03	3	16.20	400.00	7.83	285.00	0.00	46.80	278.90	214.90	302.40	272.00	13.44	135.00	10.00	3.00	1.20	0.16	5.00	6.80	16.00	8.18	0.00
	18-Sep-03	3	14.10	456.00	7.94	330.00	0.20	61.10	199.00	152.70	263.30	171.60	8.70	80.60	10.10	5.80	0.80	0.14	4.00	6.90	12.00	6.24	0.00
	21-Oct-03	3	11.50	345.00	7.70	169.00	0.10	145.30	211.00	149.70	377.30	331.00	8.85	82.00	8.00	3.50	0.60	0.20	4.00	6.30	13.00	5.70	0.00
	04-Nov-03	3	10.10	341.00	7.99	274.00	0.00	0.30	168.70	210.33	27.00	360.00	10.40	96.20	10.10	4.10	0.60	1.00	4.00	5.70	9.00	6.40	0.00

Table 2.23 River Water Quality in 2002 (Vodovod)

Table. River Water Quality (2002)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvvk	kislorod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli	pam	masti
R.Lepenec																								
	05-Feb-02	2	192.70	372.00	8.15	171.00	0.10	1.20	194.00	192.70	195.2	13.73	105.60	18.20	4.68	0.13	0.02	1.60		18.00	7.37	18.00		
	21-Feb-02	2	150.30	327.00	8.48	139.00	0.40	136.50	188.00	150.30	324.5	11.65	102.19	14.40	1.61	0.31	0.05	1.81	0.70	10.00	3.36	10.00		0.01
	12-Mar-02	2	198.00	310.00	8.30	167.00	1.30	258.00	220.00	198.00	478	12.05	94.88	24.34	4.52	0.48	0.05	1.30	0.80	12.00	20.37	12.00		0.04
	26-Mar-02	2	103.20	293.00	9.49	162.00	0.10	32.30	147.00	103.20	179.3	11.62	94.09	8.80	1.75	0.33	0.03	0.90	0.70	10.00	9.15	10.00		0.01
	12-Apr-02	2	81.30	251.00	8.60	167.00	0.20	25.50	157.20	81.30	182.7	11.30	104.20	11.70	3.89	0.16	0.03	0.60	0.20	7.00	6.70	7.00		0.00
	16-May-02	2	145.80	249.00	8.70	171.00	0.50	164.90	192.25	145.80	357.15	9.70	88.90	8.20	3.71	0.12	0.03	0.90	0.18	10.00	12.19	10.00		0.00
	30-May-02	2	88.00	248.00	8.41	180.00	0.80	28.80	138.00	88.00	166.8	10.22	102.70	9.80	0.32	0.25	0.03	0.68	0.37	9.00	5.18	9.00		0.01
	18-Jun-02	2	197.10	285.00	8.60	169.00	0.10	12.30	218.70	197.10	231	9.08	98.17	10.50	2.75	0.23	0.03	0.90	0.51	8.00	7.50	8.00		0.00
	02-Jul-02	2	95.00	378.00	8.50	172.00	0.00	10.20	130.66	95.00	140.86	8.92	109.68	9.11	3.30	0.12	0.02	0.90	0.18	12.00	10.44	12.00		0.00
	03-Oct-02	2	103.30	290.00	8.46	175.00	0.05	145.20	200.00	103.30	345.2	10.31	85.52	18.27	7.43	0.16	0.02	1.00	0.28	8.00	13.50	8.00		0.03
	05-Nov-02	2	120.00	283.00	8.30	174.00	1.20	500.00	191.33	120.00	691.33	10.63	97.50	18.90	3.42	0.24	0.05	0.90	0.48	8.00	7.84	8.00		0.00
	19-Nov-02	2	0.00	299.00	8.40	154.00	0.00	18.70	0.00	0.00	18.7	11.43	109.44	8.20	2.00	0.08	0.05	1.13	0.13	7.00	7.00	7.00		0.00
	12-Dec-02	2	26.41	284.00	8.53	154.00	0.00	53.12	162.60	26.41	215.72	13.40	105.50	11.14	1.78	0.23	0.02	1.00	0.38	7.00	8.83	7.00		0.00
r.Vardar (most ON)																								
	05-Feb-02	1	157.40	338.00	8.40	164.00	0.30	23.10	164.30	157.40	187.4	12.99	102.20	14.40	4.69	0.39	0.02	1.13		12.00	5.82	12.00		
	21-Feb-02	1	143.10	423.00	8.10	136.00	0.00	96.50	150.20	143.10	246.7	14.45	132.57	10.30	1.67	0.16	0.02	1.13	0.45	14.00	0.00	14.00		0.10
	12-Mar-02	1	168.00	378.00	8.20	162.00	0.60	59.10	180.00	168.00	239.1	10.45	91.66	13.90	2.27	0.08	0.03	1.10	0.12	14.00	8.90	14.00		0.00
	26-Mar-02	1	186.50	378.00	9.15	165.00	0.00	1.40	203.00	186.50	204.4	12.54	110.00	8.20	1.70	0.00	0.02	1.13	0.00	11.00	6.32	11.00		0.01
	12-Apr-02	1	183.30	338.00	8.50	159.00	0.10	0.00	211.60	183.30	211.6	11.23	105.40	10.10	5.42	0.16	0.06	1.13	0.20	12.00	21.26	12.00		0.00
	16-May-02	1	151.70	287.00	8.50	172.00	0.10	15.90	182.50	151.70	198.4	7.75	73.10	5.60	1.23	0.16	0.43	0.90	0.20	10.00	3.17	10.00		0.00
	30-May-02	1	93.60	312.00	8.28	182.00	0.10	6.00	154.57	93.60	160.57	9.71	97.65	7.90	1.46	0.12	0.02	0.90	0.20	9.00	6.95	9.00		0.00
	18-Jun-02	1	222.30	333.00	8.70	171.00	0.00	2.20	251.75	222.30	253.95	11.28	127.98	8.91	2.24	0.10	0.02	0.90	0.20	12.00	5.20	12.00		0.00
	02-Jul-02	1	98.70	363.00	8.70	171.00	0.00	0.00	162.00	98.70	162	11.38	145.20	9.11	2.20	0.08	0.02	0.90	0.12	12.00	6.23	12.00		0.00
	03-Oct-02	1	94.10	312.00	8.50	167.00	0.50	60.00	193.20	94.10	253.2	10.76	89.20	10.82	1.28	0.13	0.01	0.90	0.22	8.00	5.10	8.00		0.03
	05-Nov-02	1	82.40	399.00	8.46	170.00	0.20	111.10	170.00	82.40	281.1	11.48	105.30	9.20	2.41	0.16	0.04	1.13	0.23	13.00	4.51	13.00		0.00
	19-Nov-02	1	0.00	372.00	8.60	151.00	0.00	19.80	0.00	0.00	19.8	11.75	107.28	8.20	2.50	0.08	0.05	1.13	0.12	13.00	7.60	13.00		0.00
	12-Dec-02	1	148.04	276.00	8.43	161.00	0.00	52.94	171.60	148.04	224.54	11.84	98.70	9.50	1.75	0.08	0.02	0.90	0.12	7.00	6.15	7.00		0.00
r.Vardar (s. Jurumleri)																								
	05-Feb-02	3	189.90	419.00	8.70	170.00	0.20	7.50	198.30	189.90	205.8	11.10	89.80	20.70	5.79	0.75	0.04	1.13		13.00	7.62	13.00		
	21-Feb-02	3	171.80	413.00	8.27	146.00	0.40	72.70	193.10	171.80	265.8	10.00	87.72	14.40	4.47	0.94	0.06	1.36	1.72	14.00	1.23	14.00		0.01
	12-Mar-02	3	288.00	377.00	8.10	167.00	1.20	223.60	320.00	288.00	543.6	10.26	90.00	18.96	4.13	0.48	0.05	1.30	0.73	12.00	12.60	12.00		0.00
	26-Mar-02	3	168.90	404.00	8.80	159.00	0.50	101.70	201.70	168.90	303.4	10.97	96.23	10.10	2.58	1.17	0.04	1.13	2.25	12.00	7.51	12.00		0.01
	12-Apr-02	3	169.65	345.00	8.20	178.00	1.00	53.50	202.80	169.65	256.3	8.77	82.30	14.80	4.95	1.00	0.06	0.80	1.50	13.00	5.60	13.00		0.00
	16-May-02	3	142.70	301.00	8.20	174.00	0.70	179.70	182.25	142.70	361.95	11.03	104.00	12.60	2.83	1.41	0.06	1.13	2.35	8.00	9.20	8.00		0.00
	30-May-02	3	116.00	321.00	8.32	178.00	0.50	79.70	190.00	116.00	269.7	8.80	88.48	10.40	2.59	0.39	0.04	0.90	0.43	10.00	5.93	10.00		0.01
	18-Jun-02	3	248.30	390.00	8.20	170.00	0.50	16.10	270.00	248.30	286.1	6.52	77.25	9.23	3.03	1.17	0.05	0.90	2.40	10.00	5.90	10.00		0.00
	02-Jul-02	3	110.20	449.00	8.10	172.00	0.10	12.30	179.66	110.20	191.96	4.49	53.25	10.40	5.00	1.26	0.06	1.10	2.00	15.00	8.37	15.00		0.00
	05-Nov-02	3	173.40	416.00	8.24	178.00	0.40	25.00	279.66	173.40	304.66	9.48	87.04	9.20	2.82	0.62	0.07	1.13	1.10	14.00	7.84	14.00		0.00
	19-Nov-02	3	0.00	388.00	8.30	162.00	0.10	19.50	0.00	0.00	19.5	8.88	81.13	9.40	3.15	0.94	0.05	1.13	1.60	12.00	7.70	12.00		0.01
	12-Dec-02	3	161.92	301.00	8.35	155.00	0.00	55.24	176.60	161.92	231.84	11.63	96.90	17.00	4.57	0.47	0.03	0.90	0.84	8.00	6.22	8.00		0.00

(2) Outlet Water Quality

Table 2.24 Outlet Water Quality in 2006 (Vodovod)

Table. Outlet Water Quality (2006)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvvk	zanvk	kislorod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli
04 fekalen ispust (N.Lisi~e)																							
	12-Jan-06	4	14.10	1,157.00	7.17	250.00	0.00	45.00	662.30	484.25	707.30	512.00	5.00	49.00	205.00	120.00	30.00	0.00	2.00		180.00	23.30	0.03
	26-Jan-06	4	12.30	854.00	8.60	211.00	1.00	15.40	497.70	366.20	513.10	403.30	5.35	50.00	200.00	213.70	12.00	0.32	4.00	20.00	35.00	19.80	0.02
	09-Feb-06	4	11.90	1,048.00	7.65	153.00	2.00	76.20	615.30	369.60	691.50	431.80	5.35	49.50	568.80	580.00	25.00	1.00	7.00	30.00	88.00	53.70	0.03
	09-Mar-06	4	13.40	980.00	7.90	202.00	0.50	80.30	607.00	365.00	687.30	430.00	3.30	32.70	116.00	23.50	12.00	0.00	1.00	14.40	71.00	39.40	0.03
	06-Apr-06	4	15.40	1,053.00	7.94	192.00	0.50	129.60	653.00	468.80	782.60	520.00	1.53	15.45	185.00	138.10	15.00	1.20	4.00	18.00	70.00	48.93	0.02
	20-Apr-06	4	18.00	921.00	7.90	198.00	1.50	116.80	414.60	317.80	531.40	363.60	3.06	32.21	167.00	83.90	20.00	1.20	4.00	28.30	51.00	22.26	0.06
	06-Jun-06	4	16.80	885.00	7.90	200.00	3.50	123.90	527.30	439.00	651.20	508.50	5.35	54.10	115.00	66.50	4.00	0.50	0.50	9.00	70.00	21.70	0.00
	14-Sep-06	4	18.70	796.00	7.98	156.00	7.00	332.60	486.30	394.10	818.90	495.60	2.75	30.27	211.00	102.40	16.00	0.00	3.00	23.00	40.00	28.08	0.03
	03-Oct-06	4	18.60	1,016.00	7.50	121.00	3.00	123.30	585.33	469.41	708.63	507.40	2.75	29.00	75.00	78.60	32.00	0.00	0.00	53.00	112.00	26.00	0.03
	17-Oct-06	4	17.40	821.00	7.30	198.00	0.00	165.80	355.00	277.40	520.80	298.50	2.14	22.50	113.50	95.70	18.00	0.00	0.00	31.20	39.00	37.10	0.02
	31-Oct-06	4	16.00	972.00	7.75	183.00	0.40	176.10	547.00	424.70	723.10	460.40	2.75	27.82	150.00	78.51	10.00	0.00	2.00	18.00	40.00	24.10	0.03
	14-Nov-06	4	14.40	935.00	7.77	150.00	2.00	128.20	500.00	393.90	626.20	433.40	4.28	41.60	148.00	71.15	16.00	0.00	2.00	23.00	45.00	25.30	0.07
	30-Nov-06	4	14.40	1,171.00	7.63	148.00	2.00	131.60	644.00	526.64	775.60	587.04	1.90	19.30	168.00	150.30	16.00	0.00	0.00	21.80	118.00	46.91	0.03
	21-Dec-06	4	13.40	1,034.00	8.00	107.00	1.30	311.70	563.66	432.72	875.36	627.32	9.18	89.10	162.10	111.80	40.00	0.00	0.00	63.00	67.00	38.60	0.01
05 fekalen ispust (Most Bliznak)																							
	12-Jan-06	5	13.50	999.00	8.00	192.00	1.00	34.00	569.30	405.30	603.30	459.70	3.00	30.00	60.00	37.30	20.00	0.00	2.00		44.00	54.00	0.01
	26-Jan-06	5	12.70	957.00	8.10	170.00	0.50	10.00	465.00	388.00	475.00	419.00	3.83	35.50	100.00	107.80	20.00	0.32	3.00	35.00	51.00	27.00	0.21
	09-Feb-06	5	11.70	988.00	8.08	130.00	10.00	197.00	539.00	430.20	736.00	496.60	2.76	25.50	120.70	211.00	40.00	0.80	5.00	45.00	53.00	30.00	0.03
	09-Mar-06	5	13.60	978.00	8.06	166.00	2.50	162.80	531.60	424.00	694.40	560.00	2.60	25.30	144.00	31.00	18.00	0.00	2.00	20.25	51.00	39.70	0.04
	06-Apr-06	5	17.20	971.00	8.00	137.00	10.00	207.10	551.30	436.30	758.40	504.70	0.92	9.29	143.00	80.00	20.00	1.00	3.00	22.40	42.00	42.75	0.02
	20-Apr-06	5	16.50	967.00	8.00	160.00	4.00	204.40	527.60	364.90	732.00	414.00	1.99	20.13	168.00	106.70	30.00	0.40	3.00	39.60	47.00	28.41	0.05
	06-Jun-06	5	18.40	996.00	8.00	135.00	9.00	175.70	587.30	452.90	763.00	516.80	1.53	16.14	141.00	64.70	12.00	0.00	0.50	19.00	56.00	28.70	0.02
	14-Sep-06	5	19.80	1,015.00	7.96	115.00	7.00	247.40	639.30	524.60	886.70	597.50	0.76	8.42	237.00	95.90	30.00	0.50	3.00	41.00	90.00	30.60	0.06
	03-Oct-06	5	20.60	889.00	7.70	107.00	4.00	148.40	510.66	379.06	659.06	423.00	1.84	20.00	120.00	67.10	34.00	0.00	2.00	50.00	44.00	35.00	0.05
	17-Oct-06	5	16.30	854.00	7.76	132.00	1.00	296.90	912.80	466.30	682.90	324.60	1.00	7.74	95.10	57.20	24.00	0.00	0.00	45.40	41.00	41.50	0.03
	31-Oct-06	5	15.70	850.00	7.74	161.00	7.00	38.60	466.30	345.60	1,379.10	780.30	2.76	27.88	123.00	42.87	10.00	1.20	2.00	17.60	40.00	19.70	0.01
	14-Nov-06	5	14.00	970.00	7.90	115.00	6.00	159.90	523.00	423.80	682.90	467.30	2.45	23.80	175.00	59.11	24.00	0.00	2.00	33.00	45.00	26.55	0.11
	30-Nov-06	5	14.60	945.00	7.87	95.00	3.00	154.70	463.33	373.70	618.00	417.80	2.30	22.30	124.00	187.70	20.00	0.00	0.00	35.40	47.00	34.42	0.03
	21-Dec-06	5	13.00	1,021.00	7.90	89.00	3.00	222.70	509.33	392.29	732.03	458.30	4.60	42.60	141.80	53.44	48.00	0.00	0.00	67.30	43.00	37.60	0.01
06 fekalen ispust (Keramidnica)																							
	12-Jan-06	6	14.70	1,091.00	8.50	110.00	5.00	116.90	475.00	412.70	591.90	466.10	2.32	23.00	210.00	110.50	50.00	0.00	3.00	73.00	56.00	47.30	0.06
	26-Jan-06	6	12.40	1,150.00	8.50	120.00	0.50	22.10	563.00	414.90	585.10	457.00	2.32	21.50	200.00	262.30	48.00	0.20	2.00	56.00	88.00	40.70	0.69
	09-Feb-06	6	12.40	985.00	8.13	133.00	6.00	98.50	806.30	587.20	904.80	638.90	6.82	63.10	343.60	214.00	50.00	2.00	3.00	54.00	63.00	40.80	0.04
	06-Apr-06	6	19.00	1,077.00	8.20	11.00	5.00	188.10	623.30	450.40	811.40	509.20	0.46	5.11	268.00	24.50	50.00	0.24	1.00	48.30	51.00	61.62	0.04
	20-Apr-06	6	15.70	1,058.00	8.20	114.00	8.00	273.60	556.30	360.10	829.90	414.90	2.32	23.48	315.00	175.70	40.00	0.24	2.00	44.50	63.00	41.10	0.09
	06-Jun-06	6	19.90	1,116.00	8.20	92.00	11.00	192.50	608.30	495.60	800.80	578.00	1.70	18.73	244.00	116.20	10.00	0.00	0.50	21.00	84.00	45.90	0.07
	14-Sep-06	6	21.20	1,120.00	7.80	88.00	18.00	471.90	700.30	516.80	1,172.20	660.00	1.16	12.80	331.00	176.50	40.00	0.50	3.00	48.00	115.00	49.80	0.13
	03-Oct-06	6	22.30	980.00	7.90	104.00	1.00	289.10	552.33	381.18	841.43	444.40	2.32	27.00	173.00	126.80	60.00	0.00	4.00	72.00	54.00	51.00	0.08
	17-Oct-06	6	16.20	957.00	8.02	92.00	1.00	349.70	539.70	393.60	889.40	568.40	1.00	7.80	167.70	83.40	40.00	0.00	0.00	78.30	50.00	53.10	0.06
	31-Oct-06	6	18.70	110.00	7.94	101.00	4.00	308.20	613.60	443.90	921.80	680.30	1.55	16.31	216.00	131.68	40.00	0.00	2.00	39.00	55.00	36.00	0.12
	14-Nov-06	6	14.00	1,075.00	8.05	80.00	10.00	463.80	607.00	449.30	1,070.80	673.20	2.50	24.32	244.00	90.37	32.00	0.00	2.00	42.00	53.00	31.20	0.23
	30-Nov-06	6	17.00	1,111.00	8.10	64.00	7.00	301.30	583.33	447.04	884.63	652.05	1.50	15.60	216.00	64.90	32.00	0.00	0.00	49.80	57.00	58.87	0.08
07 fekalen ispust (Vardari{te 1)																							
	17-Jan-06	7	11.70	979.00	7.96	180.00	0.10	132.00	483.33	401.35	615.33	428.35	3.17	30.00	315.70	154.00	15.00	0.30	0.00	19.00	40.00	29.05	0.02
	31-Jan-06	7	10.80	905.00	7.85	184.00	0.10	63.20	463.30	388.90	526.50	424.40	3.80	35.30	68.00	85.89	20.00	0.24	3.00	35.00	37.00	18.00	0.02
	14-Feb-06	7	11.00	339.00	8.30	253.00	0.10	24.60	176.30	149.30	200.90	175.90	10.15	89.80	37.70	82.60	1.60	0.12	4.00	2.80	12.00	3.48	0.01
	18-Apr-06	7	16.10	896.00	7.90	202.00	2.00	116.20	156.70	115.20	272.70	146.90	2.30	23.20	170.00	67.00	15.00	1.00	2.00	22.10	35.00	30.90	0.02
	19-Sep-06	7	18.30	805.00	7.20	140.00	1.00	95.80	503.30	405.70	599.10	445.90	0.00	0.00	74.00	113.70	20.00	0.10	2.00	31.00	33.00	24.70	0.02
	05-Oct-06	7	18.50	842.00	7.50	156.00	1.00	165.10	348.00	316.10	513.10	343.50	1.42	15.00	63.00	58.00	28.00	0.07	0.00	52.00	35.00	25.42	0.01
	19-Oct-06	7	16.20	827.00	7.50	231.00	1.00	130.60	435.70	405.80	566.30	429.00	2.40	24.00	109.00	53.80	20.00	0.24	3.00	38.50	0.00	28.90	0.01
	02-Nov-06	7	15.80	962.00	7.67	146.00	0.80	316.90	506.30	461.40	823.20	708.50	1.58	16.02	144.00	101.40	45.00	0.00	1.00	58.00	50.00	31.26	0.02
	21-Nov-06	7	14.40	1,030.00	7.78	140.00	1.00	323.40	543.00	433.40	866.00	4.00	4.28	41.60	94.00	52.80	24.00	0.00	2.00	33.00	44.00	24.90	0.01
	05-Dec-06	7	14.00	944.00	7.65	150.00	1.00	32.70	480.66	453.27	513.36	487.27	1.90	18.48	98.17	68.30	28.00	0.00	3.00	49.00	43.00	24.62	0.00
08 fekalen ispust (kanal USJE)																							
	17-Jan-06	8	10.50	1,210.00	7.28	149.00	1.00	237.90	662.33	485.70	900.23	690.70	1.20	10.60	528.60	143.00	20.00	0.00	0.00	33.00	67.00	60.70	0.16
	31-Jan-06	8	7.80	796.00	7.87	184.00	0.50	146.00	480.00	403.30	626.00	533.20	7.50	63.40	198.00	56.29	40.00	0.00	2.00	50.00	57.00	21.00	0.03
	14-Feb-06	8	11.00	552.00	8.00	234.00	0.20	59.00	334.00	262.10	393.00	321.20	8.97	79.40	122.80	134.50	20.00	0.05	3.00	35.00	29.00	15.30	0.01
	18-Apr-06	8	14.90	735.00	7.80	121.00	3.00	570.80	155.40	114.60	726.20	645.20	7.90	76.70	190.00	112.30	5.00	0.10	5.00	8.60	31.00	28.62	0.06
	19-Sep-06	8	14.90				48.00	7,116.00	446.60	356.80	7,582.60	6,697.30	0.00	0.00	32.00	80.90	0.20	0.24	25.00	0.38	20.00	22.30	0.00
	05-Oct-06	8	15.10				24.00	3,714.90	425.33	291.90	4,140.23	624.00	0.00	0.00	39.60	42.00	0.40	2.20	25.00	1.30	25.00	32.03	0.01

Table 2.25 Outlet Water Quality in 2005 (Vodovod)

09 Tekalen ispust (Vardari(te 2)																											
17-Jan-06	9	11.00	999.00	7.98	135.00	0.50	35.40	468.55	385.80	504.10	412.30	3.80	35.20	308.60	100.00	24.00	0.10	0.00	39.00	47.00	31.90	0.06					
31-Jan-06	9	10.10	992.00	8.00	142.00	0.10	44.70	523.30	441.60	568.00	470.40	5.30	47.20	99.00	142.93	32.00	0.05	3.00	48.00	50.00	27.00	0.07					
14-Feb-06	9	12.00	946.00	8.10	153.00	7.00	96.80	577.00	420.80	673.80	454.90	2.28	20.20	521.70	310.00	60.00	0.60	3.00	78.00	49.00	35.70	0.03					
18-Apr-06	9	14.00	1,188.00	8.00	109.00	4.00	487.40	201.70	141.08	689.10	424.70	3.17	30.80	220.00	154.30	50.00	0.24	2.00	47.30	67.00	54.27	0.09					
19-Sep-06	9	19.60	940.00	7.45	105.00	2.50	139.60	575.30	426.10	714.90	480.60	0.76	8.39	138.00	145.40	60.00	0.10	1.00	69.00	48.00	28.00	0.04					
05-Oct-06	9	20.00	1,035.00	7.65	76.00	4.00	303.30	614.00	443.80	917.30	546.90	0.00	0.00	199.80	118.00	70.00	0.00	4.00	115.00	49.00	53.70	0.07					
19-Oct-06	9	17.30	1,060.00	7.66	134.00	5.00	247.50	224.70	157.90	472.20	215.10	3.00	32.10	176.20	124.30	40.00	0.00	0.00	67.80	0.00	46.20	0.05					
02-Nov-06	9	16.00	1,044.00	7.66	108.00	3.50	931.30	464.30	386.90	1,395.60	760.40	0.00	0.00	74.00	48.10	20.00	0.05	1.00	42.00	37.00	18.81	0.01					
21-Nov-06	9	14.70	1,204.00	7.89	104.00	4.00	409.40	628.00	525.30	1,037.40	703.50	2.28	22.20	233.00	28.80	26.00	0.00	2.00	28.00	60.00	32.10	0.02					
06-Dec-06	9	14.00	1,080.00	7.80	122.00	2.50	87.60	450.66	376.97	538.26	421.17	1.98	19.22	156.60	100.00	36.00	0.00	3.00	58.70	35.00	33.88	0.04					
10 Talo`nik Dra~evo (vlez)																											
19-Jan-06	10	11.10	843.00	8.00	171.00	2.50	144.00	303.00	60.40	447.00	35.90	3.90	35.90	321.00	137.40	36.00	0.00	3.00	67.00	54.00	39.46	0.09					
02-Feb-06	10	8.60	1,195.00	8.16	118.00	3.50	121.60	683.60	482.90	804.70	524.40	5.03	42.60	262.00	253.60	80.00	0.80	7.00	100.00	68.00	55.20	0.13					
16-Feb-06	10	8.30	1,288.00	8.20	120.00	3.00	175.40	764.00	504.70	939.40	556.90	0.00	0.00	270.00	131.15	80.00	1.20	4.00	92.40	95.00	41.10	0.11					
02-Mar-06	10	9.90	1,064.00	8.12	153.00	2.00	32.20	564.66	413.21	596.90	529.70	3.74	33.00	173.00	130.00	20.00	0.00	0.00	37.20	54.00	12.74	0.14					
16-Mar-06	10	10.00	1,116.00	8.20	121.00	1.50	66.20	598.30	355.00	664.50	400.00	4.31	38.20	450.00	139.60	30.00	0.16	5.00	25.00	60.00	53.00	0.06					
11-Apr-06	10	13.80	1,184.00	8.18	100.00	6.00	223.50	503.60	415.80	727.10	476.80	1.50	14.52	310.60	122.21	30.00	1.20	2.00	26.00	59.00	22.00	0.16					
25-Apr-06	10	15.00	1,281.00	8.22	142.00	4.00	222.90	664.30	424.50	887.20	483.20	1.43	14.52	309.00	149.50	80.00	2.00	2.00	73.40	55.00	72.00	0.05					
21-Sep-06	10	19.80	1,180.00	7.80	115.00	10.00	179.30	683.00	449.10	862.30	143.00	0.00	0.00	213.00	297.60	90.00	0.10	1.00	110.00	70.00	52.50	0.16					
24-Oct-06	10	17.40	1,277.00	8.15	76.00	3.00	387.70	446.00	370.04	833.70	411.94	0.00	0.00	191.40	142.70	80.00	0.00	0.00	136.40	79.00	55.90	0.20					
07-Nov-06	10	15.30	1,257.00	7.66	111.00	3.00	238.70	730.00	262.30	968.70	344.70	0.00	0.00	269.00	85.91	40.00	0.00	2.00	43.00	61.00	60.04	0.07					
23-Nov-06	10	14.20	1,085.00	7.73	83.00	2.00	234.40	626.60	513.80	422.40	861.00	2.58	25.10	290.00	119.70	40.00	0.10	2.00	65.00	55.00	25.30	0.09					
12-Dec-06	10	13.60	1,186.00	7.80	67.00	4.00	181.20	633.60	481.60	814.80	541.90	3.60	34.90	200.00	141.30	30.00	0.00	0.00	48.00	61.00	70.00	0.08					
13-Dec-06	10		1,073.00	7.94	50.00	3.00	256.30	665.00	452.70	921.30	623.10			163.00	126.98	40.00	0.00	3.00	64.30	57.00		0.05					
13-Dec-06	10		1,090.00	7.97	42.00	3.50	151.70	617.33	440.90	769.00	537.30			81.00	125.60	35.00	0.00	3.00	52.70	64.00		0.14					
13-Dec-06	10		1,095.00	7.88	38.00	4.00	317.90	613.66	547.50	931.60	789.80			41.00	175.05	35.00	0.00	3.00	58.20	62.00		0.16					
14-Dec-06	10		1,040.00	7.81	31.00	3.00	146.70	582.33	430.00	729.00	513.70			147.60	156.60	36.00	0.00	0.00	51.40	58.00	80.00	0.07					
14-Dec-06	10		1,037.00	7.92	21.00	2.00	92.60	555.33	434.52	647.90	491.50			114.14	81.70	40.00	0.00	2.00	63.50	54.00	89.00	0.07					
14-Dec-06	10		1,120.00	8.06	17.00	2.50	161.20	547.66	402.35	708.90	510.70			205.80	158.50	48.00	0.00	3.00	70.00	68.00	108.00	0.09					
11 Talo`nik Dra~evo (izlez)																											
19-Jan-06	11	10.00	818.00	8.10	146.00	2.50	150.50	39.40	394.00	80.00	544.50	3.70	34.80	318.00	180.90	25.00	0.00	0.00	43.00	53.00	45.85	0.05					
02-Feb-06	11	8.40	1,192.00	8.24	104.00	3.50	181.10	670.00	469.00	851.10	523.60	4.20	35.60	261.00	252.90	80.00	2.00	6.00	111.00	68.00	42.60	0.12					
16-Feb-06	11	8.90	1,242.00	8.50	103.00	1.00	76.90	504.30	410.40	581.20	455.50	0.00	0.00	230.00	240.50	80.00	0.50	5.00	91.30	75.00	35.40	0.10					
02-Mar-06	11	9.80	1,013.00	8.16	148.00	1.50	26.10	507.66	415.96	533.80	502.50	3.91	34.60	173.00	166.00	30.00	0.00	0.00	26.30	44.00	13.53	0.06					
16-Mar-06	11	9.70	1,145.00	7.80	157.00	0.10	50.00	548.60	325.50	598.60	369.00	4.00	360.00	750.00	268.50	25.00	0.20	5.00	23.00	58.00	52.00	0.06					
11-Apr-06	11	13.90	1,159.00	8.17	115.00	5.00	214.90	547.60	462.70	762.50	520.70	1.21	11.83	322.60	92.09	40.00	1.60	4.00	38.00	58.00	22.00	0.19					
25-Apr-06	11	15.50	1,278.00	8.20	110.00	3.00	207.80	635.60	437.00	843.40	483.40	0.00	0.00	307.00	110.80	80.00	1.60	2.00	74.20	60.00	77.10	0.05					
21-Sep-06	11	19.80	1,170.00	7.90	110.00	10.00	182.00	653.30	423.20	835.30	151.30	0.00	0.00	220.00	142.60	90.00	0.10	1.00	110.00	70.00	35.40	0.18					
24-Oct-06	11	17.60	1,224.00	7.94	120.00	4.00	450.40	639.66	442.11	1,090.10	492.01	0.00	0.00	207.80	80.64	80.00	0.00	0.00	118.70	72.00	54.70	0.11					
07-Nov-06	11	15.00	1,222.00	7.72	85.00	3.00	234.40	711.00	171.10	945.40	240.10	0.00	0.00	283.00	144.00	40.00	0.00	2.00	42.00	61.00	65.70	0.05					
23-Nov-06	11	13.90	1,090.00	7.70	78.00	2.00	260.50	677.20	574.20	937.70	799.20	1.65	16.00	286.00	84.00	30.00	0.10	3.00	48.00	55.00	31.30	0.07					
12-Dec-06	11	13.60	1,187.00	8.00	76.00	2.00	153.30	678.30	479.25	831.60	527.50	3.00	29.10	214.00	158.65	28.00	0.00	0.30	47.00	60.00	70.00	0.02					
12 Bardovci																											
16-Feb-06	12	10.00	801.00	7.90	202.00	0.30	29.50	440.60	338.90	470.10	380.70	7.97	70.60	0.00	48.00	3.00	0.32	8.00	6.20	25.00	11.50	0.02					
11-Apr-06	12	14.00	789.00	8.04	139.00	0.00	62.20	494.60	386.00	556.80	408.90	6.66	64.70	66.50	35.57	4.50	0.20	13.00	7.20	29.00	7.00	0.01					
25-Apr-06	12	17.50	813.00	8.00	112.00	0.00	39.70	445.60	355.60	485.30	380.60	5.41	57.04	40.00	25.94	10.00	0.60	10.00	18.60	25.00	26.40	0.01					
24-Oct-06	12	11.60	734.00	7.70	214.00	1.00	349.90	602.70	467.69	952.60	639.90	5.60	51.60	7.91	19.74	14.00	8.00	5.00	23.00	34.00	36.70	0.04					
12-Dec-06	12	13.60	791.00	7.80	75.00	0.00	90.90	354.66	312.60	445.56	416.80	7.52	73.00	35.00	25.60	2.40	0.00	0.60	1.00	24.00	41.00	0.02					

Table 2.26 Outlet Water Quality in 2005 (Vodovod)

Table. Outlet Water Quality (2005)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvvk	zarvk	kisbrod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli
04 fekalen ispust (N.Lisi~e)																							
	18-Jan-05	4	15.10	1,002.00			0.40	38.20	491.66	370.50	529.86	513.30	0.77	7.52	185.00	72.46	70.00	0.00	0.00	125.00	49.00	55.00	0.67
	15-Mar-05	4	13.70	868.00	7.92	140.00	6.00	218.00	469.70	382.08	687.70	450.70	1.68	16.34	356.00	98.00	24.80	0.00	0.90	30.60	48.00	44.70	0.06
	27-May-05	4	19.00	877.00		136.00	5.00	289.40	437.66	244.00	727.06	490.00	1.53	16.80	150.00	56.47	30.00	0.00	0.30	39.00	40.00	40.00	0.06
	23-Jun-05	4	21.50	1,023.00	7.55	101.00	5.50	158.20	534.00	388.80	692.20	494.30	1.55	17.81	337.40	97.44	35.00	0.00	0.90	68.00	62.00	68.70	0.04
	03-Nov-05	4	18.30	1,171.00	8.38	80.00	6.00	440.40	550.66	451.70	991.00	510.70	2.32	24.50	250.00	111.35	98.00	0.00	0.00	78.00	293.00	42.00	0.00
	17-Nov-05	4	17.20	1,160.00	8.50	112.00	4.00						6.20	65.30	230.00	57.00	60.00	0.00	3.00	53.00	60.00	53.50	0.10
05 fekalen ispust (Most Bliznak)																							
	18-Jan-05	5	13.90	1,050.00			0.30	33.50	521.33	410.46	554.83	532.40	1.84	17.86	153.00	87.85	65.00	0.00	0.00	88.00	58.00	43.00	0.24
	15-Mar-05	5	15.30	947.00	7.89	142.00	8.00	190.00	527.70	363.30	717.70	519.40	1.55	15.60	267.00	157.00	18.78	0.00	0.90	23.40	78.00	48.60	0.10
	27-May-05	5	19.00	898.00		120.00	3.00	135.90	570.33	202.00	706.23	520.00	1.50	17.00	150.00	317.60	10.00	0.00	0.00	15.00	40.00	44.00	0.03
	23-Jun-05	5	20.70	1,023.00	7.58	117.00	4.00	197.70	505.00	419.80	712.70	535.30	1.53	16.85	368.14	110.60	31.00	0.00	0.80	58.00	68.00	26.10	0.03
	03-Nov-05	5	16.70	902.00	8.00	140.00	5.00	218.60	440.33	342.75	658.93	414.35	1.68	17.75	100.00	71.42	60.00	3.00	0.00	55.00	40.00	26.50	0.00
	17-Nov-05	5	15.60	964.00	8.10	170.00	0.50						5.40	54.20	130.00	38.70	20.00	0.00	2.00	18.00	76.00	29.00	0.05
06 fekalen ispust (Keramidnica)																							
	18-Jan-05	6	13.00	1,017.00			0.50	80.90	527.33	421.86	608.23	565.06	2.14	19.83	151.00	78.03	80.00	0.00	0.00	110.00	49.00	50.70	0.02
	15-Mar-05	6	14.10	843.00	7.83	192.00	5.00	234.00	438.00	387.30	672.00	478.10	1.53	14.88	291.00	156.50	12.40	0.00	1.10	20.60	50.00	44.60	0.07
	27-May-05	6	19.10	915.00		148.00	0.50	175.90	511.33	209.00	687.23	420.00	0.40	5.00	400.00	98.11	60.00	0.00	0.40	100.00	44.00	3.70	0.03
	23-Jun-05	6	18.70	987.00	7.22	140.00	2.00	274.50	525.30	419.30	799.80	529.70	1.53	16.81	35.80	112.30	3.90	0.00	0.60	72.00	66.00	71.50	0.05
	03-Nov-05	6	16.50	1,430.00	6.80	183.00	3.50	330.60	708.66	457.96	1,039.30	620.56	1.22	12.80	120.00	81.72	30.00	4.50	0.00	35.00	59.00	24.70	0.00
	17-Nov-05	6	10.70	855.00	8.00	198.00	2.00						2.40	21.30	120.00	25.50	5.00	0.00	2.00	6.20	41.00	28.00	0.04
07 fekalen ispust (Vardari{te 1)																							
	17-Mar-05	7	13.40	1,006.00	8.05	140.00	1.00	68.70	579.70	431.00	648.40	470.10	1.58	15.40	171.00	86.47	34.00	0.00	0.60	43.20	59.00	101.60	0.05
	31-May-06	7	17.50	959.00	7.60	148.00	2.00	115.30	524.60	412.70	639.90	465.20	1.35	14.22	75.00	65.25	160.00	0.00	0.30	190.00	40.00	35.70	0.02
	08-Nov-05	7	17.10	1,124.00	8.00	130.00	0.60	172.40	456.66	373.60	629.60	412.50	1.42	15.02	120.00	50.00	20.00	0.00	0.00	15.60	40.00	28.60	0.04
	22-Nov-05	7	10.80	931.00	8.05	172.00	0.05	118.30	424.33	328.80	542.60	360.30	2.85	25.30	105.00		15.00	0.00	3.00	14.80	40.00	28.50	0.06
08 fekalen ispust (kanal USJE)																							
	17-Mar-05	8	13.60	750.00	7.76	165.00	24.00	1,733.00	459.60	380.40	2,192.60	1,993.30	2.24	21.80	52.00	30.42	0.00	3.60	1.13	0.00	65.00	51.30	0.04
	31-May-06	8	15.70	674.00	7.30	179.00	6.00	704.30	461.60	344.30	1,165.90	1,033.00	8.98	90.75	112.00	84.62	8.00	0.00	0.30	14.00	30.00	30.00	0.01
	08-Nov-05	8	13.80	696.00	8.00	200.00	13.00	1,129.50	370.00	300.00	1,499.50	1,388.60	10.47	101.00	80.00	13.40	10.00	0.00	15.00	11.40	24.00	54.20	0.00
	22-Nov-05	8	11.90	809.00	8.00	181.00	0.60	389.70	396.00	305.90	785.70	335.10	7.80	72.10	140.00		5.00	1.20	3.00		36.00	34.00	0.03
09 fekalen ispust (Vardari{te 2)																							
	17-Mar-05	9	12.30	937.00	7.80	138.00	6.00	396.00	617.00	451.70	1,013.00	812.70	0.00	0.00	213.00	129.10	24.80	0.00	0.60	38.50	55.00	107.00	0.09
	31-May-05	9	18.50	1,090.00	7.50	-39.00	4.50	270.30	604.30	439.30	874.60	526.70	0.00	0.00	210.00	81.87	100.00	0.00	0.30	150.00	40.00	49.50	0.11
	08-Nov-05	9	15.70	880.00	7.90	172.00	0.40	54.20	489.66	388.60	543.90	479.70	1.82	18.46	150.00	100.00	40.00	0.00	0.00	37.20	59.00	30.00	0.05
	22-Nov-05	9	14.00	1,003.00	7.80	147.00	0.40	347.60	445.33	298.90	792.90	336.80	2.60	25.10	230.00		20.00	0.00	2.00	22.00	44.00	28.50	0.09
10 talo`nik Dra~evo (vlez)																							
	20-Oct-05	10	13.00	1,170.00			8.00	99.20	658.66	484.05	757.86	560.65	0.00	0.00	254.00	187.00	24.00	0.00	0.00	39.00	62.00	44.10	0.12
	03-Feb-05	10	9.10	1,360.00			1.90	161.10	814.66	604.30	975.70	665.00	2.15	19.00	305.00	198.10	80.00	0.00	0.00	143.00	102.00	48.81	0.23
	03-Mar-02	10	10.00	966.00			5.00	280.70	596.60	466.80	877.40	252.41	2.87	25.40	170.00	136.70	39.00	0.00	0.00	68.00	56.00	63.00	0.09
	22-Mar-05	10	12.40	970.00	7.89	151.00	2.00	868.00	463.70	423.00	1,331.70	702.64	1.72	15.97	174.00	136.70	32.00	0.12	0.90	45.00	65.00	58.21	0.07
	16-Jun-05	10	19.70	1,205.00	7.80	131.00	3.50	168.20	613.00	440.53	181.20	522.23	0.00	0.00	193.50	1.45	47.00	0.00	0.90	58.00	60.00	75.60	0.04
	10-Nov-05	10	15.10	1,392.00	7.90	-80.00	10.00	497.40	614.00	458.56	1,111.40	584.50	0.00	0.00	420.00	126.50	160.00	0.00	0.00	150.00	84.00	58.30	0.11
11 talo`nik Dra~evo (izlez)																							
	20-Jan-05	11	13.90	1,202.00			3.00	160.90	548.66	440.52	709.56	497.22	0.00	0.00	238.00	192.00	46.00	0.00	0.00	79.00	65.00	44.10	0.12
	03-Feb-05	11	8.60	1,319.00			1.80	127.20	810.00	588.10	937.20	644.10	1.19	10.12	261.00	197.10	80.00	0.00	0.00	139.00	102.00	45.60	0.21
	03-Mar-05	11	9.30	1,025.00			3.50	196.00	634.00	505.70	830.00	564.30	2.85	25.26	180.00	142.20	16.00	0.00	0.00	25.00	55.00	65.00	0.16
	22-Mar-05	11	12.20	1,070.00	7.59	153.00	1.00	136.60	643.60	490.10	780.20	552.50	0.00	0.00	123.00	173.50	20.00	0.00	0.60	31.00	72.00	68.46	0.16
	16-Jun-05	11	19.30	1,190.00	7.80	108.00	3.50	186.10	601.00	444.30	787.10	527.60	0.00	0.00	184.00	30.04	62.00	0.00	0.60	73.80	56.00	80.40	0.04
	10-Nov-05	11	15.10	1,358.00	7.80	-114.00	7.00	423.80	583.00	460.50	1,006.80	607.00	0.00	0.00	300.00	140.12	90.00	0.00	0.00	80.00	80.00	60.00	0.08
12 Fi Bardovci																							
	22-Mar-05	12	15.60	640.00	7.75	168.00	0.30	52.90	354.00	321.00	397.90	361.60	4.51	45.60	0.00	23.90	4.00	12.00	1.13	6.50	26.00	37.16	0.23
	16-Jun-05	12	18.50	733.00	7.90	111.00	1.00	65.90	373.60	309.30	439.50	356.10	3.01	31.69	53.20	7.26	8.00	1.20	1.13	15.70	24.00	28.80	0.00
	17-Nov-05	12	13.20	723.00	7.90	194.00	0.10						7.80	77.50		31.10	4.80	0.06	5.00	4.00	29.00	12.20	0.02

Table 2.27 Outlet Water Quality in 2004 (Vodovod)

Table. Outlet Water Quality (2004)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvvk	zarvk	kislorod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli
04 fekalen ispust (Keramidnica)																							
	20-Jan-04	4	14.90	836.00	8.70	168.00	4.00	155.30	498.00	377.28	653.30	423.88	2.14	14.36	306.94	632.40	46.00	0.00	0.90	67.00	48.00	33.21	0.00
	17-Feb-04	4	12.80	984.00	9.14	151.00	3.00	254.20	601.00	441.90	855.20	515.16	2.90	2.28	420.30	177.60	23.00	0.00	0.60	40.50	48.00	40.00	0.04
	22-Apr-04	4	18.00	954.00	8.67	213.00	1.50	156.90	594.00	409.03	750.90	459.73	1.83	19.33	150.00	121.00	16.00	0.00	0.60	22.00	57.00	39.00	0.08
	14-Sep-04	4	18.30	913.00	7.81	13.00	4.00	209.40	593.70		803.10		1.98	21.00	92.00	96.80	12.40	0.00	0.60	20.60	48.00	37.00	0.04
	28-Sep-04	4	17.60	914.00	7.96	51.00	0.50	256.30	431.00	348.55	687.30	392.60	2.44	26.00	160.00	166.63	15.60	0.00	0.60	25.00	43.00	40.00	0.31
05 fekalen ispust (Most Bliznak)																							
	20-Jan-04	5	16.20	976.00	8.71	190.00	3.20	168.50	499.60	423.92	668.10	480.82	1.51	9.34	130.44	669.50	32.00	0.01	0.90	59.00	90.00	32.76	0.03
	03-Feb-04	5	15.80	920.00	8.71	1.73	6.00	155.00	569.33	406.00	724.33	471.40	2.14	13.60	200.00	157.00	25.00	0.00	0.00	44.00	59.00	90.00	0.07
	17-Feb-04	5	14.80	1,090.00	8.63	211.00	6.00	259.60	459.00	315.90	718.60	382.80	2.40	2.50	263.20	76.60	39.00	0.00	0.60	65.30	75.00	43.50	0.11
	26-Feb-04	5	0.00	936.00	8.37	230.00	8.00	443.60	449.00	349.60	892.60	554.20	1.81	1.74	110.00	88.34	46.00	0.00	0.30	73.50	60.00	51.00	0.06
	22-Apr-04	5	18.00	982.00	8.70	159.00	4.00	102.10	510.66	372.47	612.76	411.77	1.96	20.72	130.00	90.00	23.00	0.00	0.30	32.00	55.00	42.50	0.05
	14-Sep-04	5	19.40	926.00	7.87	11.00	4.00	242.80	527.33		770.10		1.53	17.00	101.00	96.29	19.50	0.00	0.60	33.40	42.00	47.00	0.06
	28-Sep-04	5	19.20	939.00	7.90	55.00	2.00	285.20	480.00	373.00	765.20	421.70	2.45	27.00	122.00	125.67	18.80	0.00	0.90	32.60	48.00	46.40	0.03
06 fekalen ispust (N.Lisi~e)																							
	20-Jan-04	6	13.60	786.00	8.68	245.00	2.50	153.40	565.00	431.80	718.40	507.38	2.75	20.25	284.78	562.80	24.00	0.00	0.90	50.00	44.00	528.38	0.00
	03-Feb-04	6	14.40	882.00	8.65	162.00	2.50	138.00	512.33	393.87	650.33	435.87	1.66	11.60	150.00	121.00	52.00	0.00	0.00	87.00	51.00	76.00	0.01
	17-Feb-04	6	15.10	1,030.00	8.74	152.00	8.00	276.20	548.33	381.09	824.53	438.79	1.50	1.57	230.40	142.02	39.00	0.00	0.90	58.20	60.00	50.00	0.08
	26-Feb-04	6	0.00	602.00	8.42	188.00	4.00	186.40	434.00	345.60	620.40	439.90	4.20	4.22	220.00	148.88	40.00	0.00	0.00	71.20	57.00	54.20	0.08
	22-Apr-04	6	19.00	943.00	8.70	167.00	0.50	100.70	543.33	356.14	644.03	388.64	1.86	19.58	280.00	60.00	23.00	0.00	0.30	34.00	44.00	50.10	0.16
	14-Sep-04	6	20.00	891.00	7.79	4.00	4.00	610.50	530.30		1,140.80		2.00	22.00	146.00	117.82	24.80	0.00	0.30	42.30	39.00	46.40	0.08
	28-Sep-04	6	19.60	923.00	7.90	51.00	2.00	139.60	437.66	319.50	577.30	349.70	1.55	17.00	140.00	162.10	24.80	0.00	0.60	40.50	40.00	54.00	0.10
07 fekalen ispust (Vardai{te 1)																							
	16-Sep-04	7	18.60	1,032.00	7.80	19.00	2.00	154.00	450.00	280.00	604.00	319.40	0.00	0.00	190.00	70.00	24.80	0.06	0.30	45.00	35.00	31.20	0.03
	08-Oct-04	7	18.40	993.00	8.00	168.00	4.00	0.00	533.30	398.40	630.40	444.30	0.95	10.02	156.00	94.32	27.50	0.00	0.00	49.00	43.00	31.23	0.03
08 fekalen ispust (kanal US.JE)																							
	16-Sep-04	8	16.80	704.00	7.50	19.00	3.00	517.80	399.00	399.00	916.80	800.60	10.92	115.00	75.00	42.00	0.16	6.00	3.00	0.10	25.00	7.00	0.36
09 fekalen ispust (Vardari{te 2)																							
	09-Mar-04	9	11.00	1,120.00	8.51	181.00	0.10	144.40	522.30	462.50	666.70	526.40	1.52	1.33	7.68	124.00	62.00	0.00	0.60	97.30	50.00	26.66	0.04
	16-Sep-04	9	19.80	1,068.00	7.60	-5.00	3.00	307.00	562.00	372.50	869.00	481.10	0.00	0.00	261.00	131.00	8.00	0.02	0.60	13.80	45.00	56.60	0.12
	08-Oct-04	9	19.60	1,080.00	7.90	-8.00	3.00	84.80	570.60	537.80	655.40	584.40	0.76	8.37	113.00	115.59	27.50	0.00	0.00	51.20	44.00	44.10	0.09
10 talo`nik Dra~evo (vlez)																							
	22-Jan-04	10	9.50	1,107.00	8.30	-27.00	2.00	248.40	1,274.30	1,143.80	1,522.70	1,238.10	3.30	34.81	321.95	234.20	78.00	0.00	0.67	139.80	62.00	54.75	0.11
	05-Feb-04	10	11.40	1,078.00	8.81	153.00	0.00	122.20	564.33	405.30	686.53	466.90	1.58	1.38	300.00	170.00	47.00	0.00	0.60	73.00	65.00	73.00	0.13
	19-Feb-04	10	9.70	1,286.00	8.82	162.00	1.50	176.40	719.33	632.43	895.73	696.33	2.15	2.17	300.00	170.20	39.00	0.00	0.60	60.60	78.00	77.40	0.16
	09-Mar-04	10	10.50	1,244.00	8.80	160.00	4.00	239.70	634.60	523.80	874.30	582.30	2.15	20.54	108.39	163.15	50.00	0.00	0.60	85.20	65.00	53.15	0.05
	07-May-04	10	18.10	1,048.00	8.60	173.00	5.00	242.10	681.30	473.70	923.40	539.30	1.58	16.64	230.60	214.60	29.00	0.24	0.90	41.00	66.00	75.70	0.14
	01-Jun-04	10	18.70	1,037.00	8.60	171.00	0.50	140.70	594.33	424.95	735.03	462.85	0.00	0.00	258.00	143.55	37.50	0.00	0.30	60.90	50.00	80.25	0.16
	21-Sep-04	10	21.00	1,080.00	7.61	130.00	0.20	91.00	535.66	0.00	626.66	0.00	0.00	0.00	200.00	134.64	19.00	0.00	0.30	34.20	58.00	40.00	0.14
11 talo`nik Dra~evo (zlez)																							
	22-Jan-04	11	9.50	1,147.00	8.40	-30.00	2.00	270.80	619.60	535.17	890.40	627.70	2.31	24.34	206.69	177.90	124.00	0.00	0.67	234.50	64.00	48.36	0.13
	05-Feb-04	11	11.60	1,071.00	8.86	137.00	1.00	184.20	664.00	487.80	848.20	544.80	1.54	1.48	250.00	156.70	39.00	0.00	0.60	70.00	67.00	82.00	0.15
	19-Feb-04	11	9.80	1,286.00	8.62	103.00	0.50	138.90	670.33	557.11	809.23	615.00	1.38	1.40	230.00	159.00	47.00	0.00	0.60	84.40	70.00	67.00	0.23
	09-Mar-04	11	10.50	1,280.00	8.60	157.00	1.50	192.40	625.00	523.45	817.40	582.85	1.50	14.30	112.28	156.84	47.00	0.00	0.60	70.00	63.00	48.00	0.03
	07-May-04	11	17.80	1,061.00	8.50	180.00	2.00	119.60	662.00	476.00	781.60	532.00	0.45	4.74	227.30	301.60	43.00	0.00	1.60	73.00	71.00	77.30	0.18
	01-Jun-04	11	18.50	1,028.00	8.50	125.00	1.00	175.40	646.00	450.24	821.40	497.34	0.00	0.00	245.30	232.16	45.50	0.00	0.60	82.10	53.00	81.30	0.27
	21-Sep-04	11	21.00	1,061.00	7.53	119.00	0.40	126.20	500.33	0.00	625.33	0.00	0.00	0.00	200.00	147.30	16.00	0.00	0.60	28.70	55.00	47.70	0.16
14 Drisla																							
	19-Feb-04	14	11.60	903.00	7.80								0.00		4.30	1.00	0.78	0.00	0.00	1.40	22.00	73.60	
	19-Feb-04	14	0.00	5,580.00	8.60								4.64		655.50	185.00	124.00			200.00	850.00		
	19-Feb-04	14	0.00	6,030.00	8.70								6.41		1,146.80	314.14	130.00			209.00	950.00		
	19-Feb-04	14	0.00	235.00	8.40									13.91	6.80	2.00	0.16	0.00	0.90	0.24	10.00	11.70	
	19-Feb-04	14	0.00	272.00	8.30								13.09		7.80	1.30	0.23	0.00	1.30	0.35	15.00	12.70	
	29-Apr-04	14		817.00	8.00								1.54		4.90	1.20	0.00	0.00	0.30	0.60	18.00	22.30	
	29-Apr-04	14		913.00	7.90								2.57		4.60	1.00	1.08	0.01	0.00	1.80	24.00	35.00	
	29-Apr-04	14		5,000.00	8.90								2.32		700.00	85.00	248.00			365.00	1,600.00		
	29-Apr-04	14		5,190.00	9.00								3.43		700.00	146.00	248.00			358.00	1,400.00		
	29-Apr-04	14		153.00	8.70								10.28		9.40	1.20	0.12	0.00	0.90	0.20	7.00	10.00	
	29-Apr-04	14		166.00	8.50								10.44		12.31	1.00	0.19	0.01	0.90	0.25	10.00	12.20	
	27-May-04	14	10.80	903.00	7.90								0.00			0.13	0.70	0.01	0.00		22.00	502.20	
	27-May-04	14	11.40	762.00	7.80								10.28		91.02	1.40	0.48	0.00	0.00		21.00	223.80	
	27-May-04	14	13.00	6,510.00	8.90								9.82		75.00	1,016.00	122.77		0.00	0.00	2,000.00		
	27-May-04	14	13.70	5,520.00	8.90								1.42		10.34	574.00	66.52				1,400.00		
	27-May-04	14	13.30	5,360.00	9.00								0.00		0.00	968.00	106.31				1,700.00		
	27-May-04	14	9.60	145.40	8.36								0.00		0.00		1.63	0.00	0.00		8.00	14.70	
	27-May-04	14	9.40	171.00	8.60								0.00		0.00		3.43	0.01	0.00		11.00	14.40	
	02-Sep-04	14	0.00	890.00	7.30										1.14		2.00	0.17		0.65	16.00	70.20	
	02-Sep-04	14	0.00	10,460.00	8.34										0.00	9.48	0.31	0.00	0.00	416.00	1,350.00		
	02-Sep-04	14	0.00	11,430.00	8.45										0.00	2,357.00	246.00			308.00	2,080.00		
	02-Sep-04	14	0.00	11,220.00	8.48										0.00	2,458.00	184.00			314.00	2,350.00		
	02-Sep-04	14	0.00	505.00	8.20										0.00	2,423.00	1,760.00				13.00	13.50	
	02-Sep-04	14	0.00	620.00	7.90										9.83	1,814.00	188.00				2,350.00		
															6.70	10.74	2.00	0.08	1.10	0.10	13.00		
																29.70	3.50	0.47	1.00	0.65	32.00		
15 Istra ni vodi																							
	16-Apr-04	15	14.00	478.00	7.30						278.33						0.00	0.00	1.38		12.00	43.67	
	16-Apr-04	15	14.00	339.00	7.60						171.66		17.88	173.00			0.00	0.00	0.52		10.00	24.03	
	16-Apr-04	15	14.00	334.00	7.60						190.33		17.41	169.00			0.00	0.00	0.48		10.00	19.29	

Table 2.28 Outlet Water Quality in 2003 (Vodovod)

Table. Outlet Water Quality (2003)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvvk	zarvk	kislorod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli
04 fekalen ispust (N.Lisi~e)	09-Jan-03	4	14.00	1,112.00	7.87	134.00	0.30	36.20	492.21	340.00	529.86	564.00	0.77	7.52	194.00	100.00	70.00	0.00	0.00	83.00	49.00	55.00	0.67
	20-Feb-03	4	12.70	869.00	7.52	190.00	4.00	278.00	454.70	382.08	687.70	431.70	1.68	16.34	372.00	128.00	24.80	0.00	0.90	36.00	48.00	44.70	0.06
	20-Apr-03	4	19.00	777.00	7.46	186.00	5.00	279.60	432.21	244.00	727.06	421.00	1.53	16.80	144.00	68.00	30.00	0.00	0.30	44.00	40.00	40.00	0.06
	09-Sep-03	4	20.70	896.00	7.48	126.00	6.00	352.70	464.10	394.10	818.90	425.10	2.75	30.27	218.00	102.40	16.00	0.00	3.00	21.00	40.00	28.08	0.03
	07-Oct-03	4	18.30	966.00	7.50	121.00	2.00	123.50	564.33	469.41	708.63	514.00	2.75	29.00	69.00	39.00	32.00	0.00	0.00	41.00	112.00	26.00	0.03
	23-Oct-03	4	17.10	921.00	7.38	178.00	0.00	165.80	375.00	277.40	520.80	259.90	2.14	22.50	124.00	76.00	18.00	0.00	0.00	22.00	39.00	37.10	0.02
	06-Nov-03	4	16.00	1,072.00	7.75	193.00	0.30	186.10	532.10	424.70	723.10	440.60	2.75	27.82	144.00	77.00	10.00	0.00	2.00	21.00	40.00	24.10	0.03
05 fekalen ispust (Most Bliznak)	09-Jan-03	5	12.50	1,140.00	7.36	166.00	0.20	37.50	421.33	380.06	554.83	518.40	1.84	17.86	143.00	75.00	65.00	0.00	0.00	88.00	58.00	43.00	0.24
	20-Feb-03	5	16.40	927.00	7.84	148.00	5.00	150.00	564.40	363.30	717.70	582.20	1.55	15.60	264.00	154.00	18.78	0.00	0.90	24.00	78.00	48.60	0.10
	20-Apr-03	5	19.00	898.00	7.76	180.00	3.00	135.90	520.31	202.00	706.23	587.00	1.50	17.00	168.00	95.00	10.00	0.00	0.00	15.00	40.00	44.00	0.03
	09-Sep-03	5	21.50	915.00	7.95	112.00	7.00	275.40	639.30	524.60	886.70	535.50	0.76	8.42	356.00	166.00	30.00	0.00	0.50	41.00	90.00	30.60	0.06
	07-Oct-03	5	16.70	1,009.00	7.76	137.00	3.50	144.50	570.00	379.00	659.06	424.00	1.84	20.00	152.00	86.00	34.00	0.00	2.00	50.00	44.00	35.00	0.05
	23-Oct-03	5	16.40	1,054.00	7.96	135.00	1.00	246.90	30.00	303.10	682.90	364.40	1.00	7.74	93.00	57.00	24.00	0.00	0.00	36.00	41.00	41.50	0.03
	06-Nov-03	5	14.80	950.00	7.72	168.00	7.50	916.80	422.10	345.60	1,379.10	788.40	2.76	27.88	105.00	65.00	10.00	1.20	2.00	26.00	40.00	19.70	0.01
06 fekalen ispust (Keramidnica)	09-Jan-03	6	12.90	1,548.00	8.45	160.00	0.50	85.90	521.23	432.00	608.23	564.00	2.14	19.83	161.00	88.00	80.00	0.00	0.00	110.00	49.00	50.70	0.02
	20-Feb-03	6	15.80	943.00	7.23	122.00	3.00	264.00	454.40	387.30	672.00	442.00	1.53	14.88	245.00	156.50	12.40	0.00	1.10	18.00	50.00	44.60	0.07
	20-Apr-03	6	19.10	1,015.00	7.59	149.00	2.50	165.90	523.00	209.00	687.23	454.00	0.40	5.00	356.00	139.00	60.00	0.00	0.40	94.00	44.00	3.70	0.03
	09-Sep-03	6	19.50	1,220.00	7.60	188.00	15.00	451.70	731.20	516.80	1,172.20	650.00	1.16	12.80	378.00	171.00	40.00	0.50	3.00	48.00	115.00	49.80	0.13
	07-Oct-03	6	16.50	980.00	7.40	124.00	1.00	249.50	532.13	381.18	841.43	442.00	2.32	27.00	187.00	127.00	60.00	0.00	4.00	72.00	54.00	51.00	0.08
	23-Oct-03	6	15.90	957.00	8.08	192.00	1.00	329.70	556.40	393.60	889.40	574.40	1.00	7.80	178.00	83.50	40.00	0.00	0.00	65.00	50.00	53.10	0.06
	06-Nov-03	6	18.70	1,010.00	7.24	108.00	4.50	348.60	658.70	443.90	921.80	670.80	1.55	16.31	257.00	131.00	40.00	0.00	2.00	56.00	55.00	36.00	0.12
07 fekalen ispust (Vardarifte 1)	11-Mar-03	7	14.50	1,106.00	8.04	170.00	1.00	78.70	565.20	431.00	648.40	470.00	1.58	15.40	124.00	61.00	34.00	0.00	0.60	43.20	59.00	101.60	0.05
	13-May-03	7	16.40	1,109.00	7.66	147.00	2.00	175.30	598.80	412.70	639.90	452.20	1.35	14.22	81.00	31.00	160.00	0.00	0.30	190.00	40.00	35.70	0.02
	11-Sep-03	7	16.80	905.00	7.40	130.00	1.00	92.80	512.30	405.70	599.10	435.00	0.00	0.00	66.00	45.00	20.00	0.10	2.00	31.00	33.00	24.70	0.02
	09-Oct-03	7	19.70	942.00	7.56	154.00	1.00	147.10	365.00	316.10	513.10	334.30	1.42	15.00	60.00	37.00	28.00	0.07	0.00	43.00	35.00	25.42	0.01
	28-Oct-03	7	15.60	727.00	7.70	281.00	1.00	130.30	444.60	405.80	566.30	431.00	2.40	24.00	104.00	53.00	20.00	0.24	3.00	31.00	0.00	28.90	0.01
	18-Nov-03	7	16.00	958.00	7.63	186.00	1.80	356.40	556.00	461.40	823.20	712.20	1.58	16.02	166.00	101.00	45.00	0.00	1.00	49.00	50.00	31.26	0.02
08 fekalen ispust (kanal USJE)	11-Mar-03	8	13.20	850.00	7.24	169.00	25.00	1,533.00	421.20	380.40	2,192.60	1,883.00	2.24	21.80	54.00	22.50	0.00	3.60	1.13	9.40	65.00	51.30	0.04
	13-May-03	8	17.80	874.00	7.40	159.00	6.00	766.30	454.40	344.30	1,165.90	1,042.00	8.98	90.75	165.00	88.00	8.00	0.00	0.30	14.00	30.00	30.00	0.01
	11-Sep-03	8	17.40	876.00	7.65	134.00	45.00	7,126.30	454.00	356.80	7,582.60	6,547.00	0.00	0.00	31.00	10.50	0.20	0.24	25.00	30.00	20.00	22.30	0.00
	09-Oct-03	8	18.80	897.00	8.00	127.00	20.00	3,814.70	478.33	291.90	4,140.23	644.00	0.00	0.00	44.00	30.00	0.40	2.20	25.00	33.00	25.00	32.03	0.01
09 fekalen ispust (Vardarifte 2)	11-Mar-03	9	16.80	737.00	7.27	188.00	4.00	696.00	621.00	451.70	1,013.00	812.70	0.00	0.00	225.00	119.00	24.80	0.00	0.60	33.00	55.00	107.00	0.09
	13-May-03	9	18.50	1,100.00	7.53	165.00	4.50	276.30	632.40	439.30	874.60	554.70	0.00	0.00	229.00	97.50	100.00	0.00	0.30	142.00	40.00	49.50	0.11
	11-Sep-03	9	16.90	940.00	7.55	125.00	2.00	129.10	578.90	426.10	714.90	440.60	0.76	8.39	144.00	86.00	60.00	0.10	1.00	74.00	48.00	28.00	0.04
	09-Oct-03	9	18.10	1,045.00	7.45	176.00	3.00	357.80	632.00	443.80	917.30	534.90	0.00	0.00	187.00	99.00	70.00	0.00	4.00	115.00	49.00	53.70	0.07
	28-Oct-03	9	17.20	1,210.00	7.68	184.00	5.00	257.70	287.90	157.90	472.20	220.40	3.00	32.10	185.00	124.00	40.00	0.00	0.00	56.00	0.00	46.20	0.05
	18-Nov-03	9	17.80	1,066.00	7.16	178.00	3.00	941.60	436.00	386.90	1,395.60	759.10	0.00	0.00	64.00	31.50	20.00	0.05	1.00	24.00	37.00	18.81	0.01
10 talo`nik Dra~evo (vlez)	14-Jan-03	10	13.50	1,190.00	7.29	154.00	7.00	95.20	708.26	478.05	757.86	564.45	0.00	0.00	213.00	121.00	24.00	0.00	0.00	39.00	62.00	44.10	0.12
	04-Feb-03	10	13.20	1,240.00	7.29	285.00	2.00	166.10	855.46	604.30	975.70	625.00	2.15	19.00	344.00	168.00	80.00	0.00	0.00	128.00	102.00	48.81	0.23
	18-Feb-03	10	12.30	966.00	7.50	134.00	3.00	260.70	587.70	466.80	877.40	842.21	2.87	25.40	145.00	68.00	39.00	0.00	0.00	54.00	56.00	63.00	0.09
	13-Mar-03	10	16.70	965.00	7.57	171.00	5.00	878.00	433.10	423.00	1,331.70	732.04	1.72	15.97	184.00	99.00	32.00	0.12	0.90	51.00	65.00	58.21	0.07
	15-May-03	10	19.70	1,305.00	7.20	151.00	3.00	168.20	689.00	440.53	181.20	587.00	0.00	0.00	200.00	138.00	47.00	0.00	0.90	57.00	60.00	75.60	0.04
	16-Sep-03	10	16.40	1,210.00	7.86	135.00	11.00	139.10	698.70	449.10	862.30	135.40	0.00	0.00	218.00	125.00	90.00	0.10	1.00	124.00	70.00	52.50	0.16
	30-Oct-03	10	15.00	1,237.00	8.19	176.00	4.00	357.60	485.00	370.04	833.70	415.00	0.00	0.00	193.00	139.00	80.00	0.00	0.00	99.00	79.00	55.90	0.20
11 talo`nik Dra~evo (izlez)	14-Jan-03	11	12.80	1,202.00	7.51	185.00	2.00	150.60	528.26	440.52	709.56	525.12	0.00	0.00	242.00	117.00	46.00	0.00	0.00	64.00	65.00	44.10	0.12
	04-Feb-03	11	14.50	1,336.00	7.59	154.00	1.40	167.20	865.50	588.10	937.20	628.00	1.19	10.12	252.00	148.00	80.00	0.00	0.00	139.00	102.00	45.60	0.21
	18-Feb-03	11	11.20	1,485.00	7.54	144.00	4.50	156.00	687.70	505.70	830.00	534.20	2.85	25.26	187.00	96.00	16.00	0.00	0.00	25.00	55.00	65.00	0.16
	13-Mar-03	11	15.40	1,210.00	7.24	159.00	3.00	166.60	632.00	490.10	780.20	554.40	0.00	0.00	122.00	54.00	20.00	0.00	0.60	31.00	72.00	68.46	0.16
	15-May-03	11	18.70	1,210.00	7.81	168.00	3.00	157.10	678.00	444.30	787.10	577.00	0.00	0.00	176.00	91.00	62.00	0.00	0.60	73.00	56.00	80.40	0.04
	16-Sep-03	11	18.70	1,278.00	7.40	113.00	11.00	132.10	698.70	423.20	835.30	155.00	0.00	0.00	297.00	161.00	90.00	0.10	1.00	100.00	70.00	35.40	0.18
	30-Oct-03	11	14.50	1,334.00	7.74	128.00	4.00	457.50	646.66	442.11	1,090.10	472.11	0.00	0.00	221.00	132.00	80.00	0.00	0.00	112.00	72.00	54.70	0.11
Fi Bardovci	13-Mar-03	12	14.80	950.00	7.25	178.00	0.20	62.90	334.00	321.00	397.90	332.50	4.51	45.60	135.00	77.00	4.00	12.00	1.13	21.00	26.00	37.16	0.23
	15-May-03	12	18.00	933.00	7.50	114.00	1.00	65.90	365.00	309.30	439.50	356.20	3.01	31.69	50.00	19.00	8.00	1.20	1.13	15.50	24.00	28.80	0.00
	30-Oct-03	12	11.90	934.00	7.80	274.00	1.00	359.20	612.70	467.69	952.60	644.00	5.60	51.60	79.00	44.00	14.00	8.00	5.00	23.00	34.00	36.70	0.04

Table 2.29 Outlet Water Quality in 2002 (Vodovod)

Table. Outlet Water Quality (2002)

ms	datum	sifra ms	temperatura	sprovodlivost	ph	redoks	talozni	suspendiran	suvf	zarf	suvvk	kislorod	saturacija	hpkb	bpk5	amonijak	nitriti	nitrati	vkupen azot	hloridi	sulfati	fenoli	pam masti
Fekalen ispust bul.Srbija																							
	07-Feb-02	5	292.50	1,048.00	8.20	98.00	7.00	253.00	447.00	292.50	700	2.94	30.00	165.00	121.36	7.20	0.00	0.30	15.00	70.00	14.20	70.00	0.00
	26-Feb-02	5	146.50	1,041.00	8.53	116.00	5.00	619.60	261.40	146.50	881	3.13	31.62	210.00	158.14	18.00	0.01	0.30	34.20	52.00	28.71	52.00	0.15
	14-Mar-02	5	702.10	1,110.00	8.10	123.00	6.00	208.10	758.00	702.10	966.1	2.94	30.00	150.00	89.09	8.90	0.06	0.60	18.00	84.00	46.25	84.00	0.06
	28-Mar-02	5	299.60	1,018.00	8.44	153.00	6.00	372.60	365.80	299.60	738.4	0.32	3.23	163.00	70.00	0.05	0.01	0.30	0.15	43.00	38.10	43.00	0.08
	23-Apr-02	5	469.14	923.00	8.17	180.00	3.00	3.40	580.14	469.14	583.54	2.52	25.90	125.00	112.40	0.04	0.00	0.30	0.48	46.00	24.70	46.00	0.05
	21-May-02	5	311.10	869.00	8.10	133.00	5.00	136.80	536.70	311.10	673.5	1.56	17.30	150.00	96.30	1.70	0.00	0.90	3.06	47.00	27.80	47.00	0.04
	04-Jun-02	5	378.20	867.00	7.50	73.00	5.50	69.00	505.66	378.20	574.66	0.94	10.21	80.00	71.00	26.00	0.00	0.30	36.00	46.00	39.11	46.00	0.06
	20-Jun-02	5	420.80	855.00	8.20	130.00	7.00	209.20	487.60	420.80	696.8	0.95	10.29	175.00	79.59	0.13	0.00	0.60	1.00	39.00	20.10	39.00	0.03
	04-Jul-02	5	374.46	896.00	8.20	104.00	2.00	310.70	467.30	374.46	778	1.74	21.43	50.10	58.10	25.00	0.00	0.30	48.20	43.00	1.62	43.00	0.10
	08-Oct-02	5	312.60	1,053.00	8.07	42.00	8.00	718.60	506.00	312.60	1224.6	1.56	16.96	27.00	85.54	24.80	0.00	1.13	40.00	39.00	21.27	39.00	0.12
	07-Nov-02	5	365.00	984.00	8.23	121.00	6.00	220.00	517.60	365.00	737.6	2.46	25.38	201.00		39.00	0.00	1.13	71.20	40.00	16.00	40.00	0.03
	21-Nov-02	5	393.00	877.00	8.44	105.00	5.00	172.80	435.00	393.00	607.8	0.63	6.54	107.00	190.11	65.00	0.00	0.68	87.00	45.00	34.70	45.00	0.01
	17-Dec-02	5	443.55	938.00	8.34	136.00	3.00	80.10	563.00	443.55	643.1	2.38	24.03	60.55	154.05	26.00	0.00	0.30	43.00	63.00	37.04	63.00	0.05
Fekalen ispust Keramidnica																							
	07-Feb-02	6	301.20	926.00	8.00	100.00	2.00	442.70	500.70	301.20	943.4	4.70	47.20	250.00	59.78	12.00	0.07	0.30	22.50	58.00	8.42	58.00	0.01
	26-Feb-02	6	294.80	954.00	8.19	139.00	4.00	328.40	512.50	294.80	840.9	2.54	25.66	306.00	140.00	13.30	0.01	0.60	22.10	44.00	23.73	44.00	0.05
	14-Mar-02	6	592.30	991.00	7.90	125.00	4.00	782.60	613.40	592.30	1396	4.70	47.40	200.00	102.80	7.30	0.01	0.00	13.20	61.00	41.10	61.00	0.05
	28-Mar-02	6	366.50	1,086.00	8.07	162.00	3.50	722.90	444.90	366.50	1167.8	0.00	0.00	270.00	170.00	0.55	0.02	1.13	1.03	84.00	27.09	84.00	0.05
	23-Apr-02	6	531.68	981.00	8.05	198.00	1.50	256.70	642.50	531.68	899.2	2.57	26.40	391.00	389.10	0.02	0.00	0.30	0.72	75.00	25.10	75.00	0.00
	21-May-02	6	344.60	900.00	7.70	151.00	6.00	337.80	530.16	344.60	867.96	2.60	28.20	110.00	173.90	6.00	16.00	9.04	6.70	37.00	19.90	37.00	0.16
	04-Jun-02	6	420.00	1,004.00	7.50	75.00	3.00	211.70	600.60	420.00	812.3	1.59	17.15	130.00	95.30	13.40	0.00	0.30	18.70	33.00	36.58	33.00	0.06
	20-Jun-02	6	433.60	873.00	8.00	139.00	2.50	232.50	514.30	433.60	746.8	1.88	22.35	103.00	74.80	9.70	0.00	0.60	16.30	54.00	18.66	54.00	0.06
	04-Jul-02	6	471.33	1,093.00	8.00	108.00	2.50	1,732.90	628.60	471.33	2361.5	2.98	35.40	213.50	247.40	19.00	0.00	0.60	35.60	129.00	3.42	129.00	0.33
	08-Oct-02	6	410.00	951.00	7.41	-84.00	5.00	4,082.10	513.60	410.00	4595.7	1.55	16.86	700.00	620.43	18.80	0.01	0.60	36.00	57.00	23.13	57.00	0.06
	07-Nov-02	6	330.00	957.00	7.77	-29.00	3.00	235.00	519.30	330.00	754.3	2.93	30.18	260.00		34.00	0.00	2.00	58.00	46.00	9.50	46.00	0.03
	21-Nov-02	6	386.00	826.00	8.21	117.00	6.00	302.90	472.30	386.00	775.2	0.00	0.00	101.00	198.67	39.00	0.00	0.90	59.00	41.00	31.20	41.00	0.05
	17-Dec-02	6	405.49	870.00	8.24	147.00	8.00	279.40	483.30	405.49	762.7	1.11	11.46	251.36	285.63	14.00	0.01	0.30	21.00	73.00	40.10	73.00	0.03
Fekalen ispust N.Lisi~e																							
	07-Feb-02	4	189.30	1,149.00	8.51	100.00	9.00	178.40	378.50	189.30	556.9	2.01	20.30	290.00	88.17	10.50	0.00	0.30	18.30	62.00	20.11	62.00	0.08
	26-Feb-02	4	291.70	1,082.00	8.38	105.00	10.00	320.20	507.30	291.70	827.5	3.32	33.53	320.00	161.52	16.80	0.02	1.13	29.70	54.00	37.50	54.00	0.20
	14-Mar-02	4	594.00	1,041.00	8.20	136.00	7.00	642.60	611.60	594.00	1254.2	2.01	20.30	300.00	206.20	9.40	0.00	0.30	17.30	47.00	47.99	47.00	0.08
	28-Mar-02	4	318.50	1,063.00	8.41	142.00	9.00	894.50	397.10	318.50	1291.6	0.00	0.00	260.00	141.20	0.58	0.00	0.90	1.20	47.00	41.10	47.00	0.07
	23-Apr-02	4	477.04	1,009.00	8.27	154.00	5.00	332.40	665.14	477.04	997.54	0.00	0.00	180.00	180.97	0.05	0.00	0.60	0.62	55.00	33.30	55.00	0.00
	21-May-02	4	295.11	928.00	8.00	117.00	8.00	293.60	486.90	295.11	780.5	0.00	0.00	180.00	135.50	1.40	0.00	0.30	2.14	50.00	34.20	50.00	0.12
	04-Jun-02	4	525.60	980.00	7.40	70.00	11.50	150.70	678.33	525.60	829.03	0.00	0.00	100.00	148.00	21.00	0.00	0.30	35.00	103.00	43.36	103.00	0.11
	20-Jun-02	4	440.70	969.00	8.20	168.00	9.00	249.50	521.30	440.70	770.8	0.47	5.62	173.00	108.04	0.65	0.00	0.60	1.32	60.00	24.63	60.00	0.09
	04-Jul-02	4	398.30	1,087.00	8.10	68.00	10.00	1,465.30	555.30	398.30	2020.6	0.47	5.62	170.00	139.20	52.00	0.00	0.30	73.30	48.00	32.40	48.00	0.11
	07-Nov-02	4	323.00	1,160.00	8.40	128.00	11.00	349.30	532.00	323.00	881.3	0.47	4.53	460.00		62.00	0.00	2.26	85.00	53.00	23.64	53.00	0.09
	21-Nov-02	4	437.50	943.00	8.45	131.00	6.00	153.90	453.00	437.50	606.9	0.00	0.00	212.25	134.41	65.00	0.00	0.68	87.00	48.00	34.70	48.00	0.04
	17-Dec-02	4	475.96	938.00	8.52	147.00	9.00	163.79	607.33	475.96	771.12	2.37	23.95	129.12	161.49	372.00	0.00	0.30	65.00	59.00	44.52	59.00	0.09
Fekalen ispust -Usje																							
	12-Feb-02	8	520.00	1,120.00	8.20	107.00	5.00	551.00	570.20	520.00	1121.2	1.63	16.05	226.00	36.30	18.00	0.00	0.60	22.30	55.00	24.99	55.00	0.03
	05-Mar-02	8	492.00	892.00	7.70	-225.00	7.00	426.20	544.00	492.00	970.2	0.92	10.22	280.00	131.00	8.90	0.00	0.00	12.50	38.00	65.20	38.00	0.15
	19-Mar-02	8	451.50	930.00	8.00	162.00	2.00	161.70	601.57	451.50	763.27	0.62	6.32	210.00	80.27	0.12	0.00	0.90	0.21	46.00	34.80	46.00	0.08
	03-Apr-02	8	412.00	989.00	8.00	142.00	6.00	137.30	528.80	412.00	666.1	1.37	14.00	150.00	79.50	35.20	0.00	0.30	31.20	38.00	36.70	38.00	0.08
	25-Apr-02	8	360.32	961.00	8.20	125.00	1.50	49.50	445.40	360.32	494.9	1.93	19.89	174.00	133.90	0.50	0.00	0.30	0.18	46.00	50.70	46.00	0.46
	28-May-02	8	367.00	904.00	7.96	147.00	1.00	636.70	453.50	367.00	1090.2	14.57		103.60	108.16	6.14	0.00	0.28	0.33	40.00	21.87	40.00	0.04
	06-Jun-02	8	395.12	1,005.00	7.90	111.00	4.00	207.10	478.66	395.12	685.76	0.00		205.00	158.30	56.00	0.00	0.30	73.00	51.00	56.00	51.00	0.08
	27-Jun-02	8	439.40	1,113.00	7.80	-256.00	4.00	87.90	560.33	439.40	648.23	0.49	5.58	368.00	62.00	37.60	0.00	1.10	80.30	48.00	12.81	48.00	0.12
	12-Nov-02	8	483.40	1,200.00	7.90	40.00	2.00	393.00	610.66	483.40	1003.66	5.48	56.45	608.00	157.14	62.00	0.00	1.13	75.00	57.00	29.01	57.00	0.21
	26-Nov-02	8	401.70	979.00	8.26	108.00	2.00	202.40	452.00	401.70	654.4	2.00	21.26	120.00	8,686.00	7.00	0.00	0.68	138.00	59.00	68.20	59.00	0.07
Fekalen ispust Vardari{te																							
	12-Feb-02	7	402.30	1,020.00	8.30	131.00	3.00	1,310.00	461.00	402.30	1771	1.61	15.33	112.00	27.38	16.00	0.00	0.30	19.20	45.00	17.79	45.00	0.06
	05-Mar-02	7	473.00	1,020.00	7.90	-164.00	3.00	211.40	492.00	473.00	703.4	0.24	2.61	242.00	84.14	8.90	0.00	0.00	13.20	68.00	60.00	68.00	0.09
	19-Mar-02	7	284.80	940.00	8.20	154.00	0.00	27.80	523.42	284.80	551.22	2.06	20.80	125.00	50.74	0.04	0.00	1.00	0.09	53.00	23.28	53.00	0.04
	03-Apr-02	7	407.70	980.00	8.10	155.00	2.50	89.30	482.00	407.70	571.3	1.57	15.86	40.00	32.81	26.00	0.00	1.00	24.90	40.00	18.80	40.00	0.01
	25-Apr-02	7	505.80	887.00	8.39	151.00	0.50	102.30	580.50	505.80	682.8	2.51	26.56	68.20	50.50	8.00	0.00	0.30	3.96	39.00	20.30	39.00	0.00
	28-May-02	7	325.70	799.00	7.93	162.00	2.00	1,024.00	440.90	325.70	1464.9	1.06	11.50	81.44	66.53	3.82	0.00	0.56	1.54	31.00	15.99	31.00	0.00
	06-Jun-02	7	393.70	850.00	8.12	138.00	2.00	93.70	471.66	393.70	565.36	0.79		100.00	13.97	37.50	0.00	0.30	48.20	36.00	48.00	36.00	0.00
	27-Jun-02	7	355.24	962.00	8.00	-245.00	6.50	218.70	438.00	355.24	656.7	0.32	3.63	225.00	63.00	78.20	0.00	0.90	132.80	40.00	13.53	40.00	0.16
	12-Nov-02	7	392.00	1,132.00	8.15	130.00	3.00	639.40	586.33	392.00	1225.73	2.44	25.15	570.00	137.86	47.00	0.00	1.13	65.00	59.00	29.25	59.00	0.10
	26-Nov-02	7	391.20	880.00	8.22	147.00	1.00	34.20	446.60	391.20	480.8	22.00	22.15	65.00	1,897.00	7.00	0.00	0.90	142.00	42.00	44.30	42.00	0.01
Fekalen ispust Vardari{te 2																							
	12-Feb-02	9	410.20	735.00	8.00	105.00	50.00	2,930.00	474.70	410.20	3404.7	3.19	32.22			0.28	0.08	3.30	0.54	34.00	19.41	34.00	0.08
	19-Mar-02	9	170.42	701.00	8.10	165.00	200.00	11,367.00	337.42	170.42	11704.42	0.00	0.00	5.80	41.39	0.74	0.05	9.00	1.50	34.00	22.14	34.00	0.00
	03-Apr-02	9	278.00	757.00	8.00	151.00	18.00	2,560.50	382.40	278.00	2942.9	11.73	119.70	30.00	0.77	0.08	0.02	6.70	0.19	20.00	41.30	20.00	0.00
	25-Apr-02	9	266.60	696.00	8.09	117.00	10.00	6,890.00	367.60	266.60	7257.6	3.15	33.30	7.60	8.10	0.20	0.08	9.00	0.13	25.00	42.00	25.00	0.00
	28-May-02	9	327.50	637.00	8.02	173.00	72.00	8,578.10	393.60	327.50	8971.7	1.11	12.04	0.71	16.60	0.28	0.02	6.78	12.90	22.00	24.60	22.00	0.00
	06-Jun-02	9	339.10	712.00	8.11	107.00	14.00	3,413.70	423.66	339.10	3837.36	0.64		50.00	60.77	0.16	1.57	0.30	0.20	45.00	38.00	45.00	0.05
	27-Jun-02	9	352.65	683.00	8.09	-20.00	80.00	6,612.70	428.33	352.65	7041.03	10.49	124.20	212.00	55.30	0.31	0.60	4.50	0.78	32.00	8.85	32.00	0.01
	12-Nov-02	9	235.00	713.00	8.12	161.00	150.00	20,724.40	382.66	235.00	21107.06	2.06	20.77	343.00	26.90	4.00	0.09	6.70	6.80	22.00	26.73	22.00	0.02
	26-Nov-02	9	292.10	623.00	8.28	119.00	30.00	4,903.00	344.00	292.10	5247	11.41	11.47	32.00	261.00	0.00	0.04	4.50	0.00	26.00	4.00	26.00	0.00

Talo`nik Dra~evo - izlez

21-Feb-02	11	442.50	1,218.00	8.24	119.00	1.40	333.60	522.60	442.50	856.2	1.58	14.84	317.70	135.35	3.80	0.00	0.90	10.60	64.00	22.14	64.00	0.11
05-Mar-02	11	594.00	1,072.00	7.50	-229.00	3.50	350.10	621.30	594.00	971.4	2.68	27.35	440.00	191.18	10.00	0.18	0.00	15.00	61.00	73.00	61.00	0.16
21-Mar-02	11	292.90	1,135.00	7.99	154.00	3.00	1,803.40	669.20	292.90	2472.6	4.40	45.36	346.00	160.10	0.05	0.24	0.60	0.10	57.00	40.50	57.00	0.15
09-Apr-02	11	476.20	1,091.00	8.00	155.00	2.50	945.00	660.60	476.20	1605.6	2.88	28.30	230.00	141.50	12.20	0.06	0.30	25.00	61.00	70.00	61.00	0.14
07-May-02	11	465.10	1,171.00	7.80	142.00	2.50	135.50	660.00	465.10	795.5	0.48	5.08	220.00	169.31	34.00	0.00	0.30	60.00	67.00	65.60	67.00	0.14
12-Jun-02	11	443.00	1,051.00	7.20	93.00	0.40	113.20	609.30	443.00	722.5	0.00	0.00	100.00	69.00	15.60	0.06	0.40	25.00	23.00	63.60	23.00	0.06
25-Jun-02	11	564.20	1,180.00	7.62	297.00	1.90	201.00	700.00	564.20	901	0.00	0.00	220.00		61.80	0.03	0.60	92.80	65.00	25.59	65.00	0.20
31-Oct-02	11	508.30	1,177.00	7.88	-155.00	2.00	173.40	666.30	508.30	839.7	0.79	7.99	330.00	84.28	47.00	0.00	0.30	65.00	55.00	34.00	55.00	0.15
14-Nov-02	11	370.00	1,087.00	7.94	-173.00	1.20	118.50	520.00	370.00	638.5	3.15	37.89	331.00	60.00	62.00	0.01	0.90	74.80	56.00	37.77	56.00	0.25
24-Dec-02	11	539.30	1,004.00	8.31	148.00	2.00	628.80	678.66	539.30	1307.46	5.50	50.70	225.00	149.24	49.60	0.00	0.40	69.50	60.00	641.00	60.00	0.16

Talo`nik Dra~evo - vlez

21-Feb-02	10	438.30	1,172.00	8.33	132.00	7.00	302.60	586.40	438.30	889	1.14	10.70	361.40	181.10	0.80	0.00	0.68	1.80	68.00	13.08	68.00	0.13
05-Mar-02	10	562.00	1,032.00	7.60	-224.00	4.00	267.00	585.70	562.00	852.7	1.44	15.65	431.00	198.17	0.40	0.07	0.00	1.20	60.00	82.00	60.00	0.15
21-Mar-02	10	361.58	1,130.00	8.04	146.00	4.00	708.80	772.14	361.58	1480.94	2.20	22.68	358.00	162.50	0.04	0.36	0.60	0.08	62.00	37.17	62.00	0.18
09-Apr-02	10	482.60	1,036.00	8.19	140.00	4.00	200.00	636.60	482.60	836.6	0.85	8.20	220.00	197.60	8.00	0.36	0.30	17.30	62.00	55.38	62.00	0.11
07-May-02	10	474.30	1,059.00	7.87	138.00	7.00	258.50	662.70	474.30	921.2	0.00	0.00	280.00	188.20	32.00	0.00	0.30	58.00	66.00	58.00	66.00	0.12
23-May-02	10	423.43	802.00	7.50	166.00	0.50	126.40	540.51	423.43	666.91	1.96	22.36	96.09	45.68	0.01	6.00	1.80	0.79	39.00	22.87	39.00	0.00
12-Jun-02	10	465.00	1,065.00	7.40	105.00	1.00	154.10	639.30	465.00	793.4	0.00	0.00	150.00	158.30	15.20	0.03	0.60	22.70	30.00	63.70	30.00	0.15
25-Jun-02	10	564.21	1,098.00	7.45	264.00	2.00	203.60	723.50	564.21	927.1	0.00	0.00	386.00		62.40	0.04	0.60	74.30	55.00	30.51	55.00	0.22
31-Oct-02	10	512.40	1,147.00	7.83	-166.00	10.00	284.70	669.30	512.40	954	0.94	10.20	430.00	110.30	34.00	0.00	0.30	52.00	53.00	56.00	53.00	0.09
14-Nov-02	10	310.00	1,071.00	7.93	-175.00	3.00	159.90	570.00	310.00	729.9	3.12	31.53	455.00	60.00	47.00	0.13	1.13	68.30	52.00	45.66	52.00	0.19
10-Dec-02	10	508.70	1,076.00	8.12	-195.00	6.00	1,733.00	680.70	508.70	2413.7	4.47	42.50	430.00	166.72	63.00	0.00	1.13	110.80	56.00	38.94	56.00	0.17
24-Dec-02	10	577.00	950.00	8.60	163.00	3.00	111.80	720.00	577.00	831.8	5.00	46.00	215.00	119.08	49.60	0.00	0.40	73.40	56.00	68.55	56.00	0.56

2.4.3 Hydro Meteological Institute

(1) River Water Quality (2006)

Table 2.30 River Water Quality in 2006 (HMI)

No.	Laboratory Number	sampling point	Water Sampling Date	Hydrological Parameters: Water Level H cm	Water Flow Q m³/s	Mean Velocity v m/s	Width cross-section B m	Oil and other flying liquids	Threshold Odor	Color	Physical Properties and Physical Parameters: Color Pt-Co Units	Temperature °C: Water	Temperature °C: Air	Turbidity mg/l SiO₂	Turbidity NTU Units	pH	Redox potencial mV
1	2	3	4	5	6	7	8	9	10	11	12	13	14	14a	15	16	17
9	06-023	Lepenec ustie	22/2/2006					bez	bez	matna	12.5	4.5	6	5	397	7.87	-53
9	06-044	Lepenec ustie	29.03.06					bez	bez	matna	5.0	9	20.5	5	159	8.06	-58
9	06-065	Lepenec(ust)	19.04.06					bez	bez	matna	2.5	11.7	19	2.5	70	8.1	-60
9	06-071	Lepenec(ust)	12.05.06					bez	bez	sr.zamat	5	11.2	16	5	80	8.3	-71
9	06-107	Lepenec(ust)	16.06.06					bez	bez	matna	5	0.1	23.5	5	93	8.19	-66
9	06-118	Lepenec(ust)	14.07.06					bez	bez	matna	5	19.2	26.5	4	169	8.09	-61
9	06-133	Lepenec(ust)	29.08.06					bez	bez	sr.zamat	5	19	22	4	29	8.15/8.24	-70
9	06-168	Lepenec(ust)	18.10.06					bez	bez	matna	2.5	8.4	11	7.5	97	8.05	-59
9	06-194	Lepenec(ust)	**29.11.06**					bez	bez	matna		6.5	5	7.5	205	15,8.13,7.88,7.!	-59
9	06-213	Lepenec(ust)	26.12.06					bez	bez	matna	2.5	4.6	6	7.5	90	8.07,8.36	-71
7	06-021	Treska vliv	22/2/2006					bez	bez	sl. zamat.	5	8.6	7.5	2.5	22	7.97	-58
7	06-042	Treska vliv	29.03.06					bez	bez	bez	5.0	9	19.5	4	6	8.1	-60
7	06-063	Treska	19.04.06					bez	bez	bez	5	11	20	2	6	7.98	-54
7	06-069	Treska	12.05.06					bez	bez	bez	2.5	8	16.8	5	5	8.09	-63
7	06-105	Treska	16.06.06					bez	bez	bez	2.5	11.2	23	3.6	3	8.12	-62
7	06-116	Treska	14.07.06					bez	bez	bez	5	12	26	3	7	7.86	-48
7	06-132	Treska	29.08.06					bez	bez	bez	2.5	13.2	17.3	2	1	7.91/7.98.	-56
7	06-166	Treska	19.10.06					bez	bez	bez	2.5	11.4	13	4	2	8.1	-63
7	06-192	Treska	**29.11.06**					bez	bez	bez		10.2	4.5	5	8	7.84,7.74	-57
7	06-211	Treska	26.12.06					bez	bez	bez	2.5	8.2	6.5	5	3	8.04,8.41	-69
2	06-007	Taor	20/2/2006					bez	bez	sr.zamat.	7.5	6.5	10	3	29	7.54	-35
2	06-028	Taor	27.03.06	159				bez	bez	sr.zamat.	5.0	10.2	15.2	5	82	7.94	-52
2	06-049	Taor	17.04.06					bez	bez	sl.zamat	2.5	10.8	17	4	25	7.91	-48
2	06-072	Taor	15.05.06					bez	bez	sl.zamat	5	11	19	5	21	7.97	-53
2	06-091	Taor	12.06.06					bez	bez	matna	5	11	17	4	33	7.86	-47
2	06-110	Taor	12.07.06					bez	bez	bez	5	12.2	23	2.5	9	7.84	-46
2	06-134	Taor	29.08.06					bez	bez	sl.zamat	7.5	16.8	29	3.5	11	7.59/7.65	-37
2	06-158	Taor	17.10.06					feka.org.mater	bez	sl.zamat	5	11.6	13.5	5	16	7.51	-36
2	06-183	Taor	**24.11.06**	88				rasp. org.masa	bez	bez		9.7	12	10	15	7.52,7.34	-39
2	06-203	Taor	21.12.06					bez	bez	sl.zamat	5	8	6	7.5	14	7.2	-20

Specific Conduct.	Carbon Dioxide CO_2 mg/l		Water Sampling Date	Residue, Dried 105°C mg/l		at	Fixed Residue Ignition at 600 °C mg/l		Volatile Residue mg/l		Suspended Matters, mg/l			Alkalinity			Hardness	
	Free	Agresive		Total, Non-Filtrable	Total, Filtrable		Total, Non-Filtrable	Total, Filtrable	Total, Non-Filtrable	Total, Filtrable	Total	Mineral	Organic	Phenol phtalein	mEq/l	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$
18	19	3	20	21	22		23	24	25	26	27	28	29	30	30a	31	31a	32
223	0.88		9	614	174		400	100	214	74	440	300	140	0.00	2.65	132.6	6.5	115.5
211	0.00	0	9	360	169		202	95	158	74	191	107	84	0.15	2.65	132.6	6.7	120.3
216	0.00		9	320	140		190	90	130	50	180	100	80	0.10	1.90	95.1	6.59	117.8
233	0		9	313	198		200	130	113	68	115	70	45	2.25	0.15	7.5	6.45	115.3
241	0		9	270	171		155	104	115	67	99	51	48	2.4	0.1	5.0	7.27	129.9
322	0		9	399	219		248	130	151	89	180	118	62	3.15	0.2	10.0	9.4	168.0
366	0		9	297	264		172	160	125	104	33	12	21	3.9	0.2	10.0	11.6	207.3
277	0		9	292	178		140	80	212	98	114	60	114	2.5	0.1	#REF!	7.75	138.5
314	0.88		9	439	238		304	110	135	128	201	194	7	3	0	0.0	9.12	163.0
361	0		9	324	229		170	150	154	79	95	20	75	3.05	0.1	5.0	10.26	183.4

Specific Conduct.	Carbon Dioxide CO_2 mg/l		Water Sampling Date	Residue, Dried 105°C mg/l		at	Fixed Residue Ignition at 600 °C mg/l		Volatile Residue mg/l		Suspended Matters, mg/l			Alkalinity			Hardness	
	Free	Agresive		Total, Non-Filtrable	Total, Filtrable		Total, Non-Filtrable	Total, Filtrable	Total, Non-Filtrable	Total, Filtrable	Total	Mineral	Organic	Phenol phtalein	mEq/l	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$
18	19	3	20	21	22		23	24	25	26	27	28	29	30	30a	31	31a	32
448	0.00		7	329	300		177	162	152	138	29	15	14	0.20	5.00	250.2	14.5	259.9
394	0.00	0	7	280	270		205	200	75	70	10	5	5	0.20	5.00	250.2	14.0	250.2
355	0.00		7	307	236		156	120	151	116	71	36	35	0.05	3.90	195.2	11.8	210.9
334	0		7	245	230		124	120	121	110	15	4	11	3.70	0.10	5.0	10.7	191.3
331	0		7	230	209		148	129	82	80	21	19	2	3.2	0.15	7.5	10.76	192.3
296	0		7	230	220		135	130	95	90	10	5	5	3.4	0.2	10.0	10.2	182.3
333	0		7	191	186		143	140	48	46	5	3	2	3.3	0.1	5.0	11.1	198.4
439	0		7	295	290		183	180	115	110	5	3	5	4.25	0.3	#REF!	14.49	259.0
356	1.76		7	242	231		115	112	127	119	11	3	8	3.9	0	0.0	11.43	204.3
341	0		7	209	203		123	120	86	83	6	3	3	3	0.1	5.0	11.09	198.2

Specific Conduct.	Carbon Dioxide CO_2 mg/l		Water Sampling Date	Residue, Dried 105°C mg/l		at	Fixed Residue Ignition at 600 °C mg/l		Volatile Residue mg/l		Suspended Matters, mg/l			Alkalinity			Hardness	
	Free	Agresive		Total, Non-Filtrable	Total, Filtrable		Total, Non-Filtrable	Total, Filtrable	Total, Non-Filtrable	Total, Filtrable	Total	Mineral	Organic	Phenol phtalein	mEq/l	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$
18	19	3	20	21	22		23	24	25	26	27	28	29	30	30a	31	31a	32
334	2.11		2	293	217		148	118	145	99	76	30	46	0.00	3.25	162.6	9.8	175.7
318	0.00	0	2	350	206		175	110	175	96	144	65	79	0.10	3.30	165.1	9.9	176.6
306	0.00		2	270	193		142	108	128	85	77	34	43	0.12	3.07	153.6	9.33	166.8
311	0		2	260	214		146	120	114	94	46	26	20	3.35	0.25	12.5	9.33	166.8
312	0		2	250	205		140	120	110	85	45	20	25	3.2	0.1	5.0	9.69	173.2
299	0		2	218	208		120	115	98	93	10	5	5	3.25	0.1	5.0	9.4	168.0
388	0.88		2	279	264		211	205	68	59	15	6	9	3.8	0	0.0	12.2	218.1
304	1.6		2	235	215		133	125	110	90	20	8	20	2.65	0	#REF!	9.38	167.7
316	0		2	219	204		140	135	79	69	15	5	10	2.15	0	0.0	8.99	160.7
362	0		2	268	253		155	150	113	103	15	5	10	3.45	0	0.0	11.64	208.1

Hardness Carbonate		Hardness Carbonate		Non-Carbonate	Water Sampling Date	Dissolved Oxygen mg/l O_2	Saturation $\%O_2$	BOD_5 mg/l O_2	Ip/COD-$KMnO_4$ mg/l $KMnO_4$	Ip/COD-$KMnO_4$ mg/l O_2	COD-$K_2Cr_2O_7$ mg/l O_2	Nitrogen Ammonia mg/l N	Nitrogen Ammonia µg/l N	Nitrogen Nitrite mg/l N	Nitrogen Nitrite µg/l N	Nitrogen Nitrate mg/l N	Nitrogen Nitrate µg/l N	Phosphate, mg/l PO_4^{3-}
°dH	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$															
32a	33	33a	3		34	35	36	37	37a	38	39	40		41		42		43
3.3	58.8	3.2	56.7		**9**	12.47	96	26.80	44.21	11.19		0.24	236.7	0.0212	21.2	3.0140	3014	0.225
												0.2539	253.9	0.0063				
4.4	78.6	2.3	#REF!		**20**	10.91	94	17.71	29.16	7.38					6.3	0.327	327	0.007
4.5	81.0	2.1	36.8		**9**	9.76		9.10	14.93	3.78		0.1892	189.2	0.0236	23.6	0.98	980	0.219
3.29	58.8	3.2	56.5		**9**	10.35		10.8	17.74	4.49		0.1106	110.6	0.0208	20.8	1.439	1439	0.177
4.3	77.0	2.96	52.9		**9**	9.07		4.58	9.40	2.38		0.1628	162.8	0.0444	44.40	1.851	1851	0.208
6.3	112.6	3.1	55.4		**9**	11.31		9.25	15.25	3.86		0.1148	114.8	0.09101	91.01	2.366	2366	0.366
9.1	162.7	2.5	44.7		**9**	8.7		4.7	7.74	1.96		0.1812	181.2	0.04108	41.08	1.925	1925	0.124
3.26	58.3	4.5	80.3		**9**	10.81		10.81	11.10	2.81		0.4584	458.4	0.0428	42.8	1.567	1567	0.234
5.65	101.0	3.5	62.0		**9**	10.82		8.74	14.38	3.64		0.537	537	0.0377	37.7	3.202	3202	0.3067
5.82	104.0	4.440	79.4		**9**	9.98		5.78	10.90	2.76		0.9705	970.5	0.026	26	2.41	2410	0.491

Hardness Carbonate		Hardness Carbonate		Non-Carbonate	Water Sampling Date	Dissolved Oxygen mg/l O_2	Saturation $\%O_2$	BOD_5 mg/l O_2	Ip/COD-$KMnO_4$ mg/l $KMnO_4$	Ip/COD-$KMnO_4$ mg/l O_2	COD-$K_2Cr_2O_7$ mg/l O_2	Nitrogen Ammonia mg/l N	Nitrogen Ammonia µg/l N	Nitrogen Nitrite mg/l N	Nitrogen Nitrite µg/l N	Nitrogen Nitrate mg/l N	Nitrogen Nitrate µg/l N	Phosphate, mg/l PO_4^{3-}
°dH	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$															
32a	33	33a	3		34	35	36	37	37a	38	39	40		41		42		43
9.8	175.7	4.7	84.2		7	11.63	99	3.87	8.97	2.27		0.12	115.3	0.0096	9.6	1.6580	1658	0.079
												0.1553	155.3	0.0084				
9.61	171.8	4.4	#REF!		9	12.98	112	2.68	6.08	1.54					8.4	0.608	608	0.113
9.2	164.3	2.6	46.7		7	11.30		1.09	6.05	1.53		0.0942	94.2	0.0052	5.2	0.76	760	0.051
6.86	122.6	3.8	68.6		7	11.65		2.56	5.97	1.51		0.0427	42.7	0.01	10	0.686	686	0.036
7.3	129.8	3.50	62.6		7	10.87		3.58	6.84	1.73		0.1017	101.7	0.0178	17.80	0.768	768	0.038
6.6	118.0	3.6	64.3		7	10.83		0.85	4.54	1.15		0.135	135	0.01222	12.22	0.398	398	0.03
8.75	156.4	2.4	42.0		7	9.28		3.3	5.49	1.39		0.2076	207.6	0.01478	14.78	0.465	465	0.126
3.13	55.9	11.4	203.0		7	11.47		1.77	4.11	1.04		0.0573	57.3	0.0139	13.9	1.343	1343	0
7.58	135.5	3.9	68.8		7	11.62		1.79	6.87	1.74		0.0578	57.8	0.0027	2.7	0.625	625	0.008
6.93	123.9	4.16	74.4		7	11.01		1.95	6.56	1.66		0.034	34	0.0064	6.4	0.475	475	0.033

Hardness Carbonate		Hardness Carbonate		Non-Carbonate	Water Sampling Date	Dissolved Oxygen mg/l O_2	Saturation $\%O_2$	BOD_5 mg/l O_2	Ip/COD-$KMnO_4$ mg/l $KMnO_4$	Ip/COD-$KMnO_4$ mg/l O_2	COD-$K_2Cr_2O_7$ mg/l O_2	Nitrogen Ammonia mg/l N	Nitrogen Ammonia µg/l N	Nitrogen Nitrite mg/l N	Nitrogen Nitrite µg/l N	Nitrogen Nitrate mg/l N	Nitrogen Nitrate µg/l N	Phosphate, mg/l PO_4^{3-}
°dH	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$															
32a	33	33a	3		34	35	36	37	37a	38	39	40		41		42		43
4.6	81.9	5.3	93.8		2	10.60	86	9.81	13.43	3.40		0.55	548.6	0.0265	26.5	3.9980	3998	2.094
												0.3611	361.1	0.0227				
6.31	112.8	3.6	63.8		6	10.33	91	6.62	10.90	2.76					22.7	2.128	2128	0.223
6.9	122.6	2.5	44.1		2	9.88		3.54	5.73	1.45		0.3456	345.6	0.0235	23.5	1.801	1801	0.115
6.31	112.8	3.0	54.0		2	9.31		7.67	10.31	2.61		0.2183	218.3	0.025	25	1.478	1478	0.016
6.2	111.5	3.45	61.7		2	8.91		5.62	11.38	2.88		0.2289	228.9	0.0473	47.30	2.946	2946	0.156
4.8	85.8	4.6	82.2		2	8.94		3.18	7.63	1.93		0.2072	207.2	0.0292	29.2	1.337	1337	0.105
9.3	166.2	2.9	51.8		2	7.49		5.4	9.01	2.28		1.0252	1025.2	0.1013	101.3	2.07	2070	0.288
2.99	53.4	6.4	114.2		2	7.67		8.8	15.41	3.9		1.1482	1148.2	0.0462	46.2	4.446	4446	0.246
0.9	16.1	8.1	144.6		2	7.72		4.64	8.18	2.07		0.7452	745.2	0.0482	48.2	2.285	2285	0.103
8.04	143.7	3.60	64.3		2	7.46		5.4	8.53	2.16		1.059	1059	0.0373	37.3	1.685	1685	0.13

Phosphate, µg/l PO_4^{3-}	Anions: Bicarbonate mg/l HCO_3^-	Carbonate mg/l CO_3^{2-}	Hidroksi de mg/l OH^-	Chloride mg/l Cl^-	Sulfate mg/l SO_4^{2-}	Cations: Calcium mg/l Ca^{2+}	Magnesium mg/l Mg^{2+}	Sodium, mg/l Na^+	Potassium mg/l K^+	Water Sampling Date	Iron Fe µg/l	Manganese Mn µg/l	Lead Pb µg/l	Zink Zn µg/l	Cadmium Cd µg/l	Chromium Total - VI Cr µg/l	Nickel Ni µg/l
44	45	46	47	48	49	50	51	3	52	53	54	55	56	57	58	59	
225	161.7	0.0	0.00	8.1	19.40	37.6	5.3	10.60	3.17	**9**	177	0	0.52	8.7	0.011	0.67	n.d.
7	143.4	9.0	0.00	6.3	16.45	37.4	13.7	5.75	1.98	**9**	35	60	n.d.	3.4	0.036	0.07	3.40
219.0	103.7	6.0	0.00	9.8	18.82	36.34	6.55	5.97	1.47	9	21	10	n.d.	11.8	0.013	0.20	2.10
177.0	-265.4	135.0	0.00	4.4	12.39	39.28	4.17	7.31	2.21	**9**	nd	9	nd	10.8	nd	0.4	nd
208.0	293.2		0.00	4.9	25.52	40.46	7.02	10.81	2.1	**9**	22	22	nd	6.6	0.085	0.81	3.56
366	-372.2	189.0	0.00	8.8	26.75	57.59	5.82	14.87	2.66	**9**	14	nd	4.42	5.3	0.168	0.12	3.32
124	-463.7	234.0	0.00	10.1	43.13	65.47	10.8	16.88	2.45	**9**	/	/	/	/	/	/	/
234	#REF!	150.0	0.00	7.4	19.54	47.67	4.72	8.47	3.4	**9**	10	25	nd	0.8	0.015	nd	nd
306.7	-366.1	180.0	0.00	7.4	19.87	51.48	8.37	9.55	2.44	**9**	69	47	4.31	nd	0.147	0.66	1.32
491	-366.1	183.0	0.00	11.8	32.16	63.49	6.02	10.22	2.53	**9**	109	42	0.66	nd	0.25	0.61	nd

Phosphate, µg/l PO_4^{3-}	Anions: Bicarbonate mg/l HCO_3^-	Carbonate mg/l CO_3^{2-}	Hidroksi de mg/l OH^-	Chloride mg/l Cl^-	Sulfate mg/l SO_4^{2-}	Cations: Calcium mg/l Ca^{2+}	Magnesium mg/l Mg^{2+}	Sodium, mg/l Na^+	Potassium mg/l K^+	Water Sampling Date	Iron Fe µg/l	Manganese Mn µg/l	Lead Pb µg/l	Zink Zn µg/l	Cadmium Cd µg/l	Chromium Total - VI Cr µg/l	Nickel Ni µg/l
44	45	46	47	48	49	50	51	3	52	53	54	55	56	57	58	59	
79	280.7	12.0	0.00	11.2	24.17	70.9	20.1	14.84	2.70	**7**	66	18	0.55	34.8	0.010	0.29	n.d.
113	280.7	12.0	0.00	7.1	13.05	71.7	17.3	7.02	1.66	**7**	33	6	n.d.	1.6	0.020	0.25	n.d..
51.0	231.9	3.0	0.00	11	17.14	64.81	11.91	7.97	1.53	7	26	11	n.d.	8.6	0.013	0.26	1.31
36.0	-445.4	222.0	0.00	7.9	19.74	60.89	9.53	10.66	2.4	**7**	nd	nd	nd	9	nd	0.34	nd
38.0	439.7		0.00	8.5	21.08	42.32	21.05	11.78	1.84	**7**	10	5	nd	20.3	0.175	0.67	1.46
30	-402.7	204.0	0.00	7.2	26.51	59.51	8.15	11.82	1.62	**7**	51	nd	1.18	nd	0.291	0.07	nd
126	-396.6	198.0	0.00	7.2	44.99	43.65	21.67	9.07	0.993	**7**	26	1	1.9	nd	nd	0.55	nd
0	#REF!	255.0	0.00	9.6	38.17	79.78	14.52	9.9	2.95	**7**	9	9	nd	3.8	0.04	0.26	nd
8	-475.9	234.0	0.00	8.1	15.75	59.75	13.39	7.9	1.84	**7**	29	7	nd	1.9	nd	nd	nd
33	-360.0	180.0	0.00	10	22.72	59.52	12.04	7.3	1.6	**7**	22	nd	0.63	nd	nd	0.16	nd

Phosphate, µg/l PO_4^{3-}	Anions: Bicarbonate mg/l HCO_3^-	Carbonate mg/l CO_3^{2-}	Hidroksi de mg/l OH^-	Chloride mg/l Cl^-	Sulfate mg/l SO_4^{2-}	Cations: Calcium mg/l Ca^{2+}	Magnesium mg/l Mg^{2+}	Sodium, mg/l Na^+	Potassium mg/l K^+	Water Sampling Date	Iron Fe µg/l	Manganese Mn µg/l	Lead Pb µg/l	Zink Zn µg/l	Cadmium Cd µg/l	Chromium Total - VI Cr µg/l	Nickel Ni µg/l
44	45	46	47	48	49	50	51	3	52	53	54	55	56	57	58	59	
2094	198.3	0.0	0.00	10.1	22.34	49.1	12.9	13.10	2.93	**2**	15	24	0.83	15.9	0.019	0.70	1.00
223	189.2	6.0	0.00	8.0	19.19	55.0	9.5	8.95	2.44	**2**	23	7	0.57	13.1	n.d.	0.66	n.d.
115.0	172.7	7.2	0.00	9.5	17.91	49.1	10.73	8.60	1.85	2	10	20	n.d.	7.1	0.014	0.26	n.d.
16.0	-393.6	201.0	0.00	8.6	16.95	54.01	7.75	14.5	2.77	**2**	nd	30	nd	16.6	0.1	0.26	nd
156.0	293.2		0.00	8.3	15.48	50.1	11.69	12.63	2.26	**2**	39	9	nd	2.2	0.013	1.28	nd
105	-390.5	195.0	0.00	6.6	22.69	49.91	10.48	13.23	1.93	**2**	36	10	nd	15	0.039	0.38	1.5
288	-463.7	228.0	0.00	13.1	32.62	67.46	12.03	15.16	1.65	**2**	19	44	2.7	1.5	nd	0.26	0.79
246	#REF!	159.0	0.00	8.7	40.57	43.78	14.17	10.88	3.58	**2**	12	25	1.56	9.7	0.106	2.58	2.56
103	-262.4	129.0	0.00	10.1	43.35	50.56	8.37	10.73	3.25	**2**	15	40	nd	nd	0.332	nd	1.1
130	-421.0	207.0	0.00	14.5	23.38	59.52	14.15	9.66	2.05	**2**	98	54	0.92	nd	0.133	0.35	1.23

Saprobiological Parameters											
Cobalt Co µg/l	Copper Cu µg/l	Cyanide Total mg/l	Phenols mg/l	Total Sulfide mg/l	Sulfide at H_2S mg/l	Sulfide at HS^- mg/l	Total β-radio aktivity Bq/l	Saprobitu Index	Saprobiological Rank [Biological Production]
60	61	62	63	64	65	66	67	68	69
0.68	2.02				0.7692	-0.8			
0.31	2.18				0.3137	-0.3			
0.51	0.20				0.4660	-0.5			
0.26	0.49				0.3077	-0.3			
0.38	1.45				0	0.0			
nd	nd				0.4752	-0.5			
/	/				0	0.0			
0.33	3.22				0	0.0			
nd	3.98				0.384	-0.4			
nd	2.45				0.575	-0.6			

Saprobiological Parameters											
Cobalt Co µg/l	Copper Cu µg/l	Cyanide Total mg/l	Phenols mg/l	Total Sulfide mg/l	Sulfide at H_2S mg/l	Sulfide at HS^- mg/l	Total β-radio aktivity Bq/l	Saprobitu Index	Saprobiological Rank [Biological Production]
60	61	62	63	64	65	66	67	68	69
0.68	4.29				0.4615	-0.5			
n.d.	2.08				0	0.0			
n.d.	1.63				0.4660	-0.5			
0.21	4.74				0.4615	-0.5			
0.41	0.7				0	0.0			
nd	nd				0	0.0			
nd	1.03				0	0.0			
0.37	2.87				0	0.0			
0.43	3.27				0	0.0			
nd	1.68				0	0.0			

Saprobiological Parameters											
Cobalt Co µg/l	Copper Cu µg/l	Cyanide Total mg/l	Phenols mg/l	Total Sulfide mg/l	Sulfide at H_2S mg/l	Sulfide at HS^- mg/l	Total β-radio aktivity Bq/l	Saprobitu Index	Saprobiological Rank [Biological Production]
60	61	62	63	64	65	66	67	68	69
0.62	2.07				1.0769	-1.1			
n.d.	n.d.				0.3137	-0.3			
0.36	0.47				0.9321	-0.9			
0.22	0.26				0.4615	-0.5			
0.72	1.32				0	0.0			
nd	2.1				0.3168	-0.3			
nd	0.8				0.2327	-0.2			
0.37	5.32				0	0.0			
0.2	4.51				0.224	-0.2			
nd	6.36				0.4182	-0.4			

(2) River Water Quality (2005)

Table 2.31 River Water Quality in 2005 (HMI)

Red. broj	MERNO MESTO	Labor.	Broj	Datum na zemanje na prpbata	Hidroloski Parametri				Organoleptički i Fizički Parametri											
					Nivo na voda H cm	Protek Q m3/s	Sredna brzina V m/s	Poprec. presek B m	Vidlivi otpadni materii	Zabeleziva mirizba	Zabeleziva boja	Vistin. mg/l Pt	Temperatura °C		Matnost		pH	Redoks potenc. mV	Sprovodlivost µS/cm
													voda	vozduh	mg/l	SiO_2	NTU Units			
1		2		3	4	5	6	7	8	9	10	11	12	13	14		14a	15	16	17
9	Lepenec ustie	05-035		2005/2/23					bez	bez	sr. zamat	2.5	6.4	11.5	7.5		40	8.05	-85	307
9	Lepenec us	05-045		2005/3/16					bez	bez	sr zamat	5	9	19.2	6		37	8.18	-92	289
9	Lepenec us	05-094		2005/4/13	88				bez	bez	sr. zamat.	5	11.5	17.5	5		55	7.94	-79	235
9	Lepenec us	05-133		2005/5/20					bez	bez	matna	2	10.0	17.0	7.5		124	7.66	-52	215
9	Lepenec us	05-153		2005/6/13					bez	bez	sr. zamat.	5	14.0	22.0	4		68	8.03	-76	245
9	Lepenec us	05-185		2005/7/11					bez	bez	matna	7.5	18.8	19.5	7.5		79	7.98	-67	314
9	Lepenec us	05-241		22/08/2005					bez	bez	sr. zamat.	2.5	20	28.5	7.5		63	8.31	-76	355
9	Lepenec us	05-273		2005/9/23					maslo	bez	matna	5	15.2	17.3	7.5		96	8.22	-77	378
9	Lepenec us	05-294		2005/10/19					bez	bez	sr. zamat.	5	8.5	9.0	6		31	8.17	65	322
9	Lepenec ustie	05-316		2005/11/16					bez	bez	matna	2.5	8.0	8.0	7.5		135	8.48	-82	366

Red. broj	MERNO MESTO	Labor.	Broj	Datum na zemanje na prpbata	Hidroloski Parametri				Organoleptički i Fizički Parametri											
					Nivo na voda H cm	Protek Q m3/s	Sredna brzina V m/s	Poprec. presek B m	Vidlivi otpadni materii	Zabeleziva mirizba	Zabeleziva boja	Vistin. mg/l Pt	Temperatura °C		Matnost		pH	Redoks potenc. mV	Sprovodlivost µS/cm
													voda	vozduh	mg/l	SiO_2	NTU Units			
1		2		3	4	5	6	7	8	9	10	11	12	13	14		14a	15	16	17
7	Treska vliv	05-033		2005/2/23					bez	bez	bez	4	8.2	14	2.5		10	8.08	-87	413
7	Treska vliv	05-043		2005/3/16					bez	bez	bez	2.5	8.1	19.2	2.5		9	7.97	-81	375
7	Treska vliv	05-092		2005/4/13					bez	bez	bez	5	11.3	16.5	4		5	8.09	-87	389
7	Treska vliv	05-131		2005/5/20					bez	bez	bez	5	10.0	15.5	4		10	7.64	-51	341
7	Treska vliv	05-151		2005/6/13					bez	bez	bez	2.5	14.0	23.0	2.5		15	8.05	-77	345
7	Treska vliv	05-183		2005/7/11					bez	bez	bez	5	15.6	19.2	5		10	7.77	-53	396
7	Treska vliv	05-239		22/08/2005					bez	bez	bez	2.5	12.2	26	4		7	7.96	-57	325
7	Treska vliv	05-271		2005/9/23					bez	bez	bez	7	12.4	17.0	5		4	8.04	-66	365
7	Treska vliv	05-292		2005/10/19					bez	bez	bez	2.5	10.0	9.0	2.5		4	7.99	-55	317
7	Treska vliv	05-314		2005/11/16					bez	bez	bez	2.5	11.2	8.5	6		5	8.06	-58	325

Red. broj	MERNO MESTO	Labor.	Broj	Datum na zemanje na prpbata	Hidroloski Parametri				Organoleptički i Fizički Parametri											
					Nivo na voda H cm	Protek Q m3/s	Sredna brzina V m/s	Poprec. presek B m	Vidlivi otpadni materii	Zabeleziva mirizba	Zabeleziva boja	Vistin. mg/l Pt	Temperatura °C		Matnost		pH	Redoks potenc. mV	Sprovodlivost µS/cm
													voda	vozduh	mg/l	SiO_2	NTU Units			
1		2		3	4	5	6	7	8	9	10	11	12	13	14		14a	15	16	17
2	Taor	05-019		2005/2/21					bez	bez	sl. zamat.	5	6	7	5		14	7.24	-39	346
2	Taor	05-046		2005/3/17					bez	bez	sl zamat	2.5	8.2	16.5	5		24	7.7	-64	358
2	Taor	05-078		2005/4/11					bez	bez	sl. zamat.	5	12.4	19	6		20	7.72	-66	330
2	Taor	05-117		2005/5/18					bez	bez	sl. zamat.	1	16.8	23.2	7.5		22	7.79	-60	274
2	Taor	05-154		2005/6/14					bez	bez	bez	5	13.2	20.2	4		24	7.77	-62	324
2	Taor	05-194		2005/7/15					bez	bez	bez	2.5	18.0	23.0	7.5		16	7.41	-34	373
2	Taor	05-242		23/08/2005					bez	bez	matna	2.5	20	21	7		63	7.38	-23	365
2	Taor	05-257		2005/9/19					bez	bez	sr. zamat.	7	18.6	23.0	5		44	7.27	-23	420
2	Taor	05-278		2005/10/17					bez	bez	sl. zamat.	5	11.2	11.0	5		23	7.86	-48	345
2	Taor	05-300		2005/11/14	100				bez	bez	sr. zamat.	1	9.2	6.0	6		24	7.91	-50	315

Jaglenoroden Dvooksid CO_2 mg/l		Red. broj	Suv ostatok na 105 °C mg/l		Zaren ostatok na 600 °C mg/l		Gubitok od zarenje mg/l		Suspendirani materii mg/l			Alkalitet				Vkupna tvrdina	Karbonatna tvrdina	
												phenol-phthalein mEq/l	methyl orange					
Slobod.	Agre siven		nefiltrirana voda	filtrirana voda	nefiltrirana voda	filtrirana voda	nefiltrirana voda	filtrirana voda	Vkupni	Mineralni	Organski		mEq/l	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$
18	19	1	20	21	22	23	24	25	26	27	28	29	30	30a	31	31a	32	32a
0.00		9	263	225	170	145	93	80	38	25	13	0.10	2.37	118.6	9.1	162.7	3.9	69.7
0.00		9	288	207	160	120	128	87	81	63	41	0.20	3.25	162.6	9.0	160.9	5.9	105.5
0.00		9	262	155	143	90	119	65	107	53	54	0.15	2.65	132.6	6.9	123.3	2.4	42.9
0.00		9	314	181	185	115	129	66	133	70	63	0.20	2.56	128.1	6.4	114.4	3.4	60.8
0.00		9	320	201	220	164	100	37	119	56	63	0.15	3.05	152.6	8.4	150.1	5.8	103.1
0.00		9	321	243	196	156	125	87	78	40	38	0.30	3.45	172.7	9.9	177.3	5.7	101.7
0.00		9	300	260	175	155	125	105	40	20	20	0.25	3.95	197.7	10.8	193.2	7.5	133.7
0.00		9	355	245	190	150	165	95	110	40	70	0.15	3.40	170.2	11.4	204.5	7.7	137.1
0.00		9	327	205	200	118	127	87	122	82	40	0.10	2.90	145.1	9.5	169.3	5.1	90.8
0.00		9	467	248	250	130	217	118	219	120	99	0.25	4.42	221.2	11.3	201.2	6.3	112.9

Jaglenoroden Dvooksid CO_2 mg/l		Red. broj	Suv ostatok na 105 °C mg/l		Zaren ostatok na 600 °C mg/l		Gubitok od zarenje mg/l		Suspendirani materii mg/l			Alkalitet				Vkupna tvrdina	Karbonatna tvrdina	
												phenol-phthalein mEq/l	methyl orange					
Slobod.	Agre siven		nefiltrirana voda	filtrirana voda	nefiltrirana voda	filtrirana voda	nefiltrirana voda	filtrirana voda	Vkupni	Mineralni	Organski		mEq/l	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$
18	19	1	20	21	22	23	24	25	26	27	28	29	30	30a	31	31a	32	32a
0.00		7	347	298	200	160	147	138	49	40	9	0.20	4.20	210.2	13.2	235.9	9.0	160.9
0.00		7	303	235	175	140	128	95	68	35	33	0.30	3.70	185.2	12.0	214.5	7.7	137.6
0.00		7	297	198	184	123	113	75	99	61	38	0.35	3.10	155.1	13.4	239.5	8.9	159.1
0.00		7	294	251	172	150	122	101	43	22	21	0.30	4.23	211.7	11.0	196.6	6.6	118.0
0.00		7	280	245	156	140	124	105	35	16	19	0.15	3.75	187.7	11.0	196.6	6.8	121.0
0.00		7	330	300	175	160	155	140	30	15	15	0.10	4.70	235.2	13.4	239.9	9.3	166.9
0.00		7	250	215	120	115	130	100	35	5	30	0.10	3.50	175.2	10.5	188.2	6.7	118.9
0.00		7	280	233	170	132	110	101	47	38	9	0.05	3.70	185.2	11.6	206.9	7.1	127.5
0.00		7	240	197	151	130	89	67	43	21	22	0.05	2.90	145.1	9.3	166.8	4.9	88.3
0.00		7	250	213	135	113	115	100	37	22	15	0.15	3.58	179.2	9.9	176.6	5.8	103.0

Jaglenoroden Dvooksid CO_2 mg/l		Red. broj	Suv ostatok na 105 °C mg/l		Zaren ostatok na 600 °C mg/l		Gubitok od zarenje mg/l		Suspendirani materii mg/l			Alkalitet				Vkupna tvrdina	Karbonatna tvrdina	
												phenol-phthalein mEq/l	methyl orange					
Slobod.	Agre siven		nefiltrirana voda	filtrirana voda	nefiltrirana voda	filtrirana voda	nefiltrirana voda	filtrirana voda	Vkupni	Mineralni	Organski		mEq/l	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$	°dH	mg/l $CaCO_3$
18	19	1	20	21	22	23	24	25	26	27	28	29	30	30a	31	31a	32	32a
0.26		2	260	244	150	140	110	104	16	10	6	0.00	3.75	187.7	10.9	194.8	7.0	125.1
0.38		2	356	267	185	140	171	127	89	45	6	0.00	3.90	195.2	11.5	205.6	7.3	130.5
0.00		2	356	216	196	126	160	90	140	70	70	0.10	3.30	165.1	9.7	173.4	5.8	103.7
0.00		2	273	207	179	134	94	73	66	45	21	0.20	2.92	146.1	8.1	144.8	4.3	76.9
0.00		2	310	240	175	140	135	100	70	35	35	0.20	3.60	180.2	10.0	178.7	5.9	105.8
0.00		2	349	291	210	180	139	111	58	30	28	0.15	3.95	197.7	11.7	208.6	7.3	130.4
0.18		2	290	235	160	137	130	98	55	23	32	0.00	3.20	160.1	10.3	183.4	6.9	123.9
0.00		2	330	251	180	150	150	101	79	30	49	0.15	3.60	180.2	12.0	214.1	6.6	117.9
0.00		2	340	219	162	127	178	92	121	35	86	0.15	3.30	165.1	10.2	181.5	6.9	122.7
1.32		2	280	216	165	116	115	100	64	49	15	0.00	3.20	160.1	9.3	166.8	5.8	103.0

Nekarbonatna tvrdina		Red. broj	Rastvor. kislorod mg/l O_2	Zasiten. so kislorod %	Biohem. Potrosuv. BPK_5 mg/l O_2	Permang. Index Mn mg/l $KMnO_4$	Permang. Index Mn mg/l O_2	Hemiska potrosuv. Cr mg/l O_2	Azot Amonijak µg/l N	Azot Nitriti µg/l N	Azot Nitrati µg/l N	Ortofosf. PO_4^{3-} µg/l	Anjoni					Katjoni	
°dH	mg/l $CaCO_3$												Bicarbon HCO_3^- mg/l	Carbon. CO_3^{2-} mg/l	Hidroks. OH^- mg/l	Hloridi Cl^- mg/l	Sulfati SO_4^{2-} mg/l	Calcium Ca^{2+} mg/l	Magnes. Mg^{2+} mg/l
33	33a	1	34	35	36	37	37a	38				42	43	44	45	46	47	48	49
5.2	92.9	9	11.19	91	7.70	12.64	3.20		341.7	31.8	1580.0	411.0	163.00	6.0		11.2	32.19	49.1	9.7
3.1	55.4	9	11.30	97	5.12	12.92	3.27		107.1	17.1	1772.9	186	173.8	12.0		8.3	20.03	48.1	9.7
4.5	80.4	9	10.07	92	9.80	16.12	4.08		220.3	29.1	1955.6	282.0	143.40	9.0		5.9	5.38	44.1	4.9
3.0	53.6	9	10.60	94	4.12	7.15	1.81		141.4	27.0	2177.7	224.1	132.00	12.0		6.4	18.15	34.4	7.1
2.6	47.0	9	9.88	95	5.21	8.57	2.17		110.5	27.8	1291.7	219.0	168.00	9.0		6.2	17.25	42.2	10.7
4.2	75.6	9	8.37	89	3.47	11.28	2.86		74.4	56.9	2486.3	304.0	173.85	18.0		7.4	21.19	56.38	8.87
3.3	59.5	9	10.78	117	5.13	8.26	2.09		39.9	19.6	2021.0	209.2	210.5	15.0		11.6	27.65	59.52	10.83
3.8	67.4	9	9.07	89	1.73	3.83	0.97		263.0	63.4	1986.4	332.3	189.1	9.0		12.37	29.13	59.73	13.45
4.4	78.5	9	11.67	99	2.79	6.40	1.62		193.8	30.8	1501.0	157.7	164.7	6.0		12.99	20.21	53.05	8.94
4.9	88.3	9	8.22	69	6.77	11.14	2.82		124.7	25.3	1660	217.3	239.1	15.0		10.77	20.37	62.87	10.73

Nekarbonatna tvrdina		Red. broj	Rastvor. kislorod mg/l O_2	Zasiten. so kislorod %	Biohem. Potrosuv. BPK_5 mg/l O_2	Permang. Index Mn mg/l $KMnO_4$	Permang. Index Mn mg/l O_2	Hemiska potrosuv. Cr mg/l O_2	Azot Amonijak µg/l N	Azot Nitriti µg/l N	Azot Nitrati µg/l N	Ortofosf. PO_4^{3-} µg/l	Anjoni					Katjoni	
°dH	mg/l $CaCO_3$												Bicarbon HCO_3^- mg/l	Carbon. CO_3^{2-} mg/l	Hidroks. OH^- mg/l	Hloridi Cl^- mg/l	Sulfati SO_4^{2-} mg/l	Calcium Ca^{2+} mg/l	Magnes. Mg^{2+} mg/l
33	33a	1	34	35	36	37	37a	38				42	43	44	45	46	47	48	49
4.2	75.1	7	11.98	101	3.27	7.78	1.97		61.9	5.9	1110.0	115.0	128.00	12.0		12.6	28.27	74.1	12.2
4.3	76.9	7	13.02	110	3.63	3.87	0.98		31.4	2.5	1068.6	64	189.1	18.0		7.9	22.58	64.1	13.4
4.5	80.4	7	12.56	114	4.32	7.11	1.80		29.4	6.9	1160.7	34.0	189.10	21.0		9.3	10.01	52.1	26.7
4.4	78.6	7	11.28	99	4.73	7.78	1.97		144.0	1.9	602.4	58.9	215.30	21.0		8.6	27.09	58.9	11.9
4.2	75.6	7	11.64	112	2.66	5.25	1.33		74.7	2.3	715.7	36.0	210.00	9.0		10.6	22.11	47.1	19.1
4.1	73.0	7	10.45	104	3.13	5.80	1.47		67.2	5.7	763.5	0.0	274.50	6.0		6.8	21.51	72.04	14.57
3.9	69.4	7	11.88	110	2.58	6.05	1.53		20.3	3.1	589.5	9.9	201.3	6.0		8.0	28.53	45.63	18.06
4.4	79.4	7	9.54	89	1.06	1.94	0.49		83.0	5.9	702.5	5.5	219.6	3.0		9.65	21.30	55.88	16.37
4.4	78.5	7	11.45	101	1.04	5.77	1.46		69.7	1.2	511.0	22.4	170.8	3.0		9.92	22.29	55.99	6.56
4.1	73.6	7	11.99	109	1.30	5.73	1.45		9.6	2.0	541	25.3	200.1	9.0		9.56	21.27	55.01	9.54

Nekarbonatna tvrdina		Red. broj	Rastvor. kislorod mg/l O_2	Zasiten. so kislorod %	Biohem. Potrosuv. BPK_5 mg/l O_2	Permang. Index Mn mg/l $KMnO_4$	Permang. Index Mn mg/l O_2	Hemiska potrosuv. Cr mg/l O_2	Azot Amonijak µg/l N	Azot Nitriti µg/l N	Azot Nitrati µg/l N	Ortofosf. PO_4^{3-} µg/l	Anjoni					Katjoni	
°dH	mg/l $CaCO_3$												Bicarbon HCO_3^- mg/l	Carbon. CO_3^{2-} mg/l	Hidroks. OH^- mg/l	Hloridi Cl^- mg/l	Sulfati SO_4^{2-} mg/l	Calcium Ca^{2+} mg/l	Magnes. Mg^{2+} mg/l
33	33a	1	34	35	36	37	37a	38				42	43	44	45	46	47	48	49
3.9	69.7	2	10.57	85	5.95	7.59	1.92		338.7	28.5	1421.8	187.0	229.00	0.0		22.7	15.78	59.1	11.5
4.2	75.1	2	10.34	87	5.32	11.30	2.86		226.6	22.5	1747.6	41	237.9	0.0		9.6	16.81	59.1	14.0
3.9	69.7	2	8.09	75	3.74	6.16	1.56		394.1	37.6	2836.8	195.0	183.00	6.0		8.9	15.81	54.1	9.1
3.8	67.9	2	7.75	79	6.30	10.39	2.63		585.3	41.9	1360.7	339.2	154.00	12.0		8.6	19.30	48.1	6.0
4.1	72.9	2	8.66	82	6.84	6.91	1.75		283.1	35.4	1608.3	175.0	195.00	12.0		10.8	18.66	55.0	10.1
4.4	78.2	2	5.01	52	4.98	7.09	1.80		1235.9	213.7	3202.9	702.5	222.65	9.0		10.2	30.08	66.82	10.14
3.3	59.5	2	5.40	59	9.84	17.19	4.35		710.4	105.1	3214.9	287.7	195.2	0.0		11.5	28.78	57.53	9.63
5.4	96.2	2	1.87	20	13.40	22.09	5.59		130.0	130.0	948.3	51.0	201.3	9.0		15.97	27.79	54.92	18.71
3.3	58.9	2	10.85	98	8.44	12.80	3.24		537.9	44.7	1233.0	286.0	183.0	9.0		11.67	22.23	56.98	9.54
3.6	63.8	2	10.63	92	7.50	12.41	3.14		328.6	20.1	1303	150.8	195.2	0.0		10.95	22.70	50.10	10.13

Katjoni				Opasni i stetni Materii																
Natrium Na^+ mg/l	Kalium K^+ mg/l	Red. broj	Zelezo µg/l	Fe	Mangan µg/l	Mn	Olovo Pb µg/l	Zink Zn µg/l	Kadmium Cd µg/l	Hrom VI Cr µg/l	Nikel Ni µg/l	Kobalt Co µg/l	Bakar Cu µg/l	Cijanidi mg/l	Phenolni soedinen. mg/l	Vkupni Sulfidi mg/l	Sulfidi - H_2S mg/l	Sulfidi - HS^- mg/l	Sloboden hlor mg/l
50	51	1	52		53		54	55	56	57	58	59	60	61	62	63	64	65	
8.32	3.27	9	119		37		0.23	14.8	0.368	1.28	2.07	0.03	0.18				0.3153		0.0188
7.51	2.60	9	114		52		1.10	29.7	0.016	0.74	1.26	0.00	0.43				0.3077		0.0186
4.90	1.47	9	87		32		0.82	8.6	0.061	0.27	3.56	0.00	-				0.4572		0.0558
7.61	2.87	9	1		0		0.89	0.0	0.026	0.01	4.12	0.80	8.36				0.0000		0.0354
5.17	2.53	9	67		17		1.06	2.6	0.052	0.02	4.22	0.08	8.36				0.1105		0.0354
8.70	2.60	9	20		19		1.00	0.6	0.000	0.28	1.92	0.38	3.07				2.1750		0.0874
11.53	3.09	9	24		35		1.12	4.6	0.087	0.41	1.48	1.70	0.84				0.5337		0.0000
14.20	3.00	9	0		53		1.11	2.6	0.026	0.00	0.00	0.72	0.68				0.00000		0.1270
10.78	2.79	9	0		39		0.38	18.2	0.000	0.45	0.00	0.12	0.13				0.8602		0.0613
11.37	2.57	9	19.00		28.00		0.15	6.20	0.011	0.58	2.60	0.00	2.29				0.0000		0.0000

Katjoni				Opasni i stetni Materii																
Natrium Na^+ mg/l	Kalium K^+ mg/l	Red. broj	Zelezo µg/l	Fe	Mangan µg/l	Mn	Olovo Pb µg/l	Zink Zn µg/l	Kadmium Cd µg/l	Hrom VI Cr µg/l	Nikel Ni µg/l	Kobalt Co µg/l	Bakar Cu µg/l	Cijanidi mg/l	Phenolni soedinen. mg/l	Vkupni Sulfidi mg/l	Sulfidi - H_2S mg/l	Sulfidi - HS^- mg/l	Sloboden hlor mg/l
50	51	1	52		53		54	55	56	57	58	59	60	61	62	63	64	65	
9.00	3.44	7	30		26		0.27	18.8	6.399	0.27	1.16	0.08	1.84				0.0000		0.0000
8.23	2.43	7	33		49		0.88	5.9	0.000	0.11	0.00	0.10	0.15				0.0000		0.0000
6.95	1.90	7	65		23		0.87	18.2	0.092	0.57	3.96	0.00	-				0.0000		0.0000
7.30	2.03	7	0		0		0.41	0.0	0.030	0.01	4.57	0.86	6.93				0.0000		0.0177
4.56	1.25	7	13		10		0.51	0.0	0.060	0.13	3.98	0.00	6.93				0.0742		0.0000
6.91	1.22	7	1.2		2		0.98	0.0	0.012	0.48	0.32	0.00	4.35				1.0870		0.0000
8.98	1.90	7	30		5		1.42	0.0	0.029	0.35	0.91	2.90	0.57				0.0676		0.0000
10.13	1.66	7	43		6		1.32	0.9	0.022	0.16	0.66	0.00	1.64				0.14816		0.0000
8.85	1.69	7	0		5		0.49	1.5	0.000	0.47	0.89	0.00	12.31				1.3763		0.0000
10.00	1.17	7	23.00		3.00		0.90	0.00	0.022	0.19	1.25	0.42	1.90				0.0000		0.0000

Katjoni				Opasni i stetni Materii																
Natrium Na^+ mg/l	Kalium K^+ mg/l	Red. broj	Zelezo µg/l	Fe	Mangan µg/l	Mn	Olovo Pb µg/l	Zink Zn µg/l	Kadmium Cd µg/l	Hrom VI Cr µg/l	Nikel Ni µg/l	Kobalt Co µg/l	Bakar Cu µg/l	Cijanidi mg/l	Phenolni soedinen. mg/l	Vkupni Sulfidi mg/l	Sulfidi - H_2S mg/l	Sulfidi - HS^- mg/l	Sloboden hlor mg/l
50	51	1	52		53		54	55	56	57	58	59	60	61	62	63	64	65	
6.36	2.03	2	54		38		0.29	1.0	0.023	1.07	2.58	0.24	2.58				0.3153		0.0188
6.81	2.10	2	59		38		1.22	26.6	0.379	0.20	0.22	0.27	1.83				0.0000		0.0520
6.84	1.63	2	42		14		0.86	11.3	0.061	0.28	5.30	0.00	-				0.3048		0.0558
6.27	1.50	2	11		9		0.31	0.0	0.092	0.94	0.43	1.09	0.52				0.3200		0.0886
6.12	1.90	2	120		26		0.36	2.1	0.064	0.15	2.59	0.00	0.52				0.2831		0.0531
12.22	2.92	2	23		14		1.09	3.3	0.000	0.63	1.08	0.08	2.10				0.0000		0.2098
11.94	3.97	2	26		23		0.81	16.2	0.147	0.56	0.62	0.08	0.62				0.3783		0.2158
15.39	2.88	2	64		80		1.75	61	0.032	0.4	0.57	0.15	0.61				0.00000		0.2400
9.00	3.24	2	15		22		3.52	7.2	0.009	0.36	0.29	0.00	12.81				0.3441		0.0341
14.47	1.63	2	26.00		33.00		0.43	0.90	0.000	0.13	0.39	0.33	1.30				0.6244		0.0174

(3) River Water Quality (2004)

Table 2.32 River Water Quality in 2004 (HMI)

	Laborat.broj	Reka Merno Mesto	Datum na zemanje na prpbata Godina	Den i mesec	Hidroloski Parametri Nivo na voda H cm	Protek Q m3/s	Sredna brzina V m/s	Poprec. presek B m	Vidlivi otpadni materii	Zabeleziva mirizba	Organoleptichi i Fizichki Parametri Boja Zabeleziva	Vistin. mg/l Pt	Temperatura oC voda	vozduh	Matnost mg/l SiO2	NTU Units	pH	Redoks potenc. mV
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	14a	15	16
1	04-003	Treska Vliv	2004	2004/1/27					bez	bez	bez	2.5	5.8	0.7	2.5	4	8.25	-140
2	04-023	Treska Vliv	2004	2004/2/16					bez	bez	bez	2.5	7.8	5.6	2.5	6	8.13	-133
3	04-042	Treska Vliv	2004	2004/3/29					Bez	Bez	Bez	2.5	7.7	9.3	2.5	9	8.11	-132
4	04-076	Treska Vliv	2004	20044/29					Bez	Bez	Bez	2.5	9.9	15.0	2.0	4	8.14	-134
5	04-117	Treska Vliv	2004	2004/8/20					bez	bez	bez	2.5	14.2	29	2.5	6	8.16	-135
6	04-167	Treska Vliv	2004	2004/9/24					bez	bez	bez	5	15.1	22	4	4	8.01	-83
7	04-201	Treska Vliv	2004	2004/10/22					bez	bez	bez	2.5	14.8	24.2	4	5	8.11	-86
17	04-005	L epenec ustie	2004	2004/1/27					bez	bez	sl.zamat	2.5	2.0	1.0	7.5	2.5	8.40	-149
18	04-025	L epenec ustie	2004	2004/2/16					bez	bez	sl zamat	2.5	3.5	6.2	8.0	18	8.10	-131
19	04-044	Lepenec ustie	2004	2004/3/29					Bez	Bez	Sredno zamat	2.5	8.5	9.2	2.5	60	8.10	-131
20	04-078	Lepenec ustie	2004	20044/29					Bez	Bez	Sr.Zamatena	5.0	11.0	15.0	2.5	42	8.13	-133
21	04-119	Lepenec ustie	2004	2004/8/20					bez	bez	sr.zamatena	5	18.8	28	3	46	8.32	-144
22	04-169	Lepenec ustie	2004	2004/9/24					bez	bez	sredno zamatena	7.5	15.2	21.5	7.5	100	8.32	-101
23	04-203	Lepenec ustie	2004	2004/10/22					bez	bez	sredno zamatena	5	14.6	20	6	151	8.2	-91
24	04-239	Lepenec ustie	2004	2004/11/24					bez	bez	sredno zamatena	5	5	8.5	5	66	8.19	-90
25	04-301	Lepenec ustie	2004	2004/12/24					maslo	bez	sredno zamatena	5	3.4	1.9	6	68	8.02	-85
26	04-006	Taor	2004	2004/1/29	160				bez	bez	matna	5.0	3.5	5.0	6.0	612	7.70	-109
27	04-031	Taor	2004	2004/2/18	65				bez	bez	sl zamat	5.0	4.3	3.3	7.5	15	7.69	-108
28	04-050	Taor	2004	2004/3/31	136				Bez	Bez	SL.Zamatena	5	11.0	11.0	2.5	21	7.93	-123
29	04-063	Taor	2004	20044/26					Bez	Bez	Sl.Zamatena	5.0	11.3	13.5	2.5	18	8.16	-135
30	04-106	Taor	2004	2004/8/17					bez	bez	sl zamatena	5	16	22	10	19	7.79	-114
31	04-153	Taor	2004	2004/9/22					bez	na fekalii	sl. Zamatena	5	17.5	21.4	7.5	9	8.3	-99
32	04-204	Taor	2004	2004/10/25					fekalii ulje	na fekalii	sl zamat	5	14	15	7.5	16	7.64	-59
33	04-240	Taor	2004	2004/11/25					bez	bez	slabo zamatena	7.5	2.5	2	5	35	7.77	-67
34	04-289	Taor	2004	2004/12/21					bez	bez	sredno zamatena	5	6.8	1.5	6	23	7.7	-67

Sprovodlivost µS/cm	Jaglenoroden Dvooksid CO_2 mg/l		Suv ostatok na 105 °C mg/l		Zaren ostatok na 600 °C mg/l		Gubitok od zarenje mg/l		Suspendirani materii mg/l			Alkalitet phenol-phthalein	Alkalitet methyl orange		Vkupna tvrdina		Karbonatna tvrdina	
	Sloboden	Agre siven	nefiltrira- na voda	filtrirana voda	nefiltrira- na voda	filtrirana voda	nefiltrira- na voda	filtrirana voda	Vkupni	Mine ralni	Organski	mEq/l	mEq/l	mg/l $CaCO_3$	°dH	$CaCO_3$ mg/l	°dH	$CaCO_3$ mg/l
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	32a	33	33a
512	0.00		371	280	73	65	298	215	91	8	83	0.20	4.30	215.19	12.6	225.21	8.5	151.93
554	0.00		350	315	174	155	176	160	35	19	16	0.30	5.50	275.25	16.2	289.56	16.2	289.56
426	0.00		350	250	150	129	200	121	100	21	79	0.10	4.10	205.18	12.3	219.85	7.1	126.91
360	0.00		430	260	250	191	180	69	170	59	111	0.20	4.35	217.70	12.90	230.57	9.3	166.23
369	0		234	222	200	194	34	28	12	6	6	0.1	3.5	172.66	7.2	128.69	4.0	71.50
470	0		268	253	159	148	109	105	15	11	4	0.4	4.25	212.69	12.6	225.21	7.8	139.42
492	0		295	278	221	211	74	67	17	10	7	0.2	4.5	222.70	13.0	232.36	9.2	164.44

Sprovodlivost µS/cm	Jaglenoroden Dvooksid CO_2 mg/l		Suv ostatok na 105 °C mg/l		Zaren ostatok na 600 °C mg/l		Gubitok od zarenje mg/l		Suspendirani materii mg/l			Alkalitet phenol-phthalein	Alkalitet methyl orange		Vkupna tvrdina		Karbonatna tvrdina	
	Sloboden	Agre siven	nefiltrira- na voda	filtrirana voda	nefiltrira- na voda	filtrirana voda	nefiltrira- na voda	filtrirana voda	Vkupni	Mine ralni	Organski	mEq/l	mEq/l	mg/l $CaCO_3$	°dH	$CaCO_3$ mg/l	°dH	$CaCO_3$ mg/l
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	32a	33	33a
350	0.00		302	210	70	59	232	151	92	11	81	0.10	3.10	155.14	9.3	166.23	6.6	117.97
400	0.00		239	220	130	113	109	107	19	17	2	0.10	4.15	207.69	12.2	218.06	12.2	218.06
270	0.00		260	150	183	139	77	11	110	44	66	0.10	2.22	111.10	7.0	125.12	3.8	67.92
221	0.00		260	150	140	112	120	38	110	28	82	0.15	2.40	120.11	7.00	125.12	4.2	75.07
394	0		257	210	180	142	77	68	47	38	9	0.2	3.2	157.64	8.5	151.93	5.2	92.94
500	0		294	274	130	120	164	154	20	10	10	0.3	4.1	205.18	12.3	219.85	7.1	126.91
478	0		262	225	212	181	50	44	37	31	6	0.1	3.6	180.16	10.1	180.53	7.2	128.69
312	0		253	187	161	140	92	47	66	21	45	0.05	2.9	145.13	8.4	150.14	4.1	73.28
321	0.00		310	230	250	187	60	43	80	63	17	0.1	3.55	177.66	10.4	185.89	7.3	130.48

Sprovodlivost µS/cm	Jaglenoroden Dvooksid CO_2 mg/l		Suv ostatok na 105 °C mg/l		Zaren ostatok na 600 °C mg/l		Gubitok od zarenje mg/l		Suspendirani materii mg/l			Alkalitet phenol-phthalein	Alkalitet methyl orange		Vkupna tvrdina		Karbonatna tvrdina	
	Sloboden	Agre siven	nefiltrira- na voda	filtrirana voda	nefiltrira- na voda	filtrirana voda	nefiltrira- na voda	filtrirana voda	Vkupni	Mine ralni	Organski	mEq/l	mEq/l	mg/l $CaCO_3$	°dH	$CaCO_3$ mg/l	°dH	$CaCO_3$ mg/l
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	32a	33	33a
298	2.00		844	165	278	28	566	137	679	250	429	0.00	2.45	122.61	7.4	132.27	5.2	92.94
392	0.00		268	230	162	144	106	86	38	18	20	0.05	3.65	182.66	10.7	191.25	10.7	191.25
372	0.00		350	225	168	157	182	68	125	11	114	0.10	3.60	180.16	10.4	185.89	6.6	117.97
299	0.00		320	195	244	159	76	36	125	85	40	0.10	3.20	160.14	9.20	164.44	5.3	94.73
382	0		297	215	198	155	99	60	82	43	39	0.05	3.3	162.65	9.9	176.95	6.1	109.03
467	0		319	280	230	200	89	80	39	30	9	0.1	4.2	210.19	12.1	216.28	8.9	159.08
439	0		289	242	180	170	109	72	47	10	37	0.05	4.0	200.18	11.8	210.91	5.8	103.67
367	0		245	206	188	163	57	43	39	25	14	0.05	3.4	170.15	9.8	175.17	6.6	117.97
358	0.00		273	220	135	111	138	109	53	24	29	0.1	3.4	170.15	9.9	176.95	5.4	96.52

Nekarbonatna tvrdina		Rastvoren kislorod	Zasiten. so kislorod	Biohem. Potrosuv.	Permang. Index Mn	Permang. Index Mn	Hemiska potrosuv. Cr	Azot Amonijak	Azot Nitriti	Azot Nitrati	Ortofosf.	Anjoni					Katjoni	
°dH	$CaCO_3$ mg/l	mg/l O_2	%	BPK_5 mg/l O_2	mg/l $KMnO_4$	mg/l O_2	mg/l O_2	µg/l N	µg/l N	µg/l N	PO_4^{3-} µg/l	Bicarbon HCO_3^- mg/l	Carbonati CO_3^{2-} mg/l	Hidroksidi OH^- mg/l	Hloridi Cl^- mg/l	Sulfati SO_4^{2-} mg/l	Calcium Ca^{2+} mg/l	Magnes. Mg^{2+} mg/l
34	34a	35	36	37	38	38a	39	40	41	42	43	44	45	46	47	48	49	50
4.1	73.28	14.50	120	2.60	5.97	1.51		85.6	3.8	616.6	90.0	237.9	12.0		7.5	11.9	88.40	1.19
4.8	85.80	11.95	104	1.28	8.53	2.16		56.0	3.9	1020.0	57	298.9	18.0		7.6	14.5	88.4	16.7
5.2	92.94	12.47	108	2.70	9.56	2.42		84.0	3.1	576.7	63.8	237.9	6.0		10.1	16.10	66.1	13.4
3.6	64.35	13.25	116	2.54	10.90	2.76		26.1	4.8	590.0	48.0	241.0	12.0		8.4	17.0	68.1	14.6
3.20	57.20	11.36	110	3.94	9.25	2.34		0.0	3.0	3.0	32	198.3	6.0		9.2	16.5	55.00	10.10
4.80	85.80	16.46	162	5.72	9.40	2.38		57.9	14.6	497.7	46	210.5	24.0		10.6	16.0	70.1	12.2
3.80	67.92	10.99	107	2.08	6.01	1.52		52.4	7.0	1055.5	38	247.1	12.0		9.0	15.0	69.1	14.6

Nekarbonatna tvrdina		Rastvoren kislorod	Zasiten. so kislorod	Biohem. Potrosuv.	Permang. Index Mn	Permang. Index Mn	Hemiska potrosuv. Cr	Azot Amonijak	Azot Nitriti	Azot Nitrati	Ortofosf.	Anjoni					Katjoni	
°dH	$CaCO_3$ mg/l	mg/l O_2	%	BPK_5 mg/l O_2	mg/l $KMnO_4$	mg/l O_2	mg/l O_2	µg/l N	µg/l N	µg/l N	PO_4^{3-} µg/l	Bicarbon HCO_3^- mg/l	Carbonati CO_3^{2-} mg/l	Hidroksidi OH^- mg/l	Hloridi Cl^- mg/l	Sulfati SO_4^{2-} mg/l	Calcium Ca^{2+} mg/l	Magnes. Mg^{2+} mg/l
34	34a	35	36	37	38	38a	39	40	41	42	43	44	45	46	47	48	49	50
2.7	48.26	14.30	107	5.73	11.30	2.86		159.3	12.6	1493.4	160.0	176.9	6.0		8.3	17.1	54.00	7.75
4.4	78.65	14.04	109	5.46	8.22	2.08		234.6	12.5	1560.2	158	241.0	6.0		7.6	18.1	54.0	20.3
3.2	57.20	11.72	100	3.20	17.54	4.44		90.7	9.2	2111.2	129.4	123.2	6.0		5.1	13.90	39.1	6.7
2.8	50.05	11.07	100	2.56	12.17	3.08		91.6	25.2	2466.2	235.0	128.1	9.0		4.6	14.4	36.1	8.5
3.30	58.98	9.4	100	7.1	11.69	2.96		19.8	30.8	30.8	236	167.8	12.0		12.0	17.8	62.90	2.40
5.20	92.94	10.95	108	2.96	11.38	2.88		103.6	41.4	3289.0	357	213.6	18.0		16.0	26.0	68.1	12.6
2.90	51.83	14.66	143	6.9	12.33	3.12		85.6	17.7	1025.0	327	207.4	6.0		7.3	20.3	54.1	10.9
4.30	76.86	13.74	107	4.04	9.21	2.33		225.2	11.7	1937.7	327	170.8	0.0		8.3	16.6	46.1	8.5
3.1	55.41	12.76	96	5.33	11.54	2.92		499.1	18.1	1569.0	187	204.4	6.0		11.10	22.00	53.1	12.8

Nekarbonatna tvrdina		Rastvoren kislorod	Zasiten. so kislorod	Biohem. Potrosuv.	Permang. Index Mn	Permang. Index Mn	Hemiska potrosuv. Cr	Azot Amonijak	Azot Nitriti	Azot Nitrati	Ortofosf.	Anjoni					Katjoni	
°dH	$CaCO_3$ mg/l	mg/l O_2	%	BPK_5 mg/l O_2	mg/l $KMnO_4$	mg/l O_2	mg/l O_2	µg/l N	µg/l N	µg/l N	PO_4^{3-} µg/l	Bicarbon HCO_3^- mg/l	Carbonati CO_3^{2-} mg/l	Hidroksidi OH^- mg/l	Hloridi Cl^- mg/l	Sulfati SO_4^{2-} mg/l	Calcium Ca^{2+} mg/l	Magnes. Mg^{2+} mg/l
34	34a	35	36	37	38	38a	39	40	41	42	43	44	45	46	47	48	49	50
2.2	39.32	10.66	83	11.50	17.90	4.53		396.9	19.1	2054.9	130.0	149.5	0.0		9.9	16.1	37.30	9.54
6.3	112.61	10.97	87	9.80	16.44	4.16		835.2	25.3	1023.2	405	216.6	3.0		9.3	18.4	57.0	11.9
3.8	67.92	9.63	87	10.23	15.09	3.82		454.3	27.1	1263.4	249.0	207.4	6.0		8.4	19.20	62.1	7.3
3.9	69.71	8.37	76	4.66	16.52	4.18		517.5	39.0	1170.2	299.0	183.0	6.0		5.5	17.6	54.1	7.3
3.80	67.92	6.28	63	8.8	14.46	3.66		469.4	71.8	1456.9	386	192.2	3.0		11.2	47.9	58.90	7.10
3.20	57.20	6.82	70.6	12.35	13.43	3.40		1479.4	161.6	2474.0	507	244.1	6.0		14.9	22.6	67.1	12.0
6.00	107.24	4.50	43	17.15	12.33	3.12		1325.0	98.3	2080.9	832	237.9	3.0		10.0	20.2	60.1	14.6
3.20	57.20	12.95	95	11.4	18.77	4.75		256.1	14.8	1033.1	128	201.3	6.0		7.8	18.4	53.1	10.3
4.5	80.43	10.24	84	7.70	8.10	2.05		257.6	24.3	1702.7	256	201.3	3.0		9.20	20.90	58.1	7.9

Katjoni					Opasni i stetni Materii														
Natrium Na^+ mg/l	Kalium mg/l	K^+	Zelezo Fe µg/l	Mangan Mn µg/l	Olovo Pb µg/l	Zink Zn µg/l	Kadmi um Cd µg/l	Hrom VI Cr µg/l	Nikel Ni µg/l	Kobalt Co µg/l	Bakar Cu µg/l	Arsen As µg/l	Srebro Ag µg/l	Vkupni Sulfidi mg/l	Sulfidi - H2S mg/l	Sulfidi - HS- mg/l	Sl. Hlor mg/l
51	52		53	54	55	56	57	58	59	60	61	62	63	67	68	69	
4.90	1.41		40	0	1.58	33.00	0.000	0.31	0.33		3.54				0.3333		0.0000
5.32	1.67		25	18	0.00	19.50	0.064	0	1.45		2.43				0.0000		0.0181
6.00	1.71		0.0	1.00	1.56	0.0	0.000	0.00	0.00		0.00				0.1538		0.0000
5.64	1.62		0	13	1.96	28.9	0.650	0.06	0.00		2.38				0.0000		0.00000
8.19	2.27		0	3	3.75	114.60	0.028	0.00	0.00	0.05	0.00				0.5766		0.0000
7.41	2.68		42	20	0.11	1.9	0.000	0.00	0.00	0.37	0.55				0.000		0.0000
7.17	1.78		17	29	0.90	4.6	0.146	0.00	0.29	0.04	1.55				0.0000		0.0000

Katjoni					Opasni i stetni Materii														
Natrium Na^+ mg/l	Kalium mg/l	K^+	Zelezo Fe µg/l	Mangan Mn µg/l	Olovo Pb µg/l	Zink Zn µg/l	Kadmi um Cd µg/l	Hrom VI Cr µg/l	Nikel Ni µg/l	Kobalt Co µg/l	Bakar Cu µg/l	Arsen As µg/l	Srebro Ag µg/l	Vkupni Sulfidi mg/l	Sulfidi - H2S mg/l	Sulfidi - HS- mg/l	Sl. Hlor mg/l
51	52		53	54	55	56	57	58	59	60	61	62	63	67	68	69	
5.72	2.04		72	0	1.15	29.00	0.000	0.99	1.14		4.45				0.0000		0.0000
5.45	2.03		101	50	0.16	15.10	0.108	0.49	1.93		3.07				0.0000		0.0000
1.00	1.10		0.0	0.00	0.44	0.0	0.250	0.00	0.00		0.00				0.0000		0.0370
4.02	1.25		20	31	1.06	9.3	0.000	0.19	0.81		2.05				0.3137		0.06990
8.61	4.64		83	26	6.80	140.70	0.000	0.00	0.00	0.79	0.00				0.8649		0.1050
10.62	4.86		48	54	0.15	2.6	0.751	0.00	0.64	0.63	0.00				0.000		0.0000
8.80	3.24		142	47	0.64	10	0.402	0.00	0.38	0.36	0.00				0.0000		0.0000
7.16	3.56		25	53	0.33	14.6	0.12	0.34	0.97	0.00	2.17				0.2486		0.071
9.86	3.04		72	35	2.40	0.00	0.46	0.04	0.00	0	3.46				1.0852		0.076

Katjoni					Opasni i stetni Materii														
Natrium Na^+ mg/l	Kalium mg/l	K^+	Zelezo Fe µg/l	Mangan Mn µg/l	Olovo Pb µg/l	Zink Zn µg/l	Kadmi um Cd µg/l	Hrom VI Cr µg/l	Nikel Ni µg/l	Kobalt Co µg/l	Bakar Cu µg/l	Arsen As µg/l	Srebro Ag µg/l	Vkupni Sulfidi mg/l	Sulfidi - H2S mg/l	Sulfidi - HS- mg/l	Sl. Hlor mg/l
51	52		53	54	55	56	57	58	59	60	61	62	63	67	68	69	
6.82	3.25		58	10	0.38	13.00	0.072	0.73	1.15		2.67				0.3333		0.0181
8.05	2.53		20	53	0.00	15.80	0.053	3.38	1.84		3.07				0.6531		0.0724
7.10	4.39		32.0	71.00	0.00	16.5	1.162	4.67	1.61		10.26				0.0000		0.0740
5.66	1.54		47	12	1.11	5.3	0.000	0.07	0.00		4.45				0.0000		0.05250
7.72	2.00		196	20	10.44	6.40	0.063	0.00	3.40	0.00	0.00				0.0000		0.1582
14.36	4.28		283	71	0.49	3.5	0.151	2.73	1.02	0.00	1.63				0.000		0.3859
8.75	2.32		9	42	1.56	4.1	0.000	0.00	0.00	0.06	1.73				0.0000		0.1872
7.3	2.4		64	40	0.44	17.6	0.00	0.27	1.48	0.53	3.64				0.0621		0.043
8.10	1.93		41	8	0.87	22.40	0.17	1.30	0.96	0	0.96				0.1278		0.076

(4) River Water Quality (2003)

Table 2.33 River Water Quality in 2003 (HMI)

No	SamplD	Date			Hidroloski Parametri			Otp-mat	Zab-miris	Zab-boja	Vist-boja	Temp-voda	Temp-vozd	Matnost	MatnostNTU	pH	Redoks
											Organoleptički i Fizički Parametri						
	Broj na profil	Datum na zemanje na prpbata		Nivo na voda H cm	Protek Q m3/s	Sredna brzina V m/s	Poprec. presek B m	Vidlivi otpadni materii	Zabelezliva mirizba	Boja Zabeleziva	Vistin. mg/l Pt	Temperatura oC voda	vozduh	mg/l SiO2	NTU Units	pH	Redoks potenc. mV
Rad. Br.		Godina	Den i mesec														
	2	3		4	5	6	7	8	9	10	11	12	13	14	14a	15	16
Reka: Vardar																	
Merno mesto:Taor																	
53	2-6	2003	22.01.03	171				Bez	Bez	Sl. zamatena	2.5	6.5	4.3	5	17	7.87	-122
54	2-20	2003	03.03.03	149				Bez	Bez	Sl. zamatena	5	7.0	9.0	5.0	11.0	7.95	-125
55	2	2003	06.05.03					bez	bez	dno zamatena	5	13.8	20.4	2.5	51	7.87	-118
56	2	2003	16.06.03	88				bez	bez	bez	5	16.5	24.4	3	28	7.86	-118
57	2	2003	14/07/03					bez	bez	bez	5	19	21	3	8	7.79	-114
58	2	2003	18/08/03					bez	bez	bez	5	20.0	23.0	4	5	7.62	-104
59	2	2003	25/09/03					bez	bez	sl.zam	5	16.7	20	2.5	11	8.18	-139
60	2	2003	22/10/03					bez	bez	sl.zamatena	5	13.8	17.9	4	12	7.64	-105
61	2	2003	25/11/03	48				rasp,org.masa	bez	bez	5	10	8.2	6.0	10	7.67	-107
62	2	2003	18/12/03					bez	bez.	sl. zamatena	5	4.8	4	6.0		7.93	-122
Reka: Treska																	
Merno mesto:Ustie																	
151	7-14	2003	23/01/03					Bez	Bez	sl.zamatena	2.5	8	6	3	24	7.98	-129
152	7-34	2003	05/03/03					Bez	Bez	Bez	2.5	8.0	11.0	4.0	5.0	8.19	-139
153	7	2003	05/05/03					bez	bez	sl zamatena	2.5	13.8	22.1	2.5	16	8.11	-131
154	7	2003	18/06/03					bez	bez	bez	2.5	18.0	25.5	2.5	14	8.22	-140
155	7	2003	16/07/03					bez	bez	bez	2.5	18.4	23.5	2	5	6.98	-66
156	7	2003	20/08/03					bez	bez	bez	2.5	18.8	26.2	2.5	7	8.02	-127
157	7	2003	01/10/03	-100				bez	bez	sl.zam	5	18	18.2	2.5	38	7.9	-120
158	7	2003	24/10/03					bez	bez	bez	5	14.5	18	2.5	3	8.14	-134
159	7	2003	26/11/03					bez	bez	sl zamatena	5	10.2	8.0	3.0	4	8.05	-130
160	7	2003	19/12/03					bez	bez	bez	5	7.8	4	5.0		8.14	-135
Reka: Lepenec																	
Merno mesto: Lepenec ustie																	
170	9-15	2003	23/01/03					Bez	Ulje	sl.zamatena	2.5	5.5	6.6	4	27	8.04	-132
171	9-36	2003	05/03/03					Bez	Bez	sl.zamatena	5	6.0	9.5	5.0	39.0	8.32	-146
172	9	2003	05/05/03					bez	bez	dno zamatena	5	12.2	21	5	52	8.09	-130
173	9	2003	18/06/03					bez	bez	matna	5	17.0	25.0	5	102	8.2	-139
174	9	2003	16/07/03					ulje	bez	sl.zamatena	5	18.5	23	2.5	23	7.85	-118
175	9	2003	20/08/03					ulje	bez	sl.zamatena	5	23.8	26.0	5	44	7.99	-125
176	9	2003	01/10/03					bez	bez	bez	5	15.8	25.1	2.5	12	8.28	-143
177	9	2003	24/10/03					bez	bez	matna	5	14	18	5	128	8.2	-138
178	9	2003	26/11/03					bez	bez	sr zamatena	5	8.2	7.5	6.0	66	8.16	-137
179	9	2003	19/12/03					bez	bez	sl. zamatena	5	2.8	4	6.0		7.87	-119

Sprovod		Sl-CO2	Agr-CO2	Suv-nefil	Suv-fil	Zar-nefil	Zar-fil	Gub-nefil	Gub-fil	Susp-vk	Susp-min	Susp-org	p-alk	m-alk	m-alkCaCO3	Tvr-vk	TvrCaCO3
Sprovodlivost μS/cm	Reden broj	Jaglenoroden Dvooksid CO_2 mg/l		Suv ostatok na mg/l	105 °C	Zaren ostatok na mg/l	600 °C	Gubitok od zarenje	mg/l	Suspendirani materii mg/l			phenol-phthalein	Alkalitet methyl orange		Vkupna	tvrdina
		Sloboden	Agre siven	nefiltrira- na voda	filtrirana voda	nefiltrira- na voda	filtrirana voda	nefiltrira- na voda	filtrirana voda	Vkupni	Mine ralni	Organski	mEq/l	mEq/l	mg/l $CaCO_3$	°dH	$CaCO_3$ mg/l
17	1	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	32a
490	2-6	0.15		337	210	225	180	112	30	127	45	82	0	4.3	215.2	15.1	269.90
366		0.00		300	250	205	190	95	60	50	15	35	0.15	3.8	190.2	11.53	206.09
235	2	0		410	185	320	107	90	78	225	213	12	0.1	2.7	135.1	7.28	130.12
397	2			390	245	260	148	130	97	145	112	33	0.05	3.10	155.1	8.50	151.93
477	2	0.26		522	470	270	220	252	250	52	50	2	0	4.30	215.2	12.88	230.22
370	2	0.18		346	232	183	148	163	84	114	35	79	0.00	2.40	120.11	8.3	148.35
659	2	0		680	385	310	154	370	231	295	156	139	0.3	5.6	280.25	14	250.24
423	2	0.00		490	280	127	102	363	178	210	25	185	0.05	3.60	180.16	11.84	211.63
530	2	0		450	240	269	150	181	90	210	119	91	0.10	3.80	190.17	12.08	215.92
351	2	0.35		359	240	268	210	91	30	119	58	61	0.00	3.25	162.65	9.96	178.03
367	7-14	0.19		247	140	150	47	97	93	107	103	4	0	3.85	192.7	12.3	219.85
399		0.00		450	350	280	190	170	160	100	90	10	0.15	4.3	215.2	12.63	225.75
265	7	0		155	125	90	70	65	55	30	20	10	0.05	3	150.1	8.68	155.15
472	7	0.00		330	265	170	110	160	155	65	60	5	0.25	4.10	205.2	12.70	227.00
570	7	0		515	489	252	245	263	244	26	7	19	0.3	3.20	160.1	13.13	234.69
529	7	0.00		543	367	282	238	261	129	176	44	132	0.20	4.45	222.70	14.52	259.53
777	7	0		790	450	425	183	365	267	340	242	98	0.15	6.7	335.30	15.65	279.73
470	7	0.00		562	290	255	215	307	75	272	40	232	0.25	4.80	240.22	14.51	259.35
675	7	0		480	280	268	174	212	106	200	94	106	0.10	4.60	230.21	13.86	247.73
412	7	0.00		300	270	205	195	95	75	30	10	20	0.10	4.40	220.20	13.19	235.76
313	9-15	0		270	165	220	150	50	15	105	70	35	0.05	3.85	192.7	9.8	175.17
310	9-36	0.00		425	300	290	200	135	100	125	90	35	0.1	3	150.1	9.33	166.76
189	9	0		205	135	185	120	20	15	70	65	5	0.05	2	100.1	6.16	110.10
362	9	0.00		290	200	175	170	115	30	90	5	85	0.20	2.85	142.63	9.50	169.80
478	9	0		456	368	228	180	228	188	88	48	40	0.1	3.70	185.2	11.77	210.38
521	9	0.00		533	346	281	243	252	103	187	38	149	0.10	4.25	212.69	13.48	240.94
425	9	0		482	290	220	213	262	77	192	7	185	0.3	3.4	170.15	9.42	168.37
295	9	0.00		369	210	289	190	80	20	159	99	60	0.15	3.00	150.14	8.65	154.61
777	9	0		410	225	180	104	230	121	185	76	109	0.10	3.45	172.66	10.43	186.43
321	9	0.00		245	220	140	125	105	95	25	15	10	0.20	3.30	165.15	10.32	184.46

dHkar	CaCO3kar		dHnekar	CaCO3nekar	O2	O2%	BPK5	KMnO4	O2-KMnO4	Bihromat	Amon	Nitrit		
Karbonatna tvrdina		Reden broj	Nekarbonatna tvrdina		Rastvoren kislorod mg/l O_2	Zasiten. so kislorod %	Biohem. Potrosuv. BPK_5 mg/l O_2	Permang. Index Mn mg/l $KMnO_4$	Permang. Index Mn mg/l O_2	Hemiska potrosuv. Cr mg/l O_2	Azot Amonijak µg/l N	Azot Amonijak mg/l N	Azot Nitriti µg/l N	Azot Nitriti mg/l N
°dH	$CaCO_3$ mg/l		°dH	$CaCO_3$ mg/l										
33	33a	1	34	34a	35	36	37	38	38a	39	40	40		41
10.30	184.10	2-6	10.3	184.1	9.91	83	3.22	0.00	0.00		293.9	0.2939	29.0	0.029
5.70	101.88		5.8	103.0	10.65	91	9.46	12.33	3.12		70.9	0.0709	23.6	0.0236
4.76	85.08	2	4.8	85.1	8.9	89	7	12.64	3.20		276.6	0.2766	41.4	0.0414
2.11	37.71	2	6.39	114.2	5.95	63	12.2	20.15	5.10		787	0.7870	85.9	0.0859
6.70	119.76	2	6.18	110.46	3.2	36	8.66	12.17	3.08		1611.2	1.6112	130.4	0.1304
1.56	27.88	2	6.74	120.47	3.47	38	10.02	11.54	2.92		1612.3	1.612	130.4	0.130
8.65	154.61	2	5.35	95.63	11.7	124	7.86	12.84	3.25		63.3	0.063	855.7	0.856
7.51	134.23	2	4.33	77.39	3.42	10	6.58	8.77	2.22		1363.7	1.3637	98.5	0.0985
4.67	83.47	2	7.41	132.45	4.96	45	9.14	12.17	3.08		1418	1.418	64.5	0.065
8.08	144.42	2	1.88	33.60	10.82	87	7.76	15.49	3.92		862	0.8620	33.6	0.0336
9.20	164.44	7-14	9.2	164.4	11.06	96	2.17	0.00	0.00		72.9	0.0729	10.0	0.0100
8.51	152.11	7-34	4.1	73.6	16.78	147	1.01	9.84	2.49		17.9	0.0179	7.3	0.0073
5.32	95.09	7	5.3	95.1	9.94	99	1.33	9.56	2.42		133.8	0.1338	0.0	0.0000
7.93	141.74	7	4.77	85.3	9.81	107	2.3	9.60	2.43		157.2	0.1572	7.5	0.0075
8.05	143.89	7	5.08	90.80	9.7	106	1.75	7.98	2.02		313.9	0.3139	7.0	0.0070
9.08	162.30	7	5.44	97.23	9.19	98	2.02	6.72	1.70		313.9	0.3139	7.0	0.0070
8.78	156.93	7	6.87	122.79	10.12	110	3.1	14.26	3.61		106.6	0.1066	911.5	0.9115
9.66	172.66	7	4.85	86.69	10.75	109	1.95	6.44	1.63		50.2	0.0502	22.5	0.0225
8.92	159.44	7	4.94	88.30	10.84	100	2.53	5.77	1.46		88.5	0.0885	8.6	0.0086
9.69	173.20	7	3.50	62.56	12.24	106	2.17	8.85	2.24		66.3	0.0663	6.3	0.0063
5.90	105.46	9-15	5.9	105.5	11.54	94	2.86	0.00	0.00		171.4	0.1714	6.9	0.0069
1.92	34.32	9-36	7.4	132.4	12.48	103	4.90	16.63	4.21		17.9	0.0179	19.4	0.0194
1.40	25.02	9	1.4	25.0	9.75	94	3.86	18.45	4.67		185.7	0.1857	4.0	0.004
4.49	80.25	9	5.01	89.5	9.16	98	10.3	17.03	4.31		259.7	0.2597	46.2	0.0462
7.93	141.74	9	3.84	68.64	7.25	80	2.69	10.19	2.58		422.9	0.4229	29.8	0.0298
8.56	153.00	9	4.92	87.94	7.79	91	4.12	10.59	2.68		422.9	0.423	29.8	0.030
3.82	68.28	9	5.6	100.09	18.83	192	7.91	12.41	3.14		22.8	0.023	126.9	0.127
5.09	90.98	9	3.56	63.63	10.26	103	3.20	17.74	4.49		178.4	0.1784	60.7	0.0607
5.76	102.95	9	4.64	82.94	9.17	80	1.01	11.22	2.84		237.3	0.237	28.5	0.029
7.36	131.55	9	2.96	52.91	15.50	118	7.67	10.75	2.72		273.5	0.2735	16.4	0.0164

Nitrat		Fosfat		Bicar	Carbon	Hidroks Anjoni	Hloridi	Sulfati
Azot Nitrati µg/l N	Azot Nitrati mg/l N	Ortofosf. PO_4^{3-} µg/l	Ortofosf. PO_4^{3-} mg/l	Bicarbon HCO_3^- mg/l	Carbonati CO_3^{2-} mg/l	Hidroksidi OH^- mg/l	Hloridi Cl^- mg/l	Sulfati SO_4^{2-} mg/l
42			43	44	45	46	47	48
2411.4	2.4114	236.0	0.236	262.4	0.0		24.4	50.82
		124.0	0.124	213.6	9.0		17.7	33.11
1961.9	1.9619	196.0	0.196	152.5	6.0		8.4	22.15
1891.2	1.8912	518.0	0.518	183.1	3.0		16.7	35.02
1255.3	1.2553	1231.0	1.231	262.4	0.0		15.5	20.75
1255.3	1.2553	1231.0	1.231	146.4	0.0		22.30	25.32
11.4	0.0114	955.0	0.955	305.1	18.0		20.5	33.17
1283.0	1.2830	215.0	0.215	213.6	3.0		24.2	34.90
1567.1	1.5671	714.0	0.714	219.7	6.0		14.6	80.55
322.5	0.3225	714.0	0.714	198.3	0.0		14.8	20.44
944.4	0.9444	80.0	0.080	234.9	0.0		16.7	19.79
		10.1	0.010	244.1	9.0		19.1	16.81
419.6	0.4196	259.0	0.259	177.0	3.0		5.8	18.34
522.0	0.5220	28.0	0.028	219.7	15.0		16.7	19.10
550.6	0.5506	102.0	0.102	158.6	18.0		35.5	16.65
550.6	0.5506	102.0	0.102	247.1	12.0		20.00	49.40
85.5	0.0855	1027.0	1.027	390.5	9.0		26.6	43.72
702.7	0.7027	74.6	0.075	262.4	15.0		14.9	12.18
773.1	0.7731	52.0	0.052	268.5	6.0		13.8	14.92
16.7	0.0167	52.0	0.052	256.3	6.0		13.2	15.59
1777.8	1.7778	134.0	0.134	228.8	3.0		17.6	22.7
		418.0	0.418	170.8	6.0		18.6	29.92
768.9	0.7689	373.0	0.373	115.9	3.0		7.9	26.58
1285.3	1.2853	223.0	0.223	149.5	12.0		16.3	22.28
5513.7	5.5137	208.0	0.208	213.6	6.0		15	20.44
5513.7	5.5137	208.0	0.208	247.1	6.0		19.20	33.24
12.7	0.0127	259.0	0.259	170.8	18.0		14.5	27.89
1975.9	1.9759	436.0	0.436	164.7	9.0		11.3	19.22
2594.6	2.5946	315.0	0.315	198.3	6.0		14.2	20.99
188.3	0.1883	315.0	0.315	177.0	12.0		15.7	18.82

	Ca	Mg	Na	K	Fe	Mn
	Katjoni			sni i stetni Materii		
Reden broj	Calcium Ca^{2+} mg/l	Magnes. Mg^{2+} mg/l	Natrium Na^+ mg/l	Kalium K^+ mg/l	Zelezo Fe µg/l	Mangan Mn µg/l
1	49	50	51	52	53	54
2-6	70.14	23.1	13.9	4.04	92.00	8.00
	62.87	11.92	8.06	1.45	39.00	10.00
2	40.08	10.16	5.67	2.60	0.00	8.00
2	45.37	9.73	7.25	2.48	26.00	3.00
2	62.07	18.28	13.48	2.85	117.00	44.00
2	48.24	6.76	11.77	4.41	60.00	4.00
2	52.83	37.58	21.31	4.93	52.00	4.00
2	60.12	14.76	14.24	3.04	509.00	110.00
2	65.82	7.75	14.30	4.53	37.00	62.00
2	55.88	9.35	9.92	2.43	131.00	17.00
7-14	66.13	14.71	12.6	1.84	77.00	0.00
7-34	68.77	13.11	9.03	1.22	28.00	9.00
7	50.1	23.01	4.31	1.55	29.00	14.00
7	47.26	27.97	8.60	3.40	1.00	26.00
7	59.41	20.97	8.52	2.37	214.00	14.00
7	64.94	23.64	7.52	2.54	36.00	7.00
7	69.23	38.14	32.17	7.30	70.00	7.00
7	52.83	30.95	9.95	2.83	4.00	11.00
7	75.64	14.31	9.71	3.48	52.00	17.00
7	73.22	12.86	9.91	2.71	89.00	0.00
9-15	58.11	7.3	8.90	2.39	114.00	12.00
9-36	51.04	9.34	7.74	1.28	86.00	18.00
9	32.06	7.3	4.78	2.54	48.00	22.00
9	41.59	17.02	6.30	2.19	50.00	34.00
9	55.86	17.21	9.56	2.14	201.00	56.00
9	24.12	43.91	12.26	3.25	0.00	29.00
9	40.99	16.58	16.80	4.71	78.00	16.00
9	47.37	8.84	11.54	5.01	5.00	15.00
9	53.05	13.11	11.03	3.96	35.00	15.00
9	55.88	10.52	9.87	3.39	152.00	24.00

Pb	Zn	Cd	Cr-6	Ni	Co	Cu		Fenoli	H2S-vk	H2S	HS	Sapr-in	Step-sap
Opasni i stetni Materii												Saprobioloski Pokazateli	
Olovo Pb µg/l	Zink Zn µg/l	Kadmium Cd µg/l	Hrom VI Cr µg/l	Nikel Ni µg/l	Kobalt Co µg/l	Bakar Cu µg/l	Arsen As µg/l	Srebro Ag µg/l	Vkupni Sulfidi mg/l	Sulfidi - H2S mg/l	Sulfidi - HS- mg/l	Saproben index	Stepen na saprobnost / bioloska produktivnost /
55	56	57	58	59	60	61	62	63	67	68	69	67	68
0.00	16.70	0.000	2.990	0.380		0.83							
0.05	7.10	0.135	4.780	0.470		6.12							
0.45	3.60	0.000	0.410	0.000		0							
0.00	0.00	0.059	9.090	1.190		0.00							
0.00	0.00	2.287	5.690	0.000		2.88							
0.95	0.00	0.237	4.010	0.190		14.58							
0.00	5.80	0.250	0.750	4.010		5.06							
0.00	16.00	0.000	0.720	2.100		3.70				0.000			
0.00	0.90	0.441	4.480	0.510		1.77				0.3107			
0.00	78.00	0.066								0.490			
0.00	5.10	0.000	0.300	0.110		0.72							
0.00	0.00	0.259	0.530	0.000		1.20							
0.41	6.50	0.037	0.230	0.000		0.00							
0.87	1.80	0.046	1.140	0.000		0.56							
0.32	0.00	0.102	0.130	0.000		1.39							
1.20	0.00	0.110	0.820	0.000		1.74							
0.00	4.60	0.000	0.240	0.070		7.17							
0.00	38.00	0.000	0.100	0.040		0.87				0.0000			
0.00	0.00	0.055	0.370	0.000		0.18				0.4661			
0.00	82.00	0.000								0.9220			
0.00	31.80	1.454	1.100	1.240		1.64							
0.00	0.00	0.742	1.100	1.350		2.76							
0.38	10.20	0.100	0.840	1.190		1.69							
6.35	0.30	0.305	0.850	0.200		0.00							
0.00	0.00	0.255	0.800	0.000		2.34							
0.93	0.00	0.356	0.890	0.000		1.95							
0.03	0.90	0.000	0.310	0.500		8.57							
0.00	41.00	0.115	0.030	1.770		0.72				0.000			
0.00	0.00	0.000	0.550	0.000		3.12				0.3107			
0.00	0.00	0.469								0.634			

(5) River Water Quality (2002)

Table 2.34 River Water Quality in 2002 (HMI)

				Hidroloski Parametri					Organoleptichi i Fizicki Parametri								
Red. broj	Labor. Broj	Datum na zemanje na prpbata	Nivo na voda H cm	Protek Q m^3/s	Sredna brzina presek V m/s	Poprec. B m	Vidlivi otpadni materii	Zabelezliva miriżba	Boja Zabelezliva	Vistin. mg/l Pt	Temperatura °C voda	Temperatura °C vozduh	Matnost mg/l SiO_2	Matnost NTU Units	pH
1	2	3	4	5	6	7	8	9	10	11	12	13	14	14a	15
No	Lab-No	Data	Cas				Otp-mat	Zab-miris	Zab-boja	Vist-boja	Temp-voda	Temp-vozd	Matnost	MatnostNTU	pH
REKA : VARDAR															
02. Merno Mesto: s. Taor															
1	02-002	18-Feb-02					Organski materii	Bez	Bez	2.5	8.5	8.5	5.0		7.83
2	02-025	12-Mar-02					Bez	Bez	Matna	5.0	9.8	9.9	5.0		7.78
3	02-040	15-Apr-02					Bez	Bez	Matna	5.0	12.0	15.0	5.0		7.52
4	02-071	13-May-02					Organski materii	Bez	Zamatena	5.0	14.0	17.5	2.5		7.68
5	02-106	18-Jun-02					Bez	Bez	Zamatena	5.0	20.2	24.5	6.0		7.52
6	02-134	8-Jul-02					Masni fleki i ulje	Bez	Bez	2.5	20.5	23.0	4.0		7.79
7	02-158	20-Aug-02		46			Bez	Bez	Bez	5.0	25.0	26.5	7.5		7.68
8	02-192	23-Sep-02	88				Bez	Bez	Matna	5.0	14.8	16.2	5.0		7.44
9	02-222	15-Oct-02	272				Bez	Bez	Matna	5.0	12.0	14.6	3.0		7.90
10	02-260	13-Nov-02	74				Organski materii	Bez	Zamatena	5.0	8.1	8.2	5.0		7.85
min.	vrednost									2.5	8.1	8.2	2.5		7.44
max.	vrednost									5.0	25.0	26.5	7.5		7.90
sredna	vrednost									4.5	14.5	16.4	4.8		7.70
stand.	devicija									1.17	5.72	6.71	1.51		0.17
REKA : TRESKA															
07 Merno Mesto: Skopje-Saraj, Pred Vliv vo r. Vardar															
51	02-018	20-Feb-02					Bez	Bez	Bez	2.5	9.0	7.5	2.5		7.93
52	02-022	11-Mar-02					Bez	Bez	Bez	2.5	9.0	4.0	3.0		7.85
53	02-054	17-Apr-02					Bez	Bez	Sl. Zamatena	2.5	13.0	15.6	3.0		7.95
54	02-084	15-May-02					Bez	Bez	Sl. Zamatena	2.5	12.5	20.5	5.0		8.57
55	02-103	17-Jun-02					Bez	Bez	Bez	2.5	19.0	30.0	4.0		8.08
56	02-142	10-Jul-02					Bez	Bez	Bez	0.0	22.0	29.0	2.5		7.98
57	02-167	21-Aug-02					Bez	Bez	Bez	2.5	17.0	18.0	3.0		8.32
58	02-207	25-Sep-02					Bez	Bez	Sl. Zamatena	5.0	12.0	18.0	6.0		7.71
59	02-236	16-Oct-02					Bez	Bez	Sl. Zamatena	2.5	11.5	13.2	4.0		7.79
60	02-268	14-Nov-02					Bez	Bez	Bez	5.0	9.5	10.0	2.5		7.98
min.	vrednost									0.0	9.0	4.0	2.5		7.71
max.	vrednost									5.0	22.0	30.0	6.0		8.57
sredna	vrednost									2.8	13.5	16.6	3.6		8.02
stand.	devicija									1.6	4.4	8.9	1.2		0.26
REKA : LEPENEC															
09. Merno Mesto: Skopje-Bardovci, Pred Vliv vo r. Vardar															
71	02-019	20-Feb-02					Bez	Bez	Matna	5.0	6.0	9.5	5.0		7.73
72	02-024	11-Mar-02					Bez	Bez	Matna	2.5	6.5	4.5	6.0		7.89
73	02-056	17-Apr-02					Bez	Bez	Matna	5.0	10.5	17.0	5.0		7.87
74	02-073	15-May-02					Bez	Bez	Zamatena	5.0	14.0	23.5	4.0		8.82
75	02-105	17-Jun-02					Bez	Bez	Zamatena	5.0	19.0	30.0	6.0		8.10
76	02-144	10-Jul-02					Bez	Bez	Matna	2.5	22.0	29.0	2.5		8.03
77	02-169	21-Aug-02					Bez	Bez	Zamatena	5.0	17.5	18.5	6.0		8.20
78	02-209	25-Sep-02					Bez	Bez	Zamatena	7.5	15.0	18.0	5.0		
79	02-238	17-Oct-02					Bez	Bez	Matna	2.5	10.5	13.5	5.0		7.79
80	02-270	14-Nov-02					Masni Fleki	Bez	Zamatena	5.0	9.0	10.5	7.5		8.10
min.	vrednost									2.5	6.0	4.5	2.5		7.73
max.	vrednost									7.5	22.0	30.0	7.5		8.82
sredna	vrednost									4.5	13.0	17.4	5.2		8.06
stand.	devicija									1.6	5.5	8.8	1.5		0.32

Redoks potenc. mV	Sprovodlivost µS/cm	Jaglenoroden Dvooksid CO_2 mg/l Slobod.	Agre siven	Reden broj	Suv ostatok na 105 °C mg/l nefiltrira- na voda	filtrirana voda	Zaren ostatok na 600 °C mg/l nefiltrira- na voda	filtrirana voda	Gubitok od zarenje mg/l nefiltrira- na voda	filtrirana voda	Suspendirani materii mg/l Vkupni	Mine ralni	Organski	Alkalitet phenol-phthalein mEq/l	methyl orange mEq/l	mg/l $CaCO_3$
16	17	18	19	1	20	21	22	23	24	25	26	27	28	29	30	30a
Redoks	Sprovod	Sl-CO2	Agr-CO2		Suv-nefil	Suv-fil	Zar-nefil	Zar-fil	Gub-nefil	Gub-fil	Susp-vk	Susp-min	Susp-org	p-alk	m-alk	m-alkCaCO3
REKA : VARDAR				REKA : VARDAR												
02. Merno Mesto: s. Taor				02. Merno Mesto: s. Taor												
-108	432	0.00	0.00	1	370	265	250	205	120	60	105	45	60	0.05	3.47	173.7
-104	463	0.00	0.00	2	675	260	265	140	410	120	415	125	290	0.05	3.63	181.7
-98	294	0.00	0.00	3	435	155	210	90	225	65	280	120	160	0.05	2.35	117.6
-81	260	3.50	0.00	4	270	140	212	135	58	5	130	77	53	0.00	1.33	66.6
-101	491	0.00	0.00	5	340	270	275	250	65	20	70	25	45	0.10	4.25	212.7
-117	440	0.00	0.00	6	300	240	238	200	62	40	60	38	22	0.10	3.60	180.2
-105	454	0.00	0.00	7	330	235	280	225	50	10	95	55	40	0.15	3.65	182.7
-96	405	0.00	0.00	8	600	230	260	100	340	130	370	160	210	0.10	3.35	167.7
-123	317	0.00	0.00	9	520	205	290	170	230	35	315	120	195	0.05	2.75	137.6
-121	457	0.34	0.00	10	400	325	350	280	50	45	75	70	5	0.00	4.30	215.2
-123.0	260.0	0.00	0.00	nin. vrednost	270.0	140.0	210.0	90.0	50.0	5.0	60.0	25.0	5.0	0.00	1.33	66.6
-81.0	491.0	3.50	0.00	nax. vrednost	675.0	325.0	350.0	280.0	410.0	130.0	415.0	160.0	290.0	0.15	4.30	215.2
-105.4	401.3	0.38	0.00	sredna vredn.	424.0	232.5	263.0	179.5	161.0	53.0	191.5	83.5	108.0	0.07	3.27	163.5
13.18	87.71	1.05	0.00	stand.devij.	135.4	59.1	41.8	65.9	130.4	43.0	136.7	46.2	97.7	0.05	1.04	51.9
				REKA : TRESKA												
araj, Pred Vliv vo r. Vardar				07 Merno Mesto: Skopje-Saraj, Pred Vliv vo r. Vardar												
-114	327	0.00	0.00	51	380	180	272	100	108	80	200	172	28	0.10	2.54	127.1
-107	493	0.00	0.00	52	400	255	254	220	146	35	145	34	111	0.20	4.11	205.7
-123	389	0.00	0.00	53	390	200	197	120	193	80	190	77	113	0.25	3.25	162.6
-126	408	0.00	0.00	54	255	210	221	180	34	30	45	41	4	0.10	3.50	175.2
-135	479	0.00	0.00	55	330	270	262	240	68	30	60	22	38	0.30	4.15	207.7
-128	504	0.00	0.00	56	340	273	284	260	56	13	67	24	43	0.30	4.60	230.2
-142	520	0.00	0.00	57	390	280	260	160	130	120	110	100	10	0.15	4.70	235.2
-114	454	0.00	0.00	58	395	255	300	175	95	80	140	125	15	0.15	4.25	212.7
-117	460	0.00	0.00	59	420	270	265	170	155	100	150	95	55	0.05	4.10	205.2
-128	508	0.00	0.00	60	400	270	300	180	100	90	130	120	10	0.10	4.50	225.2
-142.0	327.0	0.00	0.00	nin. vrednost	255.0	180.0	197.0	100.0	34.0	13.0	45.0	22.0	4.0	0.1	2.5	127.1
-107.0	520.0	0.00	0.00	nax. vrednost	420.0	280.0	300.0	260.0	193.0	120.0	200.0	172.0	113.0	0.3	4.7	235.2
-123.4	454.2	0.00	0.00	sredna vredn.	370.0	246.3	261.5	180.5	108.5	65.8	123.7	81.0	42.7	0.2	4.0	198.7
11.5	70.1	0.00	0.00	stand.devij.	57.9	39.4	36.4	52.9	51.4	37.6	55.6	51.0	39.7	0.1	0.8	38.8
				REKA : LEPENEC												
Vliv vo r. Vardar				09. Merno Mesto: Skopje-Bardovci, Pred Vliv vo r. Vardar												
0	251	2.64	0.00	71	840	150	164	110	676	40	690	54	636	0.00	2.11	105.6
-109	279	0.00	0.00	72	465	200	159	140	306	60	265	19	246	0.10	2.41	120.6
-119	267	0.00	0.00	73	330	160	152	110	178	50	170	42	128	0.15	2.35	117.6
-140	347	0.00	0.00	74	250	175	170	150	80	25	75	20	55	0.15	2.96	148.1
-136	367	0.00	0.00	75	305	205	200	180	105	25	100	20	80	0.35	3.10	155.1
-132	482	0.00	0.00	76	370	270	267	230	103	40	100	37	63	0.20	4.15	207.7
-135	433	0.00	0.00	77	290	220	200	160	90	60	70	40	30	0.18	3.80	190.2
-122	356	0.00	0.00	78	290	170	230	140	60	30	120	90	30	0.20	3.05	152.6
-117	337	0.00	0.00	79	455	200	195	150	260	50	255	45	210	0.10	2.75	137.6
-138	392	0.00	0.00	80	310	210	180	130	130	80	100	50	50	0.15	3.45	172.7
-140.0	251.0	0.00	0.00	nin. vrednost	250.0	150.0	152.0	110.0	60.0	25.0	70.0	19.0	30.0	0.00	2.11	105.6
0.1	482.0	2.64	0.00	nax. vrednost	840.0	270.0	267.0	230.0	676.0	80.0	690.0	90.0	636.0	0.35	4.15	207.7
-114.8	351.1	0.26	0.00	sredna vredn.	390.5	196.0	191.7	150.0	198.8	46.0	194.5	41.7	152.8	0.16	3.01	150.8
40.3	75.8	0.80	0.00	stand.devij.	169.6	35.8	35.7	35.6	181.3	17.9	181.9	21.2	179.8	0.10	0.67	33.7

Vkupna tvrdina °dH	Vkupna tvrdina mg/l $CaCO_3$	Karbonatna tvrdina °dH	Karbonatna tvrdina mg/l $CaCO_3$	Nekarbonatna tvrdina °dH	Nekarbonatna tvrdina mg/l $CaCO_3$	Reden broj	Rastvor. kislorod mg/l O_2	Zasiten. so kislorod %	Biohem. Potrosuv. BPK_5 mg/l O_2	Permang. Index Mn mg/l $KMnO_4$	Permang. Index Mn mg/l O_2	Hemiska potrosuv. Cr mg/l O_2		Azot Amonijak mg/l N	Azot Nitriti mg/l N	Azot Nitrati mg/l N
31	31a	32	32a	33	33a	1	34	35	36	37	37a	38		39	40	41
Tvr-vk	TvrCaCO3	dHkar	CaCO3kar	dHnekar	CaCO3nekar		O2	O2%	BPK5	KMnO4	O2-KMnO4	Bihromat	Vk-TOC	Amon	Nitrit	Nitrat
			REKA : VARDAR				REKA : VARDAR									
			02. Merno Mesto: s. Taor				02. Merno Mesto: s. Taor									
11.5	205.6	7.0	125.1	4.5	80.4	1	5.79	49.00	13.20	21.65	5.48				0.060	1.440
11.9	212.7	6.3	112.6	5.6	100.1	2	8.23	72.00	28.00	46.78	11.84			0.260	0.030	2.960
9.8	175.2	5.6	100.1	4.2	75.1	3	11.66	107.00	14.80	26.00	6.58			0.140	0.030	1.020
9.2	164.4	2.8	50.0	6.4	114.4	4	5.54	53.00	14.56	21.77	5.51			0.760	0.070	1.130
12.0	214.5	7.5	134.1	4.5	80.4	5	2.71	30.00	5.38	8.85	2.24			1.190	0.060	1.300
10.1	180.5	2.5	44.7	7.6	135.8	6	4.02	44.00	8.00	13.12	3.32			1.480	0.130	0.440
10.4	185.9	5.6	100.1	4.8	85.8	7	3.84	46.00	6.16	11.02	2.79			1.309	0.130	1.363
9.2	164.4	3.9	69.7	5.3	94.7	8	5.25	53.52	26.50	43.62	11.04			0.564	0.101	1.909
7.6	135.8	3.4	60.8	4.2	75.1	9	8.84	84.76	16.73	27.54	6.97					1.441
12.0	214.5	8.1	144.8	3.9	69.7	10	11.28	98.60	8.46	13.79	3.49			0.685	0.046	1.189
7.6	135.8	2.5	44.7	3.9	69.7	nin. vrednost	2.71	30.00	5.38	8.85	2.24			0.140	0.030	0.440
12.0	214.5	8.1	144.8	7.6	135.8	nax. vrednost	11.66	107.00	28.00	46.78	11.84			1.480	0.130	2.960
10.4	185.4	5.3	94.2	5.1	91.2	sredna vredn.	6.72	63.79	14.18	23.41	5.93			0.799	0.073	1.419
1.6	29.2	2.1	37.2	1.2	20.7	stand.devij.	3.20	26.30	7.96	13.19	3.34			0.507	0.039	0.690
REKA : TRESKA							REKA : TRESKA									
07 Merno Mesto: Skopje-Saraj, Pred Vliv vo r. Vardar							07 Merno Mesto: Skopje-Saraj, Pred Vliv vo r. Vardar									
14.0	250.2	9.2	164.4	4.8	85.8	51	11.12	99.37	1.59	7.31	1.85			0.050	0.020	0.570
12.6	225.2	8.1	144.8	4.5	80.4	52	9.75	87.13	0.17	5.49	1.39			0.080	0.010	0.550
10.1	180.5	5.1	91.2	5.0	89.4	53	10.75	105.39	1.67	7.15	1.81			0.100	0.020	0.650
10.1	180.5	6.5	116.2	3.6	64.3	54	10.56	102.42	2.21	27.78	7.03			0.120	0.020	0.550
12.6	225.2	8.1	144.8	4.5	80.4	55	10.79	119.75	2.47	47.44	12.01			0.130	0.010	0.410
13.4	239.5	8.6	153.7	4.8	85.8	56	8.89	104.22	1.54	22.79	5.77			0.050	0.020	0.150
13.7	244.9	8.7	155.5	5.0	89.4	57	8.63	92.10	1.59	20.60	5.21			0.095	0.021	0.695
12.3	219.9	8.1	144.8	4.2	75.1	58	8.73	83.70	2.06	49.94	12.64			0.121	0.024	0.818
12.3	219.9	9.5	169.8	2.8	50.0	59	9.86	93.46	1.06	31.68	8.02			0.097	0.011	0.947
13.2	235.9	9.3	166.2	3.9	69.7	60	11.16	100.90	2.00	25.28	6.40			0.083	0.014	0.818
10.1	180.5	5.1	91.2	2.8	50.0	nin. vrednost	8.63	83.70	0.17	5.49	1.39			0.050	0.010	0.150
14.0	250.2	9.5	169.8	5.0	89.4	nax. vrednost	11.16	119.75	2.47	49.94	12.64			0.130	0.024	0.947
12.4	222.2	8.1	145.1	4.3	77.0	sredna vredn.	10.02	98.84	1.64	24.55	6.21			0.093	0.017	0.616
1.5	26.2	1.6	28.3	0.8	14.5	stand.devij.	1.03	10.84	0.76	15.95	4.04			0.029	0.005	0.258
REKA : LEPENEC							REKA : LEPENEC									
09. Merno Mesto: Skopje-Bardovci, Pred Vliv vo r. Vardar							09. Merno Mesto: Skopje-Bardovci, Pred Vliv vo r. Vardar									
7.3	130.5	2.0	35.7	5.3	94.7	71	9.93	82.34	21.30	28.64	7.25			0.260	0.040	6.200
7.3	130.5	3.1	55.4	4.2	75.1	72	10.90	91.52	15.70	25.80	6.53			0.210	0.030	2.140
7.3	130.5	3.1	55.4	4.2	75.1	73	11.67	108.06	3.98	12.33	3.12			0.140	0.030	1.020
8.1	144.8	4.5	80.4	3.6	64.3	74	10.13	101.50	3.23	11.22	2.84			0.120	0.030	0.630
8.7	155.5	3.7	66.1	5.0	89.4	75	9.61	106.66	4.87	3.48	0.88			0.130	0.030	1.390
11.8	210.9	7.9	141.2	3.9	69.7	76	6.86	80.42	1.83	10.59	2.68			0.090	0.040	0.310
10.4	185.9	6.8	121.5	3.6	64.3	77	8.21	88.47	4.08	9.76	2.47			0.090	0.022	1.673
8.7	155.5	3.1	55.4	5.6	100.1	78	9.15	93.75	10.70	17.70	4.48			0.148	0.038	0.995
7.8	139.4	3.6	64.3	4.2	75.1	79	10.21	94.54	2.88	16.67	4.22			0.117	0.021	1.215
9.8	175.2	5.6	100.1	4.2	75.1	80	10.45	94.49	7.44	10.90	2.76			0.163	0.040	1.141
7.3	130.5	2.0	35.7	3.6	64.3	nin. vrednost	6.86	80.42	1.83	3.48	0.88			0.090	0.021	0.310
11.8	210.9	7.9	141.2	5.6	100.1	nax. vrednost	11.67	108.06	21.30	28.64	7.25			0.260	0.040	6.200
8.7	155.9	4.3	77.6	4.4	78.3	sredna vredn.	9.71	94.18	7.60	14.71	3.72			0.147	0.032	1.671
1.5	26.9	1.9	34.1	0.7	12.4	stand.devij.	1.56	9.71	6.33	8.03	2.03			0.053	0.007	1.637

Anjoni						Katjoni						Opasni i stetni Materii					
Ortofosf. PO_4^{3-} mg/l	Bicarbon HCO_3^- mg/l	Carbon. CO_3^{2-} mg/l	Hidroks. OH^- mg/l	Hloridi Cl^- mg/l	Sulfati SO_4^{2-} mg/l	Calcium Ca^{2+} mg/l	Magnes. Mg^{2+} mg/l	Natrium Na^+ mg/l	Kalium K^+ mg/l	Reden broj	Zelezo Fe µg/l	Mangan Mn µg/l	Olovo Pb µg/l	Zn	Zink µg/l	Kadmium Cd µg/l	Hrom VI Cr µg/l
42	43	44	45	46	47	48	49	50	51	1	52	53	54		55	56	57
Fofat	Bicar	Carbon	Hidroks	Hloridi	Sulfati	Ca	Mg	Na	K		Fe	Mn	Pb		Zn	Cd	Cr-6
						REKA : VARDAR				REKA : VARDAR							
						02. Merno Mesto: s. Taor				02. Merno Mesto: s. Taor							
0.330	205.6	3.0	0.0	15.40	34.90	70.10	7.30	5.05	0.93	1	27.0	15.0	0.000		0.0	0.046	2.71
0.150	215.4	3.0	0.0	16.80	37.36	79.10	3.60	6.94	1.49	2	2.0	32.0	0.940		4.0	0.007	0.57
0.180	137.3	3.0	0.0	5.30	14.91	40.10	7.30	2.22	0.61	3	0.0	55.0	1.660		35.0	0.099	0.76
0.440	81.2	0.0	0.0	17.54	22.90	26.10	6.10	9.64	1.84	4	10.0	44.0	1.190		2.0	0.122	0.77
0.700	247.1	6.0	0.0	11.72	21.95	70.10	9.73	13.46	2.53	5	51.0	4.0	0.660		0.0	0.217	1.41
1.100	207.5	6.0	0.0	12.34	16.13	62.10	6.08	14.12	2.54	6	105.0	12.0	0.000		8.0	0.101	0.72
0.778	204.4	9.0	0.0	13.13	19.56	58.10	9.73	14.03	2.25	7	55.0	33.0	1.050		5.0	0.290	0.38
0.354	192.2	6.0	0.0	9.38	26.90	50.10	9.73	9.80	7.24	8	0.0	61.0	0.140		0.0	0.000	0.00
0.132	161.7	3.0	0.0	6.21	13.35	54.10	0.00	7.20	5.68	9	61.0	35.0	0.000		0.0	0.000	0.00
0.315	262.4	0.0	0.0	9.31	67.30	68.14	10.94	12.30	2.70	10	66.0	36.0	1.390		15.0	0.000	4.32
0.132	81.2	0.0	0.00	5.30	13.35	26.10	0.00	2.22	0.61	nin. vrednost	0.0	4.0	0.00		0.0	0.00	0.00
1.100	262.4	9.0	0.00	17.54	67.30	79.10	10.94	14.12	7.24	nax. vrednost	105.0	61.0	1.66		35.0	0.29	4.32
0.448	191.5	3.9	0.00	11.71	27.53	57.80	7.05	9.48	2.78	sredna vredn.	37.7	32.7	0.70		6.9	0.09	1.16
0.315	60.3	2.9	0.00	4.43	15.88	17.85	3.81	4.45	2.09	stand.devij.	35.6	19.4	0.64		10.6	0.10	1.34
				REKA : TRESKA						REKA : TRESKA							
				07 Merno Mesto: Skopje-Saraj, Pred Vliv vo r. Vardar						07 Merno Mesto: Skopje-Saraj, Pred Vliv vo r. Vardar							
0.040	142.8	6.0	0.00	14.90	17.67	58.10	2.50	4.82	0.75	51	0.0	0.0	0.00		0.0	0.000	0.32
0.030	226.4	12.0	0.00	10.70	12.36	80.20	6.10	3.90	0.48	52	35.0	6.0	0.00		4.0	0.023	0.18
0.180	167.8	15.0	0.00	6.80	14.24	64.10	4.90	2.13	0.40	53	0.0	46.0	1.97		21.0	0.015	0.55
0.090	201.4	6.0	0.00	9.00	12.90	60.10	7.30	10.20	1.25	54	0.0	28.0	0.43		2.0	0.005	0.39
0.020	216.6	18.0	0.00	11.72	14.69	66.10	14.00	7.86	1.18	55	59.0	1.0	0.00		470.0	0.000	2.83
0.010	244.1	18.0	0.00	13.71	14.31	72.10	14.59	11.88	1.30	56	66.0	13.0	0.25		12.0	0.135	0.00
0.021	268.5	9.0	0.00	14.54	10.75	58.10	24.32	12.66	1.44	57	25.0	0.0	1.37		0.0	0.024	0.12
0.060	241.0	9.0	0.00	9.38	12.25	70.10	10.94	7.76	2.46	58	26.0	0.0	0.00		0.0	0.000	0.43
0.047	244.1	3.0	0.00	11.97	15.14	68.10	12.16	7.66	2.76	59	10.0	35.0	0.00		1.0	0.000	3.85
0.044	262.4	6.0	0.00	11.97	18.17	72.14	13.38	10.73	1.30	60	33.0	24.0	1.43		8.0	0.093	0.31
0.010	142.8	3.0	0.00	6.80	10.75	58.10	2.50	2.13	0.40	nin. vrednost	0.0	0.0	0.00		0.0	0.000	0.00
0.180	268.5	18.0	0.00	14.90	18.17	80.20	24.32	12.66	2.76	nax. vrednost	66.0	46.0	1.97		470.0	0.135	3.85
0.054	221.5	10.2	0.00	11.47	14.25	66.91	11.02	7.96	1.33	sredna vredn.	25.4	15.3	0.55		51.8	0.030	0.90
0.049	45.2	5.5	0.00	2.82	2.47	7.23	6.48	3.76	0.78	stand.devij.	23.8	16.7	0.73		140.4	0.045	1.28
				REKA : LEPENEC						REKA : LEPENEC							
				09. Merno Mesto: Skopje-Bardovci, Pred Vliv vo r. Vardar						09. Merno Mesto: Skopje-Bardovci, Pred Vliv vo r. Vardar							
0.330	128.7	0.0	0.0	9.80	25.05	44.10	4.90	3.40	1.90	71	11.0	90.0	0.00		0.0	0.018	0.48
0.260	134.8	6.0	0.0	5.10	20.13	40.10	7.30	3.05	2.05	72	0.0	55.0	0.00		10.0	0.000	1.01
0.180	125.1	9.0	0.0	5.30	14.91	40.10	7.30	2.22	0.61	73	0.0	55.0	1.66		35.0	0.099	0.76
0.140	162.3	9.0	0.0	5.69	13.50	48.10	6.10	8.34	1.86	74	42.0	46.0	0.41		0.0	0.095	1.76
0.420	146.4	21.0	0.0	6.56	17.99	48.10	8.51	9.06	1.96	75	79.0	17.0	0.80		0.0	0.000	0.71
0.270	228.8	12.0	0.0	11.88	20.98	66.10	10.94	14.01	3.32	76	41.0	112.0	0.37		9.0	0.146	0.00
0.256	209.9	10.8	0.0	9.38	11.93	60.10	8.51	13.20	3.40	77	63.0	28.0	0.81		21.0	0.133	1.27
0.148	161.7	12.0	0.0	6.10	15.01	46.10	9.73	6.70	3.26	78	204.0	19.0	0.01		0.0	0.133	0.96
0.086	155.6	6.0	0.0	7.50	11.57	46.10	6.08	8.14	3.69	79	0.0	57.0	0.57		5.0	0.000	0.00
0.126	192.2	9.0	0.0	7.09	19.46	54.11	9.73	8.35	1.90	80	61.0	54.0	0.70		19.0	0.295	0.66
0.086	125.1	0.0	0.0	5.10	11.57	40.10	4.90	2.22	0.61	nin. vrednost	0.0	17.0	0.00		0.0	0.000	0.00
0.420	228.8	21.0	0.0	11.88	25.05	66.10	10.94	14.01	3.69	nax. vrednost	204.0	112.0	1.66		35.0	0.295	1.76
0.222	164.6	9.5	0	7.44	17.05	49.30	7.91	7.65	2.40	sredna vredn.	50.1	53.3	0.53		9.9	0.092	0.76
0.107	35.4	5.9	0	2.23	4.48	8.48	2.03	4.13	1.07	stand.devij.	60.2	30.3	0.51		11.6	0.093	0.56

Ni	Nikel µg/l	Co	Kobalt µg/l	Cu	Bakar µg/l	Cijanidi µg/l	Phenolni soedinen. µg/l	Vkupni Sulfidi mg/l	Sulfidi - H_2S mg/l	Sulfidi - HS^- mg/l	Vkupna β-radio aktivnost Bq/l	Saprobioloski Pokazateli: Saproben index	Stepen na saprobnost / bioloska produktivnost /
	58		59		60	61	62	63	64	65	66	67	68
	Ni		Co		Cu	Cijanidi	Fenoli	Vk-Sulfidi	H2S	HS	Beta-rad	Sapr-in	Step-sap
												REKA : VARDAR	
												02. Merno Mesto: s. Taor	
	0.20				3.77			0.000	0.000	0.000			
	0.00				2.81			0.748	0.094	0.654		2.61	α - β meso saproben
	0.00				4.88			0.440	0.093	0.347		2.21	β - α meso saproben
	0.67				3.80			0.000	0.000	0.000		2.56	α - β meso saproben
	0.24				5.02			0.000	0.000	0.000		2.83	α - β meso saproben
	0.45				5.37			0.000	0.000	0.000		2.70	α - β meso saproben
	0.89				3.11			0.000	0.000	0.000		2.97	α - β meso saproben
	0.00				0.00			0.000	0.000	0.000		1.53	β - α meso saproben
	0.00				0.00			0.288	0.029	0.259		2.44	β - α meso saproben
	3.37				1.89			0.628	0.069	0.559		2.68	α - β meso saproben
	0.00				0.00			0.000	0.000	0.000		1.53	
	3.37				5.37			0.748	0.094	0.654		2.97	
	0.58				3.07			0.210	0.029	0.182		2.50	
	0.99				2.06			0.288	0.040	0.250		0.51	
												REKA : TRESKA	
												07 Merno Mesto: Skopje-Saraj, Pred Vliv vo r. Vardar	
	0.72				2.03			0.615	0.058	0.557			
	1.28				0.94			0.000	0.000	0.000		1.90	β - α meso saproben
	0.00				1.76			0.000	0.000	0.000		2.00	β - α meso saproben
	1.96				2.87			0.000	0.000	0.000		1.91	β - α meso saproben
	0.00				0.06			0.604	0.043	0.561		1.63	β - α meso saproben
	0.00				3.33			0.000	0.000	0.000		1.85	β - α meso saproben
	4.11				0.00			0.432	0.036	0.396		1.94	β - α meso saproben
	0.00				0.25			0.000	0.000	0.000		1.81	β - α meso saproben
	0.00				0.00			0.000	0.000	0.000		1.89	β - α meso saproben
	0.87				0.61			1.412	0.119	1.293		1.56	β - α meso saproben
	0.00				0.00			0.000	0.000	0.000		1.56	
	4.11				3.33			1.412	0.119	1.293		2.00	
	0.89				1.19			0.306	0.026	0.281		1.83	
	1.28				1.23			0.455	0.038	0.417		0.16	
												REKA : LEPENEC	
												09. Merno Mesto: Skopje-Bardovci, Pred Vliv vo r. Vardar	
	1.65				0.99			1.538	0.223	1.315			
	0.51				1.25			0.000	0.000	0.000		1.90	β - α meso saproben
	0.00				4.88			0.440	0.047	0.393		2.00	β - α meso saproben
	0.54				4.09			0.000	0.000	0.000		2.34	β - α meso saproben
	0.00				2.58			0.906	0.063	0.843		2.26	β - α meso saproben
	1.14				2.44			0.000	0.000	0.000		2.71	α - β meso saproben
	0.34				0.00			0.577	0.029	0.548		2.37	β - α meso saproben
	0.00				1.77			0.000	0.000	0.000		2.66	α - β meso saproben
	0.00				0.00			1.153	0.142	1.011		2.63	α - β meso saproben
	0.00				1.55			0.157	0.011	0.146		2.38	β - α meso saproben
	0.00				0.00			0.000	0.000	0.000		1.90	
	1.65				4.88			1.538	0.223	1.315		2.71	
	0.42				1.96			0.477	0.052	0.426		2.36	
	0.56				1.63			0.548	0.073	0.479		0.30	

(6) River Water Quality (2001)

Table 2.35 River Water Quality in 2001 (HMI)

Red. br.	Labor. br.	Datum na zemanje na probata	Hidroloski pokaz.		Fizicki i organoleptichki pokazateli									CO_2					
			Vodostoj H sm	Protek Q m^3/s	Vidlivi otpadni materii	Zabeleziva mirizba	Zabeleziva boja	Vistinska mg/l Pt	Temperatura na °C voda	Temperatura na °C vozduh	Matnost mg/l SiO_2	Matnost NTU	pH-vrednost	Redox pot. mv	Sprovodl. µS/sm^2	Sloboden mg/l	Agresiv. mg/l	Cvrsti materii mg/l Vkupni	Cvrsti materii mg/l Mineral.	Cvrsti materii mg/l Organ.	Rast Vkupni
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
01. Reka VARDAR - RADUSA																					
1	00 - 003	22.01.2001	109		Bez	Bez	Bez	5.0	6.8	4.2	2.5	9.0	7.94	-95	339	0.00	0.00	274	233	41	220
2	00 - 029	19.02.2001			Bez	Bez	Bez	2.5	7.0	4.0	5.0	10.0	9.11	-106	342	0.00	0.00	300	206	94	220
3	00 - 055	12.03.2001	104		Bez	Bez	Bez	2.5	9.2	16.0	4.0	9.0	8.18	-107	309	0.00	0.00	220	117	103	205
4	00 - 099	14.05.2001	127		Bez	Bez	Slabo zamateni	2.5	10.7	15.7	4.0	17.0	8.20	-111	258	0.00	0.00	196	91	105	176
5	00 - 125	11.06.2001	100		Bez	Bez	Slabo zamateni	2.5	12.5	29.0	3.0		8.31	-126	335	0.00	0.00	277	214	63	213
02. Reka VARDAR - TAOR																					
6	00 - 015	24.01.2001	63		Bez	Bez	Slabo zamateni	5.0	7.0	4.0	2.5	22.0	7.85	-92	460	0.00	0.00	356	270	86	298
7	00 - 033	20.02.2001	48		Fek.rastv.org.ma	Bez	Slabo zamateni	2.5	6.0	4.0	6.0	20.0	7.68	-80	448	0.00	0.00	369	248	121	286
8	00 - 059	13.03.2001	64		Rasp. Org. m as	Bez	Slabo zamateni	2.5	11.5	10.5	3.0	17.0	7.64	-77	370	0.00	0.00	290	236	54	246
9	00 - 075	10.04.2001	134		Masni fleki	Bez	Matna	5.0	9.2	7.5	4.0		7.34	-72	291	0.90	0.00	1383	1155	228	200
10	00 - 103	15.05.2001	95		Bez	Bez	Slabo zamateni	2.5	12.0	18.0	4.0	9.0	7.60	-86	304	0.00	0.00	231	159	72	205
11	00 - 135	14.06.2001	56		Bez	Bez	Bez	5.0	19.5	22.2	4.0		7.77	-94	399	0.00	0.00	328	228	100	282
12	00 - 156	11.07.2001	46		Bez	Bez	Bez	2.5	19.5	26.2	4.0		7.73	-95	351	0.00	0.00	276	184	92	256
13	00 - 174	29.08.2001	46		Bez	Na trulez	Bez	5.0	20.0	21.8	6.0		7.23	-68	352	0.00	0.00	231	186	45	213
14	00 - 191	17.09.2001	40		Bez	Bez	Bez	5.0	18.0	20.0	3.0		7.60	-86	357	0.00	0.00	302	221	81	282
15	00 - 214	16.10.2001	30		Bez	Bez	Bez	8.0	14.5	14.8	5.0		7.79	-102	451	0.00	0.00	326	240	86	300
16	00 - 236	13.11.2001	40		Bez	Bez	Bez	5.0	11.9	15.7	5.0		7.69	-96	379	0.00	0.00	351	256	95	259
17	00 - 251	11.12.2001	61		Bez	Bez	Bez	5.0	3.0	-2.0	2.5		7.70	-100	326	0.00	0.00	332	285	47	222
08. Reka LEPENEC - USTIE																					
43	00 - 006	22.01.2001			Bez	Bez	Slabo zamateni	5.0	5.5	3.0	5.0	25	8.06	-103	376	0.00	0.00	303	197	106	241
44	00 - 032	19.02.2001			Bez	Bez	Bez	5.0	5.0	6.0	5.0	11	8.17	-109	348	0.00	0.00	311	208	103	229
45	00 - 058	12.03.2001			Bez	Bez	redno Zamatei	2.5	10.8	20.0	4.0	45	8.25	-111	291	0.00	0.00	252	161	91	192
46	00 - 090	12.04.2001			Masni Fleki	Bez	redno Zamatei	5.0	9.0	12.5	2.5		7.79	-99	242	0.00	0.00	329	231	98	163
47	00 - 102	14.05.2001			Bez	Bez	redno Zamatei	2.5	9.4	15.5	5.0	34	8.02	-100	220	0.00	0.00	181	145	36	151
48	00 - 128	11.06.2001			Ulje	Bez	redno Zamatei	2.5	20.0	31.0	5.0		8.52	-139	270	0.00	0.00	268	180	88	192
49	00 - 155	10.07.2001			Bez	Bez	Slabo zamateni	5.0	20.1	25.0	5.0		8.08	-116	313	0.00	0.00	253	182	71	209
50	00 - 173	28.08.2001			Bez	Bez	redno Zamatei	5.0	20.0	27.0	5.0		7.89	-111	362	0.00	0.00	306	250	56	233
51	00 - 207	20.09.2001			Bez	Bez	Matna	5.0	15.5	19.0	5.0		8.17	-119	344	0.00	0.00	387	258	129	222
	00 - 213	15.10.2001			Bez	Bez	Slabo zamateni	5.0	14.0	13.0	5.0		7.88	-107	359	0.00	0.00	298	177	121	234
	00 - 235	12.11.2001			Bez	Bez	Matna	5.0	10.4	13.0	5.0		8.05	-118	392	0.00	0.00	412	354	58	255
52	00 - 267	13.12.2001			Bez	Bez	Bez	5.0	1.0	-3.5	5.0		7.89	-11	382	0.00	0.00	282	192	90	252
09. Reka TRESKA - PRED VLIV VO VARDAR																					
50	00 - 004	22.01.2001			Bez	Bez	Bez	2.5	7.1	4.5	3.0	2.0	7.90	-94	437	0.00	0.00	321	280	41	280
51	00 - 030	19.02.2001			Bez	Bez	Bez	2.5	7.5	5.0	5.0	3.0	8.13	-106	423	0.00	0.00	330	241	89	268
52	00 - 056	13.03.2001			Bez	Bez	Bez	2.5	10.9	17.5	5.0	5.0	8.32	-115	356	0.00	0.00	227	167	60	192
53	00 - 088	12.04.2001			Bez	Bez	Bez	5.0	10.5	12.0	2.5		7.67	-92	302	0.00	0.00	320	240	80	202
54	00 - 100	14.05.2001			Bez	Bez	Bez	2.5	16.0	13.5	5.0	7.0	8.32	-118	330	0.00	0.00	316	185	131	234
55	00 - 126	11.06.2001			Bez	Bez	Bez	2.5	19.0	30.0	5.0		8.20	-120	380	0.00	0.00	300	233	67	260
56	00 - 100	10.7.2001			Bez	Bez	Bez	2.5	21.3	25.7	4.0		8.11	-118	400	0.00	0.00	276	185	91	264
57	00 - 171	28.08.2001			Bez	Bez	Bez	2.5	21.0	26.0	2.5		7.91	-113	397	0.00	0.00	269	208	61	258
	00 - 205	20.09.2001			Bez	Bez	Bez	2.5	15.5	18.5	2.5		8.14	-117	415	0.00	0.00	354	255	99	272
	00 - 211	15.10.2001			Bez	Bez	Bez	2.5	13.5	14.5	3.0		7.87	-107	431	0.00	0.00	318	226	92	286
58	00 - 233	12.11.2001			Bez	Bez	Bez	5.0	12.0	11.0	4.0		8.00	-115	454	0.00	0.00	363	309	54	287
59	00 - 265	13.12.2001			Bez	Bez	Bez	2.5	1.0	-2.0	5.0		8.00	-118	449	0.00	0.00	320	244	76	304

Mineralizacija					Alkalitet		Kislorodni pokazateli					Biogeni elementi				Anjoni i katjoni					
voreni materii mg/l		Suspend. materii mg/l			ml/l		Kislorod	Zasiten.	BPK5	Perm.index mg/l		Amonium	Nitriti	Nitrati	Fosfati	Bikarbon.	Karbon.	Hidroks.	Hloridi	Sulfati	Kalcium
Mineral.	Organ.	Vkupni	Mineral.	Organ.	"p"	"m"	mg/l O_2	% O_2	mg/l O_2	O_2	$KMnO_4$	mg/l N	mg/l N	mg/l N	mg/l PO_4^{3-}	mg/l HCO_3	mg/l CO_3^{2-}	mg/l OH^-	mg/l Cl^-	mg/l SO_4^{2-}	mg/ Ca^{2+}
23	24	25	26	27	28	29	30	31	32	33	34	36	37	38	39	40	41	42	43	44	45
01. Reka VARDAR - RADUSA																					
200	20	54	33	21	0.50	32.30	9.17	75	6.60	1.78	7.03	0.49	0.04	2.53	0.05	191.0	3.0	0.0	11.10	23.45	66.10
200	20	80	6	74	2.00	29.10	9.97	82	3.70	1.74	6.87	0.26	0.06	3.00	0.08	153.0	12.0	0.0	20.50	21.57	64.10
114	91	15	3	12	1.00	33.00	10.99	95	3.50	1.96	7.74	0.13	0.06	2.15	0.05	189.1	6.0	0.0	6.60	12.47	57.10
85	91	20	6	14	1.00	26.80	13.49	121	6.60	2.85	11.26	0.12	0.03	1.88	0.09	151.3	6.0	0.0	15.40	13.19	50.10
197	16	64	17	47	2.50	28.90	8.63	80	3.08	2.88	11.38	0.43	0.12	2.96	0.07	146.0	15.0	0.0	11.00	26.20	68.50
02. Reka VARDAR - TAOR																					
250	48	58	20	38	0.50	36.50	5.97	49	11.30	4.95	19.55	4.16	0.05	1.62	0.16	216.6	3.0	0.0	22.60	51.06	67.50
242	44	83	6	77	0.50	37.50	5.59	45	8.78	2.73	10.78	1.30	0.06	1.59	0.03	223.0	3.0	0.0	28.70	29.10	74.20
220	26	44	16	28	1.00	34.40	6.07	55	13.40	3.26	12.88	0.79	0.05	0.78	0.13	197.6	6.0	0.0	18.10	23.76	63.10
146	54	1183	1009	174	0.00	27.70	6.44	56	96.00	40.00	158.00	0.61	0.07	1.35	0.08	169.0	0.0	0.0	13.90	19.67	46.10
158	47	26	1	25	0.50	27.50	11.08	102	7.79	2.42	9.56	0.46	0.04	1.01	0.08	162.0	3.0	0.0	20.30	17.43	56.10
200	82	46	28	18	1.00	30.40	2.89	31	17.30	7.72	30.49	1.57	0.06	0.89	0.14	173.2	6.0	0.0	21.20	55.90	81.80
170	86	20	14	6	1.50	16.20	3.98	43	3.19	3.06	12.09	1.68	0.14	0.94	3.77	85.0	9.0	0.0	20.70	88.00	66.50
175	38	18	11	7	0.50	28.30	1.83	20	7.35	3.00	11.85	1.68	0.11	0.81	0.28	170.0	3.0	0.0	18.20	17.67	61.90
218	64	20	3	17	1.00	49.80	2.89	30	7.40	2.96	11.69	1.66	0.12	0.64	0.07	292.0	6.0	0.0	14.30	20.13	66.80
226	74	26	14	12	1.00	42.80	1.86	18	7.84	3.06	12.09	2.73	0.16	1.13	0.49	246.4	6.0	0.0	21.10	24.21	88.40
204	55	92	52	40	0.50	27.20	4.34	40	11.40	2.92	11.53	1.19	0.07	1.34	0.11	160.0	3.0	0.0	15.10	56.84	74.70
194	28	110	91	19	1.50	31.20	10.36	77	11.90	4.96	19.59	0.79	0.03	1.24	0.14	172.0	9.0	0.0	18.80	17.22	67.10

Mineralizacija					Alkalitet		Kislorodni pokazateli					Biogeni elementi				Anjoni i katjoni					
voreni materii mg/l		Suspend. materii mg/l			ml/l		Kislorod	Zasiten.	BPK5	Perm.index mg/l		Amonium	Nitriti	Nitrati	Fosfati	Bikarbon.	Karbon.	Hidroks.	Hloridi	Sulfati	Kalcium
Mineral.	Organ.	Vkupni	Mineral.	Organ.	"p"	"m"	mg/l O_2	% O_2	mg/l O_2	O_2	$KMnO_4$	mg/l N	mg/l N	mg/l N	mg/l PO_4^{3-}	mg/l HCO_3	mg/l CO_3^{2-}	mg/l OH^-	mg/l Cl^-	mg/l SO_4^{2-}	mg/ Ca^{2+}
23	24	25	26	27	28	29	30	31	32	33	34	36	37	38	39	40	41	42	43	44	45
07. Reka LEPENEC - USTIE																					
180	61	62	17	45	1.50	38.50	11.21	87	0.38	1.78	7.03	0.46	0.02	1.75	0.05	216.6	9.0	0.0	14.40	21.88	62.10
131	98	82	77	5	2.50	32.90	11.35	89	3.07	1.49	5.89	0.07	0.02	1.84	0.02	170.0	15.0	0.0	16.40	19.68	58.10
127	65	60	34	26	2.00	27.90	10.78	97	3.82	2.37	9.36	0.24	0.03	1.61	0.06	145.8	12.0	0.0	12.30	16.55	51.10
150	13	166	81	85	0.50	22.20	13.81	119	7.12	6.62	26.15	0.13	0.04	1.61	0.06	129.3	3.0	0.0	11.00	17.95	40.10
134	17	30	11	19	0.50	20.20	13.70	119	5.72	2.44	9.64	0.13	0.02	0.94	0.04	117.1	3.0	0.0	13.20	13.51	40.10
141	51	76	39	37	3.00	20.40	8.08	27	5.28	1.64	6.48	0.12	0.03	1.01	0.01	87.8	18.0	0.0	14.60	38.10	54.20
154	55	44	28	16	3.00	28.80	7.64	83	1.93	1.62	6.40	0.19	0.04	1.41	0.08	139.1	18.0	0.0	15.00	22.41	51.10
200	33	73	50	23	2.50	33.50	7.59	83	2.32	2.76	10.90	0.11	0.02	1.38	0.03	174.0	15.0	0.0	17.40	23.82	45.20
128	94	165	130	35	1.50	29.30	8.84	88	1.10	1.42	5.61	0.11	0.02	1.21	0.01	160.4	9.0	0.0	16.10	26.28	57.00
132	102	64	45	19	1.50	34.60	8.64	83	1.43	1.31	5.17	0.12	0.03	1.47	0.06	193.0	9.0	0.0	14.20	17.63	64.80
222	33	157	132	25	2.00	38.80	10.07	90	1.95	2.35	9.28	0.10	0.02	1.75	0.11	213.0	12.0	0.0	14.60	16.10	72.70
185	67	30	7	23	1.50	34.50	12.94	91	2.58	1.52	6.00	0.31	0.02	1.95	0.10	192.0	9.0	0.0	21.80	19.07	76.20
08. Reka TRESKA - PRED VLIV VO VARDAR																					
260	20	41	20	21	0.50	44.90	10.67	88.0	2.00	0.97	3.83	0.11	0.00	0.85	0.01	267.0	3.0	0.0	15.20	18.74	74.10
183	85	62	58	4	3.00	41.70	13.72	114.0	5.11	0.99	3.91	0.06	0.02	1.14	0.01	218.0	18.0	0.0	18.50	14.98	70.10
150	42	35	17	18	1.50	20.80	12.82	115.0	2.64	0.82	3.24	0.09	0.01	1.03	0.01	108.6	9.0	0.0	16.00	15.61	51.10
144	58	118	96	22	1.00	31.00	8.83	79.0	2.09	3.28	12.96	0.13	0.02	1.11	0.03	176.3	6.0	0.0	10.20	16.23	52.10
170	64	82	15	67	2.50	30.60	15.00	150.0	6.80	1.59	6.28	0.07	0.01	0.80	0.03	156.2	15.0	0.0	15.90	32.78	58.10
229	31	40	4	36	2.00	38.70	8.85	94.0	1.09	1.40	5.53	0.10	0.01	0.71	0.00	212.0	12.0	0.0	17.20	20.60	64.40
180	84	12	5	7	3.00	41.90	10.45	117.0	2.86	1.54	6.08	0.11	0.01	0.69	0.02	219.0	18.0	0.0	19.80	18.23	69.50
200	58	11	8	3	3.00	40.80	8.57	95.0	1.48	1.46	5.77	0.10	0.01	0.77	0.01	213.0	18.0	0.0	20.40	12.75	72.70
200	72	82	55	27	4.00	40.30	10.91	108.0	0.47	0.42	1.66	0.07	0.01	0.87	0.04	197.0	24.0	0.0	23.90	13.36	82.50
217	69	32	9	23	1.50	44.50	9.35	89.0	0.97	0.44	1.74	0.07	0.01	0.86	0.01	253.2	9.0	0.0	16.80	14.04	92.30
270	17	76	39	37	2.50	44.30	11.34	104.0	2.43	0.81	3.20	0.07	0.01	0.86	0.03	240.0	15.0	0.0	18.50	12.60	92.30
235	69	16	9	7	2.50	47.00	14.94	105.0	3.36	0.72	2.84	0.15	0.02	1.07	0.07	256.2	15.0	0.0	18.00	14.14	100.20

			Tvrdina					Stetni i opasni materii													Vkupna beta
Magnez.	Natrium	Kalium	Vkupna		Karbonatna		Nekarbon.	Zelezo	Mangan	Olovo	Cink	Kadmium	Hrom	Nikel	Kobalt	Bakar	Srebro	Sulfidi			radioakivnost
mg/l Mg^{2+}	mg/l Na^{+}	mg/l K^{+}	°dH	mg/l	°dH	mg/l	°dH	µg/l Fe	µg/l Mn	µg/l Pb	µg/l Zn	µg/l Cd	µg/l Cr+6	µg/l Ni	mg/l Co	µg/l Cu	mg/l Ag	Vk. mg/l	mg/l H_2S	mg/l HS^{-}	Bq/l
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	64	68	69	70	71
								01. Reka VARDAR - RADUSA													
7.30	2.75	0.56	10.9	194.8	7.5	134.1	3.4	24.000	0.000	0.000	6.000	0.000	9.000	0.820	-	3.500	-				-
8.50	0.31	1.46	10.9	194.8	2.3	41.1	8.6	34.000	21.000	0.000	5.500	0.000	12.940	0.000	-	2.540	-				-
7.90	5.70	0.82	9.8	175.2	6.4	114.4	3.4	14.000	17.000	0.790	48.900	0.270	11.790		-	0.000	-				-
6.10	4.00	0.54	8.4	150.2	5.9	105.5	2.5	23.000	12.000	0.000	10.000	0.015	7.580	2.040	-	3.460	-				-
1.86	3.80	0.98	10.0	178.8	6.6	118.0	3.4	38.000	13.000	0.000	3.300	0.130	32.600	0.550	-	4.960	-				-
								02. Reka VARDAR - TAOR													
19.90	7.25	1.66	14.0	250.3	8.0	143.0	6.0	113.000	52.000	0.000	14.200	0.000	1.7100	1.410		2.250		1.1487			-
14.60	5.76	2.77	13.7	244.9	9.5	169.8	4.2	29.000	69.000	0.040	11.800	0.000	0.840	0.000		1.240		0.9846			-
11.60	7.87	1.11	11.8	210.9	8.7	155.5	3.1	50.000	22.000	0.000	88.100	0.080	3.770					0.9505			-
9.73	9.94	1.96	8.7	155.5	5.6	100.1	3.1	214.000	52.000	0.350	4.300	0.000	2.180	4.050		4.870		2.5088			-
7.30	6.20	0.73	9.5	169.8	6.0	107.3	3.5	257.000	15.000	0.000	1.800	0.000	2.880	1.620		1.470		0.4593			-
4.96	6.60	1.33	12.7	227.0	9.3	166.2	3.4	113.000	10.000	0.000	4.600	0.157	3.470	0.000		2.940		0.7619			-
6.20	6.23	0.93	10.7	191.3	6.4	114.4	4.3	160.000	8.000	0.000	1.000	0.000	1.980	0.020		2.230		1.0616			
4.20	6.65	0.49	9.6	171.6	6.6	118.0	3.0	76.000	1.000	4.700	1.400	0.083	0.870	0.160		1.200		0.6038			
6.00	6.57	0.82	10.7	191.3	8.2	146.6	2.5	72.000	35.000	2.770	10.900	0.151	0.870	0.240		2.220		0.2415			
6.00	9.54	1.54	13.7	244.9	9.0	160.9	4.7	57.000	21.000	1.060	7.600	0.000	1.540	0.000		12.900		0.4848			
3.60	6.60	0.71	11.3	202.0	8.1	144.8	3.2	39.000	16.000	0.000	14.400	0.080	1.940	7.330		0.870		0.4640			
4.90	5.66	0.71	10.5	187.7	6.3	112.6	4.2	73.000	24.000	0.000	1.600	0.000	3.130	2.990		1.590		0.3077			

			Tvrdina					Stetni i opasni materii													Vkupna beta
Magnez.	Natrium	Kalium	Vkupna		Karbonatna		Nekarbon.	Zelezo	Mangan	Olovo	Cink	Kadmium	Hrom	Nikel	Kobalt	Bakar	Srebro	Sulfidi			radioakivnost
mg/l Mg^{2+}	mg/l Na^{+}	mg/l K^{+}	°dH	mg/l	°dH	mg/l	°dH	µg/l Fe	µg/l Mn	µg/l Pb	µg/l Zn	µg/l Cd	µg/l Cr+6	µg/l Ni	µg/l Co	µg/l Cu	mg/l Ag	Vk. mg/l	mg/l H_2S	mg/l HS^{-}	Bq/l
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	64	68	69	70	71
								07. Reka LEPENEC - USTIE													
12.60	4.87	1.29	11.5	205.6	8.1	144.8	3.4	68.000	10.000	0.000	11.600	0.000	0.600	1.410		2.490		1.0667			
12.20	4.87	1.91	10.9	194.8	7.3	130.5	3.6	57.000	22.000	0.070	19.800	0.000	0.980	1.840		3.100		0.9846			
7.90	5.96	1.22	9.0	160.9	5.9	105.5	3.1	67.000	25.000	0.000	21.500	0.183	1.190					1.1089			
7.30	6.53	1.32	7.3	130.5	3.9	69.7	3.4	148.000	28.000	0.000	8.800	0.175	1.800	4.900		4.290		1.0980			
6.10	3.76	0.65	7.0	125.1	4.5	80.4	2.5	36.000	21.000	0.130	9.500	1.974	0.800	2.620		1.960		0.0000			
4.34	3.70	0.92	8.6	153.7	6.0	107.3	2.6	86.000	31.000	0.000	7.500	0.451	2.180	0.940		0.810		0.4572			
12.40	4.40	0.94	10.0	178.8	6.9	123.3	3.1	46.000	42.000	0.000	8.000	0.806	0.780	0.000		5.980		0.7583			
22.70	5.07	0.59	11.5	205.6	8.5	151.9	3.0	71.000	15.000	0.000	3.200	0.529	0.560	0.880		1.660		0.4528			
9.50	6.95	0.96	10.2	182.3	6.4	114.4	3.8	99.000	35.000	0.230	19.500	0.066	0.560	0.840		5.840		0.3925			
9.50	4.44	1.56	11.3	202.0	8.3	148.4	3.0	26.000	14.000	0.930	19.500	0.018	0.680	0.000		0.830		0.4848			
8.30	7.10	1.11	12.1	216.3	8.5	151.9	3.6	17.000	11.000	0.000	21.000	0.126	1.070	2.690		1.790		0.3092			
3.60	7.81	1.28	11.5	205.6	8.1	144.8	3.4	92.000	38.000	0.000	9.400	1.450	0.360	0.070		1.790		0.6154			
								08. Reka TRESKA - PRED VLIV VO VARDAR													
17.00	3.93	1.27	14.3	255.6	9.7	173.4	4.6	24.000	0.000	0.000	5.200	0.000	0.190	7.900		2.020		0.3048			
17.00	1.82	1.07	13.7	244.9	9.2	164.5	4.5	32.000	12.000	0.000	4.900	0.000	0.460	1.440		0.620		1.1487			
18.80	12.93	0.68	11.5	205.6	3.6	64.4	7.9	14.000	0.000	0.010	0.700	0.000	0.500					0.7921			
9.70	7.14	0.91	9.5	169.8	6.7	119.8	2.8	128.000	15.000	0.140	0.400	0.000	0.810	2.780		3.610		0.6270			
13.40	4.40	0.44	11.2	200.2	8.4	150.2	2.8	17.000	13.000	0.060	0.800	0.000	0.450	2.620		0.980		0.0000			
16.40	4.60	0.67	12.9	230.6	9.1	162.7	3.8	104.000	16.000	0.000	3.200	0.385	0.000	0.800		0.000		0.4572			
17.40	5.12	0.56	13.7	244.9	9.7	173.4	4.0	45.000	16.000	0.060	0.000	0.000	0.250	0.000		3.080		0.3030			
13.10	4.70	0.24	13.2	236.0	8.5	151.9	4.7	39.000	12.000	0.000	1.700	0.596	0.000	0.000		0.400		0.3019			
7.20	5.87	0.44	13.2	236.0	8.8	157.3	4.4	62.000	5.000	0.450	13.600	0.000	0.000	0.000		3.060		0.2415			
4.80	4.54	0.73	14.0	250.3	9.6	171.6	4.4	5.000	4.000	0.940	7.900	0.000	0.140	0.000		0.000		0.1616			
4.20	6.12	0.51	14.5	259.2	9.7	173.4	4.8	0.000	0.000	0.000	14.400	0.007	1.560	1.150		0.620		0.1546			
2.40	6.20	0.72	14.6	261.0	10.1	180.5	4.5	26.000	0.000	0.100	6.000	0.228	0.000	0.000		1.940		0.3077			

(7) River Water Quality (2000)

Table 2.36 River Water Quality in 2000 (HMI)

Red. br.	Labor. br.	Datum na zemanje na probata	Hidroloski pokaz.		Fizicki i organoleptichki pokazateli										CO_2		Cvrsti materii mg/l			Rast
			Vodostoj H sm	Protek Q m^3/s	Vidlivi otpadni materii	Zabeleziva mirzba	Zabeleziva boja	Vistinska mg/l Pt	Temperatura na °C voda	Temperatura na °C vozduh	Matnost mg/l SiO_2	Matnost NTU	pH-vrednost	Redox pot. mv	Sprovodl. µS/sm^2	Sloboden mg/l	Agresiv. mg/l	Vkupni	Mineral.	Organ.	Vkupni
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
		01. Reka VARDAR - RADUSA																			
1	00 - 021	13.03.2000			Bez	Bez	Slabo zamaten	5.0	7.5	12.5	5.0	-	8.08	-83	306	0.00		293	234	59	261
2	00 - 050	17.04.2000			Bez	Bez	Zamatena	2.5	12.2	22.0	4.0		8.08	-86	266	0.00		274	210	64	170
3	00 - 080	15.05.2000			Bez	Bez	Slabo zamaten	5.0	12.5	20.5	2.5		7.84	-84	231	0.00	0.00	248	218	30	150
4	00 - 106	12.06.2000	-		Bez	Bez	Slabo zamaten	5.0	16.2	24.8	5.0		8.16	-95	308	0.00		253	185	68	200
5	00 - 132	10.07.2000	158		Bez	Bez	Slabo zamaten	2.5	14.2	23.0	4.0		7.47	-64	149	0.00		203	167	36	116
6	00 - 158	14.08.2000			Bez	Bez	Bez	2.5	17.5	26.0	3.0		7.97	-100	196	0.00		212	160	52	170
7	00 - 184	18.09.2000			Bez	Bez	Slabo zamaten	5.0	15.3	22.9	2.5		8.17	-108	187	0.00		174	128	46	135
8	00 - 211	16.10.2000	95.1		Bez	Bez	Bez	5.0	13.0	15.0	3.0		8.00	-102	359	0.00	0.00	280	191	89	215
9	00 - 238	13.11.2000	122		Bez	Bez	Slabo zamaten	5.0	9.0	8.5	3.0		7.96	-89	340	0.00	0.00	353	239	114	250
10	00 - 267	11.12.2000	138		Bez	Bez	Slabo zamaten	2.5	7.0	2.5	4.0		7.93	-89	159	0.00	0.00	190	113	77	129
								5.00	17.50	26.0	5.00		8.17		359	0.00	0.00	353	239	114	261
								2.5	7	2.5	2.5		7.47		149	0	0	174	113	30	116
								4.00	12.44	17.8	3.60		7.97		250.10	0.00	0.00	248.00	184.50	63.50	179.60
		02. Reka VARDAR - TAOR																			
8	00 - 025	14.03.2000			Bez	Bez	Slabo zamaten	7.5	7.1	12.4	4.0		8.00	-79	335	0.00		324	232	92	232
9	00 - 062	19.04.2000			Bez	Bez	Bez	5.0	11.5	19.2	2.5		7.89	-75	285	0.00		294	207	87	190
10	00 - 084	16.05.2000	129		Slabo zamaten	Bez	Slabo zamaten	5.0	14.2	18.4	2.5		7.63	-72	301	0.44		266	189	77	200
11	00 - 110	13.06.2000			Bez	Bez	Bez	5.0	18.0	24.5	5.0		7.65	-63	397	0.00		281	208	73	271
12	00 - 136	11.07.2000			Bez	Bez	Slabo zamaten	2.5	17.6	22.2	3.0		7.46	-63	328	0.00		235	186	49	220
13	00 - 162	15.08.2000			Bez	Bez	Bez	2.5	20.0	26.6	4.0		7.60	-76	382	0.00		308	283	25	232
	00 - 188	19.09.2000			Bez	Bez	Bez	5.0	17.9	18.5	5.0		7.44	-65	364	0.34		238	174	64	217
	00 - 223	18.10.2000	42		Bez	Bez	Bez	5.0	15.2	17.0	5.0		7.48	-82	472	0.00	0.00	368	272	96	230
	00 - 250	15.11.2000	54		Slabo zamaten	Na trulez	Slabo zamaten	2.5	9.0	10.2	5.0		7.93	-87	408	0.00	0.00	338	265	73	257
14	00 - 279	13.12.2000	55		Bez	Bez	Slabo zamaten	5.0	7.8	8.0	4.0		7.57	-68	388	2.30	0.00	320	234	86	260

Red. br.	Labor. br.	Datum na zemanje na probata	Hidroloski pokaz.		Fizicki i organoleptichki pokazateli										CO_2		Cvrsti materii mg/l			Rast
			Vodostoj H sm	Protek Q m^3/s	Vidlivi otpadni materii	Zabeleziva mirzba	Zabeleziva boja	Vistinska mg/l Pt	Temperatura na °C voda	Temperatura na °C vozduh	Matnost mg/l SiO_2	Matnost NTU	pH-vrednost	Redox pot. mv	Sprovodl. µS/sm^2	Sloboden mg/l	Agresiv. mg/l	Vkupni	Mineral.	Organ.	Vkupni
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
		07. Reka LEPENEC - USTIE																			
43	00 - 023	13.03.2000			Bez	Bez	redno zamaten	15.0	6.0	10.5	6.0		8.06	-83	246	0.00		382	269	113	160
44	00 - 052	17.04.2000			Bez	Bez	Zamatena	2.5	12.7	22.3	3.0		8.20	-92	222	0.00		215	182	33	154
45	00 - 082	15.05.2000			Bez	Bez	Slabo zamaten	5.0	13.0	22.5	2.5		8.05	-98	227	0.00	0.00	224	174	50	140
46	00 - 108	12.06.2000			Bez	Bez	Matna	7.5	19.5	25.0	5.0		8.26	-100	309	0.00	0.00	267	203	64	200
47	00 - 134	10.07.2000			Bez	Bez	Bez	5.0	21.0	23.0	5.0		7.83	-85	465	0.00		370	308	62	299
48	00 - 160	14.08.2000			Bez	Bez	Slabo zamaten	2.5	23.5	29.5	5.0		8.32	-122	464	0.00		392	308	84	302
49	00 - 186	18.09.2000			Bez	Bez	Bez	5.0	20.0	25.5	3.0		8.13	-105	363	0.00		261	170	91	231
50	00 - 214	16.10.2000			Bez	Bez	Zamatena	5.0	14.3	21.3	4.0		8.08	-108	417	0.00	0.00	315	233	82	265
51	00 - 241	13.11.2000			Bez	Bez	Slabo zamaten	5.0	8.2	13.5	4.0		8.06	-95	385	0.00	0.00	309	226	83	253
52	00 - 270	11.12.2000			Bez	Bez	Slabo zamaten	5.0	5.0	3.5	3.0		8.17	-102	371	0.00	0.00	316	194	122	253
		08. Reka TRESKA - PRED VLIV VO VARDAR																			
50	00 - 024	13.03.2000			Bez	Bez	Bez	10.0	9.0	13.0	6.0		8.10	-85	341	0.00		284	200	84	220
51	00 - 053	17.04.2000			Bez	Bez	Bez	2.5	13.4	21.0	2.5		8.13	-88	299	0.00		220	151	69	200
52	00 - 083	15.05.2000			Bez	Bez	Bez	2.5	14.0	20.5	2.0		7.96	-92	328	0.00		297	242	55	200
53	00 - 109	12.06.2000			Bez	Bez	Bez	2.5	17.6	23.3	3.0		8.22	-97	380	0.00		299	212	87	240
54	00 - 135	10.07.2000			Bez	Bez	Bez	2.5	19.0	21.5	4.0		7.80	-84	420	0.00		301	236	65	247
55	00 - 161	14.08.2000			Bez	Bez	Bez	2.5	20.0	29.0	2.5		8.08	-107	419	0.00		345	243	102	270
56	00 - 187	18.09.2000			Bez	Bez	Bez	2.5	20.0	21.5	4.0		8.12	-104	441	0.00		296	203	93	270
57	00 - 212	16.10.2000			Bez	Bez	Bez	2.5	14.3	18.0	2.5		7.95	-100	446	0.00	0.00	330	234	96	290
58	00 - 239	13.11.2000			Bez	Bez	Bez	2.5	11.8	10.0	2.5		8.07	-96	408	0.00	0.00	329	220	109	253
59	00 - 268	11.12.2000			Bez	Bez	Bez	2.5	6.5	3.0	3.0	8	8.10	-98	455	0.00	0.00	342	238	104	308

Mineralizacija					Alkalitet		Kislorodni pokazateli					Biogeni elementi				Anjoni i katjoni					
tvoreni materii mg/l		Suspend. materii mg/l			ml/l		Kislorod	Zasiten.	BPK5	Perm.index mg/l		Amonium	Nitriti	Nitrati	Fosfati	Bikarbon.	Karbon.	Hidroks.	Hloridi	Sulfati	Kalcium
Mineral.	Organ.	Vkupni	Mineral.	Organ.	"p"	"m"	mg/l O_2	% O_2	mg/l O_2	O_2	$KMnO_4$	mg/l N	mg/l N	mg/l N	mg/l PO_4^{3-}	mg/l HCO_3	mg/l CO_3^{2-}	mg/l OH^-	mg/l Cl^-	mg/l SO_4^{2-}	mg/ Ca^{2+}
23	24	25	26	27	28	29	30	31	32	33	34	36	37	38	39	40	41	42	43	44	45
01. Reka VARDAR - RADUSA																					
214	47	32	20	12	1.40	29.40	11.10	92	3.94	3.16	12.48	0.14	0.01	1.23	0.18	162.3	8.4	0.0	6.50	21.14	58.10
133	37	104	77	27	0.50	25.60	9.47	88	4.57	3.1	12.25	0.12	0.03	0.99	0.01	75.0	3.0	0.0	7.60	18.98	52.00
126	24	98	92	6	2.00	22.50	10.10	94	3.25	3.02	11.93	0.11	0.02	0.43	0.07	56.4	12.0	0.0	5.50	16.34	42.20
139	61	53	46	7	0.20	33.50	8.66	87	1.67	2.61	10.31	0.00	0.04	1.74	0.07	180.0	12.0	0.0	6.00	12.41	48.70
100	16	87	67	20	0.15	17.00	10.83	105	5.05	3.66	14.46	0.00	0.01	0.54	0.02	32.0	9.0	0.0	5.10	14.92	21.47
143	27	42	17	25	1.50	21.20	8.55	89	3.95	3.24	12.80	0.03	0.08	1.22	0.02	55.0	9.0	0.0	15.40	16.75	33.10
107	28	39	21	18	0.10	22.50	8.50		2.53	3.73	14.73	0.08	0.12	0.88	0.10				13.80	10.03	36.10
148	67	65	43	22	1.50	37.50	14.00	132	8.20	1.46	5.77	0.85	0.35	2.96	0.33	210.4	9.0	0.0	10.70	5.25	66.10
193	57	103	46	57	1.00	31.50	8.66	75	6.20	4.64	18.33	0.49	0.05	2.19	0.04	204.4	6.0	0.0	17.20	22.37	67.50
70	59	61	43	18	0.50	16.60	10.20	84	4.3	4.40	17.38	0.34	0.03	0.55	0.00	95.2	3.0	0.0	17.20	3.00	30.10
214	67	104	92	57	2.00	37.50	14.00	132	8.20	4.64	18.33	0.85	0.35	2.96	0.33	210.4	12.0	0.0	17.20	22.37	67.50
70	16	32	17	6	0.1	16.6	8.5	75	1.67	1.46	5.77	0	0.01	0.43	0.00	32.0	3.0	0.0	5.10	3	21.47
137.30	42.30	68.40	47.20	21.20	0.89	25.73	10.01	94	4.37	3.30	13.04	0.22	0.07	1.27	0.08	119.0	7.9	0.0	10.50	14.12	45.54
02. Reka VARDAR - TAOR																					
180	52	92	52	40	0.50	37.20	9.33	77	6.08	4.69	18.53	0.47	0.02	0.68	0.26	110	3.0	0.0	11.20	16.66	55.60
160	30	104	47	57	0.15	3.00	10.61	97	5.75	2.94	11.61	0.27	0.02	0.66	0.01	80	9.0	0.0	10.10	18.37	54.40
177	23	66	12	54	0.00	27.80	9.08	88	6.05	2.75	10.86	0.09	0.03	0.23	0.02	85	0.0	0.0	13.10	21.70	54.80
203	68	10	5	5	0.10	4.00	5.08		6.80	2.84	11.22	0.70	0.08	1.07	0.19				21.50	34.61	62.40
180	40	15	6	9	0.05	3.50	4.30	45	7.96	3.50	13.83	0.80	0.08	0.79	0.30	87	3	0.0	13.10	34.61	53.17
217	15	76	66	10	0.05	3.90	1.80	19.5	8.76	3.30	13.04	1.40	0.36	1.11	0.18	72	3	0.0	28.10	63.20	53.70
153	64	21	21	0	0.00	4.50	2.44		24.90	4.00	15.80	1.60	0.34	1.28	0.43				20.50	16.34	56.10
200	30	138	72	66	1.00	43.20	1.70	17	12.90	4.94	19.51	1.83	0.36	0.94	0.85	251	6	0.0	17.70	28.65	72.10
218	39	81	47	34	0.50	38.30	6.23	54	16.00	4.45	17.58	5.35	0.06	1.22	0.16	228	3	0.0	17.20	19.47	65.50
200	60	60	34	26	0.00	33.10	6.65	56	7.46	6.48	25.60	4.87	0.07	1.78	0.05	202	0	0.0	16.40	30.42	60.10

Mineralizacija					Alkalitet		Kislorodni pokazateli					Biogeni elementi				Anjoni i katjoni					
tvoreni materii mg/l		Suspend. materii mg/l			ml/l		Kislorod	Zasiten.	BPK5	Perm.index mg/l		Amonium	Nitriti	Nitrati	Fosfati	Bikarbon.	Karbon.	Hidroks.	Hloridi	Sulfati	Kalcium
Mineral.	Organ.	Vkupni	Mineral.	Organ.	"p"	"m"	mg/l O_2	% O_2	mg/l O_2	O_2	$KMnO_4$	mg/l N	mg/l N	mg/l N	mg/l PO_4^{3-}	mg/l HCO_3	mg/l CO_3^{2-}	mg/l OH^-	mg/l Cl^-	mg/l SO_4^{2-}	mg/ Ca^{2+}
23	24	25	26	27	28	29	30	31	32	33	34	36	37	38	39	40	41	42	43	44	45
07. Reka LEPENEC - USTIE																					
120	40	222	149	73	0.80	23.60	11.49	92	5.10	7.26	28.68	0.16	0.02	0.48	0.17	134.2	4.8	0.0	5.20	16.34	40.90
140	14	61	42	19	1.00	21.10	11.10	104	4.72	2.54	10.03	0.11	0.03	0.28	0.10	116.5	6.0	0.0	8.90	15.93	40.50
130	10	84	44	40	2.50	20.00	10.09	95	2.17	3.34	13.19	0.02	0.03	0.22	0.03	92.0	15.0	0.0	6.80	16.65	42.20
180	20	67	23	44	2.00	25.60	8.16	88	2.70	4.03	15.92	0.25	0.06	0.96	0.24	132.2	12.0	0.0	13.10	34.75	52.10
276	23	71	32	39	2.50	37.00	8.48	94	4.24	3.26	12.88	0.70	0.22	2.30	0.41	195.2	15.0	0.0	17.30	69.40	42.94
270	32	90	38	52	5.00	28.10	15.90	173	10.33	6.84	27.02	0.08	1.33	4.90	0.12	110.4	30.0	0.0	34.10	77.67	58.10
152	79	30	18	12	2.50	32.10	6.28	68.3	2.84	3.10	12.25	0.12	0.14	0.81	0.02	166.0	15.0	0.0	15.90	25.80	54.10
191	74	50	42	8	2.50	38.20	9.90	96	2.00	1.86	7.35	0.19	0.06	1.42	0.12	202.0	15.0	0.0	23.90	18.75	68.10
200	53	56	26	30	3.50	38.70	10.33	87	2.29	2.00	7.90	0.26	0.02	1.29	0.00	193.4	21.0	0.0	11.80	20.76	63.50
180	73	63	14	49	2.00	33.80	11.82	93	9.37	2.96	11.69	0.68	0.03	1.28	0.00	182.0	12.0	0.0	17.20	24.34	64.10
08. Reka TRESKA - PRED VLIV VO VARDAR																					
180	40	64	20	44	1.60	36.30	11.80	101.0	2.56	2.53	9.99	0.01	<0.01	0.51	0.06	201.3	9.6	0.0	6.50	14.42	57.50
146	54	20	5	15	1.00	32.30	9.97	95.0	1.44	1.43	5.65	0.05	0.01	0.15	0.01	185.0	6.0	0.0	8.90	15.01	58.80
167	33	97	75	22	2.00	32.60	10.14	97.6	1.55	1.75	6.91	0.02	0.01	0.07	0.01	174.5	12.0	0.0	11.80	15.71	58.00
203	37	59	9	50	2.50	40.20	10.17	105.0	1.49	1.97	7.78	0.10	0.01	0.48	0.02	214.0	15.0	0.0	16.00	17.54	47.00
191	56	54	45	9	3.50	46.00	9.45	101.0	4.24	2.38	9.40	0.00	0.01	0.47	0.02	238.0	21.0	0.0	13.50	12.95	14.31
222	48	75	21	54	5.00	49.00	10.19	111.0	2.69	2.78	10.98	0.00	0.04	0.91	0.01	238.0	30.0	0.0	2.30	13.98	52.80
190	80	26	13	13	2.50	43.60	9.85	107.0	3.22	5.80	22.91	0.02	0.04	0.67	0.01	235.0	15.0	0.0	16.70	16.65	52.10
225	65	40	9	31	2.00	48.70	10.92	106.0	2.22	1.94	7.66	0.11	0.07	0.87	0.02	273.0	12.0	0.0	15.70	11.77	74.10
200	53	76	20	56	2.00	39.00	10.49	96.0	2.13	2.24	8.85	0.20	0.01	0.83	0.00	213.5	12.0	0.0	20.10	15.91	68.40
226	82	34	12	22	2.00	46.80	10.14	82.0	1.81	1.68	6.64	0.16	0.01	0.77	0.00	261.0	12.0	0.0	25.90	18.26	76.20

			Tvrdina					Stetni i opasni materii													Vkupna beta
Magnez.	Natrium	Kalium	Vkupna		Karbonatna		Nekarbon.	Zelezo	Mangan	Olovo	Cink	Kadmium	Hrom	Nikel	Kobalt	Bakar	Srebro	Sulfidi			radioakivnost
mg/l Mg^{2+}	mg/l Na^{+}	mg/l K^{+}	°dH	mg/l	°dH	mg/l	°dH	µg/l Fe	µg/l Mn	µg/l Pb	µg/l Zn	µg/l Cd	µg/l Cr+6	µg/l Ni	mg/l Co	µg/l Cu	mg/l Ag	Vk. mg/l	mg/l H_2S	mg/l HS^{-}	Bq/l
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	64	68	69	70	71
								01. Reka VARDAR - RADUSA													
5.00	6.00	0.23	9.3	166.2	5.9	105.5	3.4	19.000	70.000	5.350	1.600	0.011	10.440	0.360	-	4.050	-				-
4.70	3.90	0.68	8.3	148.4	5.4	96.5	2.9	27.000	11.000	2.580	0.000	0.000	4.000	3.610	-	4.050	-				-
5.10	2.71	0.61	7.1	126.9	4.9	87.6	2.2	16.000	1.000	0.560	<1	0.000	7.260	1.230	-	1.54	-				-
14.10	4.40	0.71	10.0	178.8	6.0	107.3	4.0	32.000	5.000	0.000	<1	0.155	13.610	0.000	-	0.000	-				-
6.82	3.72	0.77	4.6	82.2	4.1	73.3	0.5	54.000	4.000	0.000	1.400	0.069	4.550	0.030	-	1.610	-				-
10.90	3.00	9.10	7.1	126.9	2.9	51.8	4.2	16.000	0.000	2.320	<1	0.111	14.720	0.000	-	2.300	-				-
7.90	1.60	0.90	6.7	119.8	4.2	75.1	2.5	0.000	13.000	0.000	<1	0.113	5.150	0.070		2.060					
8.50	3.52	1.65	11.2	200.2	7.7	137.6	3.5	37.000	13.000	0.310	<1	0.001	12.940	0.030		4.900					
7.20	2.72	0.57	11.1	198.4	2.8	50.1	8.3	0.000	8.000	0.070	0.006	0.000	0.000			5.970					
6.10	2.80	3.24	5.6	100.1	2.7	48.3	2.9	55.000	6.000	0.570	<1	0.000	3.980	0.610		0.880					
14.10	6.00	9.10	11.2	200.2	7.7	137.6	8.3	55.000	70.000	5.350	1.600	0.155	14.720	3.610		5.970		0.0000	0.0000	0.0000	
4.70	1.6	0.23	4.6	82.2	2.7	48.3	0.5	0.000	0	0.000	0.000	0.000	0.000	0		0.0000		0.0000	0.0000	0.0000	
7.63	3.44	1.85	8.1	144.8	4.7	83.3	3.4	25.600	13.100	1.176	0.751	0.046	7.665	0.660		2.736		#DIV/0!	#DIV/0!	#DIV/0!	
								02. Reka VARDAR - TAOR													
13.60	11.64	4.60	10.9	194.8	7.3	130.5	3.6	111.000	15.000	1.210	13.600	0.357	2.1000	2.300		3.080		0.0000			-
6.50	6.80	1.80	9.1	162.7	7.2	128.7	1.9	96.000	10.000	3.190	0.000	0.000	0.000	0.520		5.240		0.1368			-
7.70	5.10	1.30	9.4	168.0	7.6	135.9	1.8	174.000	10.000	0.100	<1	0.000	0.000	0.000		4.790		0.4615			-
14.30	8.00	1.34	12.0	214.5	8.1	144.8	3.9	466.000	26.000	0.000	<1	0.042	1.470	0.000		6.970		0.0000			-
12.41	7.43	1.90	10.3	184.1	9.8	175.2	0.5	237.000	6.000	0.000	3.700	0.490	2.130	0.070		1.780		0.1404			-
15.70	9.44	2.5	11.1	198.4	6.0	107.3	5.1	186.000	2.000	1.190	<1	0.113	1.070	0.940		3..81		0.0000			-
13.40	5.00	2.30	10.9	194.8	8.1	144.8	2.8	165.000	30.000	0.240	<1	0.035	3.300	1.380		3.300		0.0000			
18.20	6.20	2.41	14.3	255.6	8.4	150.2	5.9	108.000	43.000	0.140	23.300	0.146	2.870	0.240		6.010		0.0000			
14.40	5.04	1.43	12.5	223.5	7.2	128.7	5.3	18.000	30.000	0.000	12.100	0.000	2.180	0.100		0.470		0.6275			
13.30	5.66	3.24	11.5	205.6	7.2	128.7	4.3	500.000	101.000	0.380	80.600	0.067	2.240	2.150		2.030		0.0000			

			Tvrdina					Stetni i opasni materii													Vkupna beta
Magnez.	Natrium	Kalium	Vkupna		Karbonatna		Nekarbon.	Zelezo	Mangan	Olovo	Cink	Kadmium	Hrom	Nikel	Kobalt	Bakar	Srebro	Sulfidi			radioakivnost
mg/l Mg^{2+}	mg/l Na^{+}	mg/l K^{+}	°dH	mg/l	°dH	mg/l	°dH	µg/l Fe	µg/l Mn	µg/l Pb	µg/l Zn	µg/l Cd	µg/l Cr+6	µg/l Ni	mg/l Co	µg/l Cu	mg/l Ag	Vk. mg/l	mg/l H_2S	mg/l HS^{-}	Bq/l
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	64	68	69	70	71
								07. Reka LEPENEC - USTIE													
8.40	5.30	1.76	7.7	137.6	4.7	84.0	3.0	100.000	9.000	0.880	0.005	0.085	0.740	1.390		5.020					
5.80	4.00	0.95	6.8	121.6	5.0	89.4	1.8	43.000	19.000	2.990	4.600	0.019	0.000	2.380		4.330					
3.20	3.60	1.10	6.6	118.0	4.7	84.0	1.9	20.000	5.000	0.780	<1	0.059	0.000	0.000		1.820					
9.10	5.80	1.81	9.4	168.0	5.5	98.3	3.9	95.000	29.000	0.350	<1	0.020	0.000	0.720		0.000					
34.12	13.57	4.26	13.9	248.5	12.7	227.0	1.2	41.000	76.000	0.000	18.300	0.203	0.400	1.700		5.510					
19.00	19.41	4.12	12.5	223.5	6.5	116.2	6.0	4.000	0.000	1.610	<1	0.154	0.820	2.360		3.950					
14.60	5.30	3.10	10.9	194.8	7.7	137.6	3.2	20.000	10.000	0.320	2.000	0.125	0.710	0.770		3.340					
14.60	5.57	2.04	12.9	230.6	9.3	166.2	3.6	12.000	26.000	0.160	3.100	0.151	0.630	0.420		3.870					
13.20	6.04	5.30	11.9	212.7	2.9	51.8	9.0	9.000	8.000	0.000	25.300	0.111	0.820	0.440		0.780					
10.90	4.84	2.96	11.8	210.9	7.9	141.2	3.9	52.000	17.000	0.390	0.000	0.076	1.080	0.950		4.460					
								08. Reka TRESKA - PRED VLIV VO VARDAR													
11.40	6.30	1.20	10.7	191.3	7.8	139.4	2.9	28.000	9.000	1.220	2.300	0.042	0.000	0.810		3.060					
6.70	6.50	1.53	9.8	175.2	8.3	148.4	1.5	27.000	15.000	3.400	<1	1.160	0.000	1.650		5.270					
10.20	4.05	0.90	10.5	187.7	8.6	153.7	1.9	10.000	3.000	0.470	<1	0.014	0.000	0.570		1.200					
25.70	7.50	1.54	12.5	223.5	7.9	141.2	4.6	57.000	11.000	0.100	<1	0.000	0.000	0.000		0.000					
52.11	7.48	1.43	14.0	250.3	12.9	230.6	1.1	43.000	11.000	0.000	3.200	0.115	0.800	0.280		2.450					
27.70	7.03	2.11	13.7	244.9	8.1	144.8	5.6	15.000	0.000	0.870	<1	0.147	0.380	0.540		2.780					
29.20	3.50	1.50	14.0	250.3	10.1	180.5	3.9	22.000	12.000	0.040	<1	0.000	0.590	0.000		1.920					
20.10	4.20	1.21	15.8	282.4	11.2	200.2	4.6	77.000	12.000	0.090	<1	0.169	0.320	0.000		3.150					
15.00	3.73	1.42	13.0	232.4	2.4	42.9	10.6	0.000	0.000	0.320	8.900	0.000	0.100	0.000		0.020					
20.70	5.08	2.73	15.4	275.3	11.2	200.2	4.2	3.000	4.000	1.010	<1	0.328	1.460	0.000		5.420					

(8) Water Quality (1999)

Table 2.37 River Water Quality in 1999 (HMI)

Red. br.	Labor. br.	Datum na zemanje na probata	Hidroloski pokaz.		Fizicki i organolepticki pokazateli								pH-vred-nost
			Vodostoj H sm	Protek Q m^3/s	Vidlivi otpadni materii	Zabelezliva mirizba	Zabelezliva boja	Vistinska mg/l Pt	Temperatura na °C voda	Temperatura na °C vozduh	Matnost mg/l SiO_2	Matnost NTU	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
01. Reka VARDAR - RADUSA													
1	99 - 043	01.06.1999	154		Bez	Bez	Slabo zamaten	5.0	13.2	29.0	4.0	-	8.08
2	99 - 073	02.07.1999			Bez	Bez	Slabo zamaten	7.5	14.4	25.0	3.0		8.24
3	99 - 093	29.07.1999			Bez	Bez	Slabo zamaten	5.0	15.2	27.8	2.5		8.08
4	99 - 097	16.08.1999	-		Bez	Bez	Bez	5.0	16.0	25.7	3.0		8.15
5	99 - 124	13.09.1999	-		Bez	Bez	Bez	5.0	15.1	18.6	4.0		7.93
6	99 - 153	12.10.1999	99		Bez	Bez	Bez	5.0	12.0	12.7	5.0		8.11
7	99 - 172	15.11.1999			Bez	Bez	Bez	10.0	10.2	8.0	5.0		7.53
02. Reka VARDAR - TAOR													
8	99 - 039	20.05.1999			Bez	Bez	Bez	5.0	12.0	18.9	3.0		8.06
9	99 - 058	16.06.1999			Bez	Bez	Matna	5.0	16.8	22.2	6.0		7.82
10	99 - 080	13.07.1999			Bez	Bez	Slabo zamaten	7.5	17.7	23.6	6.0		7.61
11	99 - 107	18.08.1999			Bez	Na trulez	Bez	5.0	19.2	21.4	3.0		7.63
12	99 - 135	15.09.1999			Bez	Bez	Slabo zamaten	7.5	18.5	24.1	2.5		7.64
13	99 - 164	14.10.1999			Ulje	Bez	Slabo zamaten	7.5	14.7	13.8	4.0		7.83
14	99 - 176	16.11.1999			Bez	Bez	Slabo zamaten	20.0	10.4	8.8	6.0		7.53
07. Reka LEPENEC - USTIE													
43	99 - 027	14.05.1999			Bez	Bez	Matna	10.0	14.4	21.5	3.0		8.40
44	99 - 049	14.06.1999			Bez	Bez	Slabo zamaten	10.0	17.8	23.2	4.0		8.62
45	99 - 075	09.07.1999			Bez	Bez	Slabo zamaten	10.0	20.7	24.8	5.0		8.76
46	99 - 099	16.08.1999			Bez	Bez	Slabo zamaten	5.0	21.5	31.2	5.0		8.15
47	99 - 126	13.09.1999			Ulje	Bez	Bez	7.5	17.2	23.1	5.0		7.98
48	99 - 154	12.10.1999			Bez	Bez	Slabo zamaten	5.0	13.6	23.0	4.0		8.20
49	99 - 174	15.11.1999			Bez	Bez	Slabo zamaten	10.0	10.5	12.0	5.0		7.88
08. Reka TRESKA - PRED VLJV VO VARDAR													
50	99 - 028	14.05.1999			Bez	Bez	Slabo zamaten	10.0	13.4	23.5	2.0		8.34
51	99 - 050	14.06.1999			Bez	Bez	Bez	2.5	17.6	23.8	2.5		8.54
52	99 - 076	09.07.1999			Bez	Bez	Slabo zamaten	5.0	18.7	23.0	4.0		8.58
53	99 - 100	16.08.1999			Bez	Bez	Bez	5.0	20.7	29.0	2.5		8.25
54	99 - 127	13.09.1999			Bez	Bez	Bez	5.0	17.4	22.0	3.0		7.88
55	99 - 155	12.10.1999			Bez	Bez	Bez	5.0	13.6	18.9	3.0		8.16
56	99 - 175	15.11.1999			Bez	Bez	Bez	10.0	10.0	8.0	3.0		7.76

		CO_2		Mineralizacija								
Redox pot.	Sprovodl.	Sloboden	Agresiv.	Cvrsti materii mg/l			Rastvoreni materii mg/l			Suspend. materii mg/l		
mv	$\mu S/sm^2$	mg/l	mg/l	Vkupni	Mineral.	Organ.	Vkupni	Mineral.	Organ.	Vkupni	Mineral.	Organ.
15	16	17	18	19	20	21	22	23	24	25	26	27
		01. Reka VARDAR - RADUSA										
-113	188	0.00	0.00	192	171	21	165	157	8	27	14	13
-122	177	0.00	0.00	169	132	37	124	113	11	45	19	26
-64	187	0.00	0.00	200	152	48	126	112	14	74	40	34
-84	247	0.00	0.00	210	130	80	177	120	57	33	10	23
-77	212	0.00	0.00	250	176	74	155	131	24	95	45	50
-78	340	0.00	0.00	318	293	25	260	250	10	58	43	15
-45	332	0.00	0.00	289	200	89	235	186	49	54	14	40
		02. Reka VARDAR - TAOR										
-122	299	0.00	0.00	272	167	105	159	116	43	113	51	62
-98	360	0.00	0.00	674	564	110	230	149	81	444	415	29
-85	316	0.00	0.00	389	325	64	210	151	59	179	174	5
-52	350	2.60	0.00	350	203	147	244	154	90	106	49	57
-57	350	2.50	0.00	297	135	162	277	130	147	20	5	15
-61	465	2.10	0.00	450	342	108	322	235	87	128	107	21
-47	375	3.96	0.00	315	185	130	150	135	15	165	50	115
		07. Reka LEPENEC - USTIE										
-132	218	0.00	0.00	226	163	63	141	89	52	85	74	11
-145	256	0.00	0.00	240	140	100	170	79	91	70	61	9
-153	310	0.00	0.00	276	215	61	215	165	50	61	50	11
-84	372	0.00	0.00	281	152	129	265	142	123	16	10	6
-80	339	0.00	0.00	290	180	110	230	169	61	60	11	49
-85	370	0.00	0.00	325	278	47	250	235	15	75	43	32
-68	324	0.00	0.00	347	169	178	294	149	145	53	20	33
		08. Reka TRESKA - PRED VLIV VO VARDAR										
-129	271	0.00	0.00	258	175	83	204	135	69	54	40	14
-140	396	0.00	0.00	206	157	49	198	150	48	8	7	1
-142	415	0.00	0.00	368	288	80	291	256	35	77	32	45
-90	410	0.00	0.00	296	213	83	270	197	73	26	16	10
-73	443	0.00	0.00	369	244	125	292	200	92	77	44	33
-82	449	0.00	0.00	363	273	90	263	219	44	100	54	46
-57	411	0.00	0.00	302	206	96	266	200	66	36	6	30

Alkalitet ml/l		Kisloradni pokazateli					Biogeni elementi				Anjoni i katjoni		
		Kislorod	Zasiten.	BPK5	Perm.index mg/l		Amonium	Nitriti	Nitrati	Fosfati	Bikarbon.	Karbon.	Hidroks.
"p"	"m"	mg/l O_2	% O_2	mg/l O_2	O_2	$KMnO_4$	mg/l N	mg/l N	mg/l N	mg/l PO_4^{3-}	mg/l HCO_3	mg/l CO_3^{2-}	mg/l OH^-
28	29	30	31	32	33	34	36	37	38	39	40	41	42
01. Reka VARDAR - RADUSA													
0.10	19.90	12.70	120.0	3.20	2.37	9.36	0.07	0.02	0.40	0.03	82	3	0.0
0.50	15.80	12.47	149.0	1.85	2.7	10.67	0.05	0.03	0.47	0.07	90	3	0.0
1.00	16.70	14.97	148.0	4.20	3.4	13.43	0.08	0.02	< 0.23	< 0.02	90	6	0.0
1.50	24.00	12.20	82.0	1.10	1.42	5.61	1.52	0.01	1.52	0.08	128	9	0.0
1.00	21.30	12.27	121.0	2.80	2.40	9.48	0.01	0.02	0.72	0.08	118	6	0.0
1.50	36.60	12.05	111.0	2.60	1.65	6.52	0.03	0.02	1.06	0.17	206	9	0.0
2.50	34.50	12.81	133	3.51	3.02	11.93	0.13	0.04	1.12	0.00	180	15	0.0
02. Reka VARDAR - TAOR													
1.00	22.50	12.40	114	3.50	0.86	3.40	0.23	0.02	0.34	0.04	125	6	0.0
0.20	30.30	7.85	80.1	7.30	9.90	39.11	0.53	0.10	0.85	0.35	167	9	0.0
1.00	30.10	15.94	166	8.60	4.60	18.17	0.28	0.05	0.56	0.26	153	6	0.0
0.00	34.90	7.26	78	18.20	1.84	7.27	1.00	0.10	2.27	0.45	213	0	0.0
0.00	46.20	8.11	86	9.04	3.00	11.85	0.90	0.07	0.84	0.30	282	0	0.0
0.00	38.80	4.17	8	7.56	3.84	15.17	1.60	0.12	1.38	0.40	237	0	0.0
0.00	37.80	10.10	90	8.86	6.75	26.66	1.10	0.25	0.15	0.30	231	0	0.0
07. Reka LEPENEC - USTIE													
1.00	18.70	12.40	120.3	3.40	2.75	10.86	0.05	0.02	0.34	0.01	102	6	0.0
1.50	23.30	11.80	123	2.80	3.36	13.27	0.10	0.03	0.61	0.02	124	9	0.0
2.50	29.60	10.88	120	1.50	3.40	13.43	0.07	0.02	0.54	0.03	150	15	0.0
2.00	38.50	12.00	134	1.63	1.50	5.93	0.08	0.02	1.54	0.02	210	12	0.0
2.50	33.80	12.50	128	1.83	1.71	6.75	0.01	0.02	0.51	0.08	176	15	0.0
2.00	36.70	12.37	118	2.51	1.24	4.90	0.02	0.02	0.55	0.03	200	12	0.0
2.00	35.30	15.37	137	3.30	2.07	8.18	0.05	0.01	0.99	0.13	191	12	0.0
08. Reka TRESKA - PRED VLIV VO VARDAR													
2.00	31.10	12.50	119.0	1.80	0.86	3.40	0.03	0.01	0.23	0.01	165	12	0.0
2.50	40.30	12.00	124.5	2.20	1.83	7.23	0.04	0.01	0.46	0.01	215	15	0.0
2.50	40.70	12.68	134.0	2.43	2.90	11.46	0.04	0.01	0.74	0.01	218	15	0.0
2.50	44.50	16.34	180.0	4.09	1.17	4.62	0.00	0.01	1.54	0.00	241	15	0.0
2.00	46.30	13.11	165.0	1.81	1.71	6.75	0.00	0.01	0.52	0.02	258	12	0.0
2.00	75.70	14.12	135.0	2.75	1.08	4.27	0.00	0.01	0.48	0.01	437	12	0.0
2.50	42.50	14.30	126.0	2.65	1.80	7.11	0.04	0.02	0.30	0.01	241	15	0.0

Anjoni i katjoni						Tvrdina					Stetni i opasni materii		
Hloridi	Sulfati	Kalcium	Magnez.	Natrium	Kalium	Vkupna		Karbonatna		Nekarbon.	Zelezo	Mangan	Olovo
mg/l Cl^-	mg/l SO_4^{2-}	mg/ Ca^{2+}	mg/l Mg^{2+}	mg/l Na^+	mg/l K^+	°dH	mg/l	°dH	mg/l	°dH	µg/l Fe	µg/l Mn	µg/l Pb
43	44	45	46	47	48	49	50	51	52	53	54	55	56
											01. Reka VARDAR - RADUSA		
8.30	13.40	31.40	4.20	2.60	0.41	5.4	96.5	2.3	41.1	3.1	39.600	6.400	0.020
10.40	10.59	34.40	3.70	1.61	0.44	5.7	101.9	2.9	51.8	2.8	30.294	2.103	0.180
6.80	12.40	34.10	3.80	1.52	2.10	5.6	100.1	3.1	55.4	2.5	70.000	6.000	0.200
9.80	15.05	47.50	5.00	4.32	1.31	7.9	141.2	4.3	76.9	3.6	35.000	5.000	0.240
7.50	12.50	37.30	5.60	4.47	2.02	6.5	116.2	2.2	39.3	4.3	45.000	3.000	0.000
11.10	16.03	63.10	10.30	6.03	2.10	11.2	200.2	7.5	134.1	3.7	13.000	9.000	0.100
8.80	17.94	62.90	8.00	5.67	1.51	10.6	189.5	7.5	134.1	3.1	4.000	15.000	0.000
											02. Reka VARDAR - TAOR		
7.60	13.40	38.30	8.80	2.26	1.01	4.2	75.1	0.8	14.3	3.4	44.000	13.000	0.180
15.40	28.11	60.10	9.10	5.77	1.86	10.5	187.7	6.9	123.3	3.6	147.720	6.731	0.440
13.40	24.49	52.10	8.30	7.12	2.03	9.2	164.5	6.9	123.3	2.3	47.000	3.000	0.090
13.40	18.98	58.90	11.30	8.30	1.80	10.8	193.1	6.5	116.2	4.3	124.000	12.000	0.100
24.80	64.02	59.10	7.10	9.45	3.08	9.9	177.0	5.8	103.7	4.1	76.000	54.000	0.470
19.90	66.98	73.10	15.80	17.20	5.70	13.9	248.5	9.6	171.6	4.3	214.000	62.000	0.820
12.70	27.78	62.90	13.30	10.00	2.67	12.1	216.3	7.8	139.4	4.3	132.000	53.000	0.000
											07. Reka LEPENEC - USTIE		
7.60	10.60	33.70	6.10	2.41	1.17	6.1	109.0	2.5	44.7	3.6	55.000	22.000	0.000
8.60	15.43	44.10	7.30	1.97	0.58	7.8	139.4	4.6	82.2	3.2	20.050	6.253	0.370
6.50	31.43	55.00	7.70	8.50	2.57	9.5	169.8	7.7	137.6	1.8	36.000	49.000	0.670
13.00	20.68	63.00	13.80	7.34	2.80	12.0	214.5	7.5	134.1	4.5	45.000	13.000	0.500
11.50	17.94	57.10	9.70	7.95	3.77	10.2	182.3	6.4	114.4	3.8	67.000	29.000	0.000
14.20	19.30	58.90	11.90	10.93	3.46	11.8	210.9	6.9	123.3	4.9	22.000	19.000	0.000
8.30	17.94	55.20	10.70	8.80	4.95	9.8	175.2	6.8	121.6	3.0	0.000	36.000	0
											08. Reka TRESKA - PRED VLIV VO		
6.90	11.80	47.40	12.70	2.96	1.38	9.5	169.8	5.9	105.5	3.6	39.000	14.000	0.000
13.10	14.22	6.00	51.70	3.43	0.46	12.7	227.0	8.6	153.7	4.1	15.840	12.345	0.030
14.80	29.32	61.90	19.10	9.43	1.70	13.0	232.4	9.4	168.0	3.6	23.000	8.000	1.460
16.10	14.75	63.00	21.30	6.70	1.70	13.7	244.9	7.9	141.2	5.8	32.000	6.000	0.060
18.20	15.38	70.10	18.20	9.35	2.82	14.0	250.3	9.9	177.0	4.1	43.000	11.000	0.000
16.00	14.16	71.10	20.40	8.60	1.77	14.6	261.0	10.1	180.5	4.5	20.000	11.000	0.000
11.00	16.34	56.10	24.90	8.50	2.91	13.6	243.1	8.2	146.6	5.4	0.000	12.000	0.000

Stetni i opasni materii										Vkupna beta	Bioloski pokazateli	
Cink	Kadmium	Hrom	Nikel	Kobalt	Bakar	Srebro	Sulfidi			radioakivnost	Stepen na saprobn.	Index na
µg/l Zn	µg/l Cd	µg/l Cr+6	µg/l Ni	mg/l Co	mg/l Cu	mg/l Ag	Vk. mg/l	mg/l H_2S	mg/l HS^-	Bq/l	ili biol. produktivn.	saprob.
57	58	59	60	61	62	64	68	69	70	71	78	79
3.300	0.020	5.640	0.350	-	4.720	-				-		
1.800	0.029	9.400	0.160	-	3.060	-	0.7477	0.0344	0.7133	-		
8.300	0.140	7.090	1.400	-	<1	-	0.4486	0.0323	0.4163	-		
1.500	0.495	6.520	1.370	-	0.000	-	0.0000	0.0000	0.0000	-		
0.000	0.181	5.660	1.700	-	6.180	-	0.1495	0.0125	0.1370	-		
0.400	0.031	14.940	0.000	-	5.620	-	0.0000	0.0000	0.0000	-		
0.000	0.202	6.700	0.000	-	3.930	-	0.0000	0.0000	0.0000	-		
1.600	0.022	1.9700	0.990	-	4.460	-	0.1416	0.0105	0.1311	-	b-a mezosaprobna	2.34
0.500	0.129	6.590	2.120	-	6.130	-	0.2991	0.0347	0.2644	-	a-mezosaprobna- p	4.35
2.400	1.134	2.650	1.510	-	<1	-	0.5981	0.1059	0.4922	-	b-a mezosaprobna	2.40
4.600	0.471	0.000	0.760	-	0.000	-	0.0000	0.0000	0.0000	-	a-b mezosaprobna	2.57
62.700	0.332	13.470	2.750	-	5.610	-	0.0000	0.0000	0.0000	-	b-a mezosaprobna	2.47
11.500	0.100	3.740	1.170	-	9.770	-	0.0000	0.0000	0.0000	-	b-a mezosaprobna	1.75
5.500	0.056	1.490	3.180	-	4.540	-	0.0000	0.0000	0.0000	-	a-mezosaprobna- p	3.52
10.100	0.198	0.270	0.830	-	2.430	-	0.0000	0.0000	0.0000	-		
4.500	0.132	0.870	1.270	-	1.880	-	0.1495	0.0023	0.1472	-		
10.100	0.279	0.700	1.550	-	<1	-	0.4486	0.0063	0.4423	-		
10.300	0.211	0.140	1.170	-	0.000	-	0.0000	0.0000	0.0000	-		
23.200	0.411	6.140	1.050	-	8.400	-	0.1495	0.0099	0.1396	-		
19.300	0.123	2.810	0.400	-	10.290	-	0.0000	0.0000	0.0000	-		
4.3	0.115	0.000	0.330	-	4.890	-	0.0000	0.0000	0.0000	-		
VARDAR												
12.400	0.075	0.000	1.780	-	2.640	-	0.0000	0.0000	0.0000	-	b-a mezosaprobna	1.89
0.000	0.132	1.330	0.040	-	0.760	-	0.0000	0.0000	0.0000	-	b-a mezosaprobna	2.00
2.600	0.208	<1	0.610	-	<1	-	0.4486	0.0099	0.4387	-	b-a mezosaprobna	2.00
2.500	0.129	0.040	1.920	-	0.000	-	0.0000	0.0000	0.0000	-	b-a mezosaprobna	1.67
0.600	0.220	1.250	2.400	-	6.550	-	0.0000	0.0000	0.0000	-	b-a mezosaprobna	1.87
0.900	0.116	0.480	0.350	-	6.860	-	0.0000	0.0000	0.0000	-	b-a mezosaprobna	2.14
1.900	0.263	0.000	0.000	-	4.640	-	0.0000	0.0000	0.0000	-	b-a mezosaprobna	2.00

2.5 Current Situation of Water Quality Monitoring and Issues (Law System, Monitoring System, Analysis Technique)

2.5.1 Current Situation of Water Quality Monitoring

Water quality monitoring is clearly described in Chapter Ⅴ, Law on Environment 2005. MEPP has already enacted National Environmental Monitoring Strategy and National Environmental Data Management in which monitoring organization, monitoring procedure, parameters and monitoring report, etc are described. In order to secure data accuracy, national monitoring plan is given the first priority. At the time of enactment of new Law on Waters, municipalities shall establish local monitoring network in cooperation with national water quality monitoring network and all data will be reported to MEPP information center.

There are two kinds of water quality monitoring; one is to monitor environment and another to monitor pollution sources in the form of domestic and industrial wastewater.

(1) Environmental monitoring

Environmental monitoring of river, lake, etc, has been improved by EU's assistance in the form of supply of analyzer and equipment, training and information center project, etc.

As for environmental water quality, MEPP information center has established a database using the data transmitted from HMI (Hydro Meteorological Institute) under MAFWE (Ministry of Agriculture, Forest and Water Economy) and CHPI (City Health Protection Institute) laboratories under Ministry of Health. HMI is also analyzing groundwater quality and the data is transmitted to MEPP information center. Vodovod's laboratory sends data to MEPP information center through the City of Skopje.

MEPP information center has been preparing a pollution map of each water body, white paper. The data information can be accessed by internet.

(2) Pollution source Monitoring (Sewage, Industrial wastewater)

As for sewage and industrial wastewater monitoring, monitoring system is so far not sufficient compared to environmental water quality monitoring due to the concept of self-monitoring by each enterprise. Sewage and industrial wastewater quality analysis have been conducted mainly by MEPP central laboratory and Vodovod's laboratory. MEPP central laboratory has been analyzing them only after report of any accident by inhabitants such as fish is dead. In such cases the inspector visits the site and collects samples to be analyzed by MEPP central laboratory. If the cause of the accident is identified with the analysis result, MEPP has been entrusted to conduct administrative disposition over the factory causing any such accident.

MEPP information center has been collecting and establishing a database using the data obtained from MEPP central laboratory, from the enterprise or out-sourcing laboratories. However, this kind of data is still very limited. With the start of IPPC system, regular industrial wastewater monitoring has just started in 2008. An inspector is scheduled to collect samples once a month in principle.
MEPP information center has prepared cadastre of pollutants of each installation to show main polluters on Auto CAD with the information of existing analysis results and quality and quantity of kinds of pollutants including toxic substances.

Vodovod regularly collects samples of outlets of sewage and industrial wastewater along Vardar River and its tributaries and analyzes them. However, in the laboratory of Vodovod, AA (Atomic absorption analyzer) is not available to analyze heavy metals. Tendering process to purchase this equipment has already been finished and Vodovod expects to have this equipment around June 2008.

Alkaloid (Chemical industry) and OKTA (Oil refinery, located out of area of this Study) are the only industries that can conduct self-monitoring of its own industrial wastewater through analysis in its own laboratories and send the results to MEPP information center.

2.5.2 Reliability of Monitoring

Regarding the monitoring system or network of environmental monitoring, HMI has been implementing surface water quality monitoring based on the designated type of water body; not with all parameters designated by the law. The data is sent to MEPP information center. Although, the issue will be how the City of Skopje and other municipalities can involve themselves in monitoring with financial background in future, the data by the laboratories of HMI, CHPI and Vodovod will be enough for the time being.

MEPP central laboratory is equipped with ICP, GC-Mass, liquid chromatography, UV/photo mater, TOC analyzer, etc. granted by EU. (Refer to Table 1.2) EU also carried out training on how to use the analyzers. However, at present there is no staff in MEPP central laboratory to handle GC-mass and TOC analyzer. Biological test is not conducted. This laboratory has a potential capacity of analyzing complicated industrial wastewater quality; but it seems there is lack of personnel resources including number of staff members.

The laboratories of Vodovod, HMI and Republic Health Protection Institute are also analyzing industrial wastewater quality. As mentioned earlier, Vodovod can not analyze heavy metal because its laboratory is not equipped with AA at present.

The laboratory of Republic Health Protection Institute is the only one laboratory accredited in Macedonia for analyzing drinking water quality. It analyzes industrial wastewater quality only upon request. HMI also analyzes industrial wastewater quality upon request.

Analyzers are common in analysis of environment, sewerage and industrial wastewater quality. However sewage and industrial wastewater contain very complicated matrix. That is why in-depth knowledge and abundant experiences of analysis, in particular, of pre-treatment of industrial wastewater sample is required. As an overall impression of existing level of sewage and industrial wastewater analysis in various laboratories, basic knowledge and training are insufficient and the followings should be improved.

- Insufficient understanding of accuracy management
  - The analysts understand general analysis procedures; however, knowledge and equipment for pre-treatment of sample in sewage and industrial wastewater analysis are insufficient.
  - Lack of the concept of accuracy management. Except MEPP central laboratory, laboratories indicate the analysis result as “O” or meaningless four or five effective figures.
  - Insufficient knowledge of advantages and disadvantages, limits, application conditions of analyzers
  - Insufficient knowledge of the meaning and amount of reagents to be added

In this Study, thirteen (13) points of river water quality, three (3) sewage outlets and two (2) outlets of industrial wastewater quality were analyzed twice. Based on the replies of the analysts to the questions of the Study team regarding the results, the above issues were justified.

- No unified analysis standards of sewage and industrial wastewater

As for quality analysis of drinking water, there is a law “Sampling and Laboratory Analyses of Drinking Water 1987”. On the other hand, there are no unified analysis procedures for sewage and industrial wastewater quality analysis. Each laboratory refers to the procedure above or uses other procedures.

- Absence of appropriate analysis manual

In analysis manuals, the procedures on preparation of reagents and amount of ml of reagents to be added are written. However, detailed pre-treatment procedures or what needs to be paid attention to during analysis procedures are not described. In addition, there is no clear flowchart showing the procedures, and in most cases the manuals have been prepared by themselves and only simple procedures are written. Even the analyst could not answer such simple questions that how he/she

conducted pre-treatment or how many ml of reagent was consumed to get such a low value.

- There is no accredited official laboratory for sewage and industrial wastewater analysis

HMI and MEPP central laboratories are aiming to get ISO 17025. However, only MEPP central laboratory seems to have the potentiality to get it from view points of analyzers and accuracy management. Furthermore, there is no doubt that MEPP shall have the initiatives in environmental problems. From the roles of the MEPP central laboratory, it is expected to become an accredited official laboratory in Macedonia.

To assist MEPP central laboratory to get ISO 17025, the following assistances for certain period will be necessary;

- Preparation of unified analysis manual by the central laboratory
- Analysis accuracy management including preparation and storage of reagents, pre-treatment procedure, detail manuals of what to pay attention to in analysis processes;
- Data management

2.6 Specification of Pump Station

Table 2.38 Existing Pumping Station

Existing pumping station

Sewerage pump stations	capacity		Flow	Head	Power	pump	engine	Operational system	elevation
	Max capacity for actual flow rate	Capacity of the installed pump						radio/cabel type/model/status	
	l/s	l/s	l/s	m	kW	type/model	type/model		m nmv
1. SPS Madzari 1 (Sin|elic-Cento)	460	460	1 x 90 = 90 l/s 1 x 250 = 250 l/s 1 x 120 = 120 l/s	H=10 m H = 8 m H=8 m	1 x 15 kW 1 x 25 kW 1 x 22.5 kW	EMU 15-84D-223 FLYGT CP3201 LT FLYGT CP3201 MT	T 20.1-4/22G - -	Automatic level detector	
2. SPS Madzari 2 (curch)	180	180	2 x 90 = 180 l/s	H = 10 m	2 x 15 kW	EMU FA 15-52E-260	T.21-4/22K	Automatic level detector	
3. SPS Madzari 2a (sahta)	150	240	1 x 150 = 150 l/s 1 x 90 = 90 l/s	H = 10 m H = 10 m	1 x 22 kW 1 x 15 kW	FLYGT CP3201 MT EMU FA 15-52E-260	- T.21-4/22K	Automatic level detector	
4. SPS Makosped/Ind ustrija	180	270	1 x 90 = 90 l/s 2 x 90 = 180 l/s	H = 10 m H = 10 m	1 x 15 kW 2 x 13.5 kW	EMU 15-84D-223 FLYGT CP3152 LT	- -	Automatic level detector	
5. SPS Staro Lisice	80	160	2 x 80 = 160 l/s	H = 13.5 m	2 x13.5 kW	FLYGT CP3152 MT	-	Automatic level detector	
6. SPS Novo Lisice	660	860	1 x 400 = 400 l/s 2 x 130 = 260 l/s 1 x 200 = 200 l/s	H=10.10 m H = 13 m H = 13 m	1 x 65 kW 2 x 22 kW 1 x 22 kW	EMU FA25.93D-430 kor FLYGT CP3201 MT FLYGT CP3201 LT	T34-6/41K - -	Automatic level detector	
7. SPS Dracevo	140	140	1 x 90 = 90 l/s 2 x 70 = 140 l/s	H = 10 m H = 14 m	1 x 15 kW 2 x 13.5 kW	EMU FA 15-52E-260 FLYGT CP3151 MT	-	Automatic level detector	
8. SPS „11 Oktomvri"	170	170	1 x 170 = 170 l/s	H = 10 m	1 x 22 kW	FLYGT CP3200 MT	-	Automatic level detector	
Stormwater pump stations								Automatic level detector	
1. PS Vojvodina	90	90	2 x 45 = 90 l/s	H = 10 m	2 x 11 kW	Jugoturbina KP "S"-27-12, 5/11	KONČAR	Automatic level detector	
2.PS BULEVAR SRBIJA	27	27	2x60 l/s	H=15 m	2 x 13.5 kW	FLYGT NP3153 MT		Automatic level detector	
3. PS Podvoznik (Bihacka)	160	160	2 x 80 = 160 l/s	H = 8 m	2 x 8,8 kW	FLYGT CT3152 MT	-	Automatic level detector	

(Source: Vodovod)

2.7 Sewerage Outlet

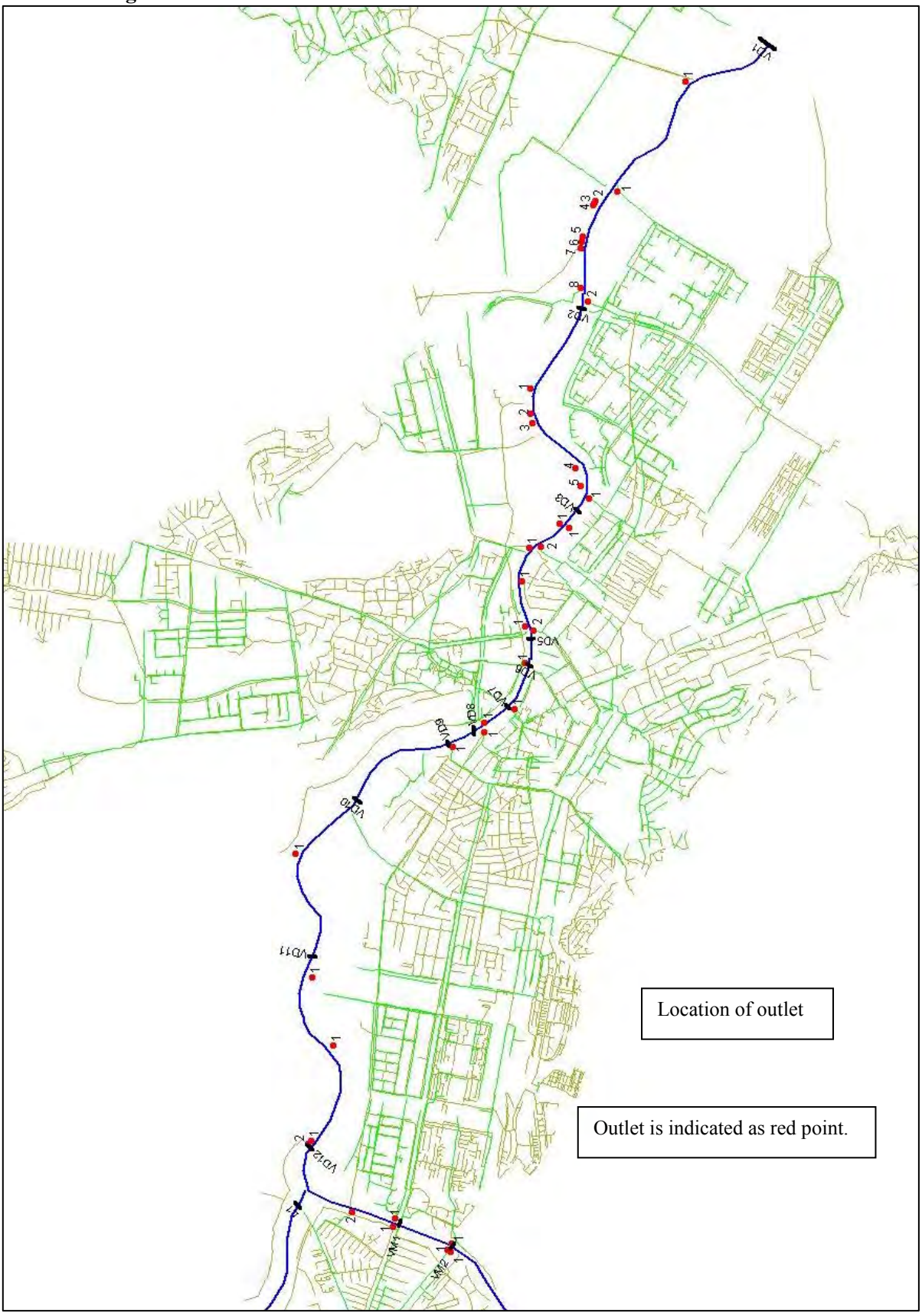

Figure 2.1 Outlet Map

Table 2.39 Detail of Outlet

Date	Time	Location	Bank		No	Diameter	Flow Volume	Water Quality	Remarks
			Left	Right					
16-Oct	15:00	VD1-2		○	1	2000	H=15-20cm		
16-Oct	14:40	VD1-2		○	2	2500	H=1/4、V=1m/s	sewer	
16-Oct	15:50	VD1-2	○		1	1200	H=1/5、V=1m/s	sewer	
16-Oct	16:10	VD1-2	○		2	1200	little	clean	
16-Oct	16:20	VD1-2	○		3	700	H=3cm	dye wastewater?	
16-Oct	16:20	VD1-2	○		4	1200	H=5cm	dye wastewater?	
16-Oct	16:20	VD1-2	○		5	2000	much	brown color (ind wastewater)	
16-Oct	14:50	VD1-2	○		6		none	industrial wastewater	
16-Oct	16:30	VD1-2	○		7	500	H=1/4、V=0.5m/s	not sewer	
17-Oct	15:30	VD1-2	○		8	1200	H=3cm、V=0.3m/s	sewer	
5-Oct	14:20	VD2-3		○		2000	much. H=1/3、V=0.2-0.3	sewer	
17-Oct	15:50	VD2-3	○		1	1000	H=1/5、V=1m/s	sewer. Mix with industrial wastewater?	
17-Oct	15:50	VD2-3	○		2	400	H=3cm、V=0.3m/s	industrial wastewater	
17-Oct	16:00	VD2-3	○		3	800	H=3cm、V=0.5m/s	industrial wastewater	
17-Oct	16:00	VD2-3	○		4	300	H=10cm、V=1m/s	clean	
17-Oct	16:10	VD2-3	○		5	500	H=20cm、V=1.5m/s	industrial wastewater	
17-Oct	16:20	VD3-4		○	1	300	none	industrial wastewater	
5-Oct	14:10	VD3-4		○	2	1000	H=5cm	sewer	
17-Oct	16:30	VD3-4	○			200	H=2cm	industrial wastewater	
5-Oct	11:30	VD4-5		○	1	600	H=10cm	good	
5-Oct	11:10	VD4-5		○	2	500	H=3cm	sewer	
5-Oct	11:40	VD4-5	○		1	1000	H=15cm	good. Existance of algae.	
5-Oct	11:30	VD4-5	○		2	500	H=3cm	sewer	
5-Oct	11:50	VD5-6	○		1	1200	WL in pipe is higher than water level in river. V=10cm/s.		

Date	Time	Location	Bank		No	Diameter	Flow Volume	Water Quality	Remarks
			Left	Right					
5-Oct	11:50	VD6-7		○	1	500	little		
5-Oct	10:40	VD7-8		○	1		little	rain water? Domestic sewer mixed?	
5-Oct	12:00	VD7-8	○		1		none		sand sedimentation
5-Oct	10:30	VD8-9		○	1		much	foutain water? Clean	
24-Oct	16:10	VD9-10		○		800	H=10cm、V=0.3m/s		
24-Oct	15:50	VD10-11		○	1	1000	H=2cm、V=0.3m/s		
24-Oct	15:50	VD10-11		○	2	1000	H=15cm、V=1m/s	clean	
25-Oct	16:00	VD10-11	○				equivalent to full flow of dia 300. V=0.5m/s		
25-Oct	15:00	VD11-12	○		1		equivalent to half flow of Dia 1000. V=1m/s	sewer?	
25-Oct	15:00	VD11-12	○		2		equivalent to half flow of Dia 300. V=0.3m/s	clean	
25-Oct	15:20	VD11-12		○	1	1000	H=10cm、V=0.5m/s		
25-Oct	15:00	VD11-12		○	2			industrial wastewater	
7-Oct	14:20	VD12-VM1		○		500	none	industrial wastewater? Not used for a long time?	
25-Oct	14:40	VD12-VM1	○		1	1000	H=5cm、V=0.3m/s	industrial wastewater	
7-Oct	14:20	VD12-VM1	○		2	500	little	sewer	
7-Oct	14:00	VM1-2		○	1		little		
7-Oct	14:00	VM1-2	○		1				identified from facing bank
7-Oct	14:00	VM2-VU1	○		1	U-type gutter	none		

VD1-2: Right Bank
No 1

VD1-2: Right Bank
No 2

VD1-2: Left Bank
No 1

VD1-2: Left Bank
No 2

VD1-2: Left Bank
No 3

VD1-2: Left Bank
No 4

VD1-2: Left Bank
No 5

VD1-2: left Bank
No 6

VD1-2: Left Bank
No 7

VD1-2: Left Bank
No 8

VD2-3: Right Bank
No 1

VD2-3: Left Bank
No 1

VD2-3: Left Bank
No 2

VD2-3: Left Bank
No 3

VD2-3: Left Bank
No 4

VD2-3: Left Bank
No 5

VD3-4: Right Bank
No 1

VD3-4: Right Bank
No 2

VD3-4: Left Bank
No 1

VD4-5: Right Bank
No 1

VD4-5: Right Bank
No 2

VD4-5: Left Bank
No 1

VD4-5: Left Bank
No 2

VD5-6: Left Bank
No 1

VD6-7: Right Bank
No 1

VD7-8: Right Bank
No 1

VD7-8: Left Bank
No 1

VD8-9: Right Bank
No 1

VD9-10: Right Bank
No 1

VD10-11: Right Bank
No 1

VD10-11: Right Bank
No 2

VD10-11: Left Bank
No 1

VD11-12: Left Bank
No 1

VD11-12: Left Bank
No 2

VD11-12:Right Bank
No 1

VD11-12: Right Bank
No 2

VD12-VM1: Right Bank
No 1

VD12-VM1: Left Bank
No 1

VD12-VM1: Left Bank
No 2

VM1-2: Right Bank
No 1

VM1-2: Left Bank
No 1

VM2-VU1: Left Bank
No 1

2.8 Situation of Industrial Wastewater Management

Table 2.40 Situation of Industrial Wastewater Management

No.	Company/Factory Name	Treatment plant	Discharge hope	Willing to pay	Pollution controller	Own laboratory	ISO9000 or 14000	Recirculation of water	Measurement		Sampling No.
									Water supply	Wastewater	
1	Ading AD	No	Sewer	No	Yes only monitoring	Other	Yes	No	Meter	No	2
2	TGS Tehnicki gasovi	-	Sewer	Yes	-	-	Yes	No	Meter	No	0
3	ARCELORMITTAL STEEL	Sedimentation, Neutralization, oil separator	Sewer	Yes	Yes	Other	Yes	Yes	Meter	No	4
4	Makstil	Sedimentation, Filtration, Oil separator,	Sewer	Yes	Yes	Other	Yes	Yes	Meter	No	4
5	Rz Uslugi	No (Pond)	Sewer	Yes	-	Other	No	Yes	Meter	No	1
6	Replek Farm	No	Sewer	No	No	Yes	No	No	Meter	No	4
7	Zito Luks - Suto Orizari	No	Sewer	Yes	No	-	Yes	No	Meter	No	0
8	Fitofarm	No	Sewer	Yes	No	-	No	No	Meter	No	0
9	Klinicki centar	No	Sewer	Yes	No	-	No	No	Meter	No	0
10	Gradska bolnica	No	Sewer	Yes	No	-	No	No	Meter	No	0
11	Voena bolnica	No	Sewer	Yes	-	-	No	No	Meter	No	0
12	~~Alkaloid AD Laforma~~	Yes	Sewer	No	No	Yes	Yes	No	Meter	No	7
13	Alkaloid AD-pharmaceutical	No	Sewer	No	No	Yes	No	No	Meter	No	7
14	Alkaloid AD-Herbs	-	Sewer	No	No	Yes	Yes	Yes	Meter	No	9
15	ALKALOID PREMAZI DOOEL	-	Sewer	No	No	Yes	No	No	Meter	No	7
16	Kanar 92	No	-	-	Yes	-	-	No	Meter	No	0
17	MZT energetika	No	Sewer	Yes	Yes	-	No	Yes	Meter	No	0
18	MZT Hepos	Sedimentation, Filtration, Oil separator,	Sewer	-	Yes	Yes	Yes	Yes	Meter	No	5
19	MZT Learnica	No	Sewer	Yes	Yes	-	Yes	Yes	Meter	No	1
20	Sanos Bus	-	-	-	-	-	-	Yes	Bill	No	0
21	Evropa A.D.	No	Sewer	-	-	Other	-	No	Meter	No	1
22	JSP - Gjorce Petrov	No	Sewer	Yes	No	Other	No	No	Meter	No	5
23	JSP - Avtokomonda	No	Sewer	Yes	No	Other	No	No	Meter	No	2
24	Energetika - ELEM	No (only pool for neutralization)	Sewer	Yes	Yes	Yes	Yes	Yes	Meter	No	0
25	Skopski Leguri	No (Sedimentation only for recirculation)	Sewer	-	Yes	Yes	No	Yes	Meter	No	0

No.	Company/Factory Name	Treatment plant	Discharge hope	Willing to pay	Pollution controller	Own laboratory	ISO9000 or 14000	Recirculation of water	Measurement		Sampling No.
									Water supply	Wastewater	
26	Komuna	No	Sewer	No	No	Other	No	Yes	Meter	No	3
27	Pivara	No	Water body	No	No	Yes	No	No	Meter	No	
28	Rade Koncar-Kontaktori i relei	Sedimentation, Filtration, Oxidation-decomposition, Neutralization, Reduction-sedimentation with metal coagulant (Fe, Al)	Sewer	No	Yes	Yes	Yes	No	Meter	No	1
29	Ohis AD	Biological treatment, coagulation-sedimentation, Neutralization,	Vardar River	No	Yes	Yes	Yes	No	Meter	No	3
30	Cementarnica Usje	No	Sewer	Yes	No	Other	Yes	Yes	Meter	No	2
31	Mlekarnica Masko	No	Sewer	Yes	No	Other	Yes	No	Meter	No	1
32	Skovin	No	Sewer	Yes	-	-	Yes	No	Meter	No	0
33	M&A beveridzis	No	Sewer	Yes	No	Other	No	No	Meter	No	0
34	Beton AD Skopje	-	-	-	-	-	-	No	-	-	1
35	Globus	No	Sewer	Yes	-	Other	HASSP	No	Meter	No	2
36	Klanica "Vilan"	No	Sewer	-	-	-	No	No	Meter	No	0
37	"Rimes"	Yes	Sewer	Yes	No	Other	No	No	Meter	No	1
38	Lek Skopje	No	Sewer	Yes	No	-	Yes	No	Meter	No	0
39	Drisla	No	Sewer	Yes	No	Other	No	No	Reservoir level	Weir	1
40	AD Toplifikacija - Zapad	No	-	-	No	Yes	Yes	No	Meter	No	1
41	AD Toplifikacija - Istok	No	Sewer	Yes	No	Yes	Yes	No	Meter	-	1
42	AD Toplifikacija - 11 Oktomvri	-	Sewer	Yes	-	-	Yes	No	Meter	No	0
43	MIDA	No	Sewer	No	No	-	Yes	No	Meter	No	0
44	Rade Koncar TEP	Sedimentation	Sewer	No	No	-	Yes	No	Meter	No	0
45	"Promes"	Oil separator	Sewer	-	-	Other	HASSP	No	Meter	No	1
46	Carwash TONI	No	Sewer	Yes	No	-	No	No	No	No	0
47	Carwash Brane	No	Sewer	Yes	No	-	No	No	Water works	No	0
48	Carwash Medzik Kisel	No	Sewer	Yes	No	-	No	No	Lump-sum	No	0
49	AD Toplifikacija - Sever	No	Sewer	No	No	Yes	No	No	Meter	No	1
50	Swiss-lion	No	Sewer	Yes	No	Other	ISO 22000	No	Meter	No	2

2.9 Septic Tank

(1) Skopje have between 20,000 and 30,000 septic tanks (No exact data)

(2) People construct illegal septic tanks (primitive construct) and don't have permission from relevant authority.(The most of septic tanks are old building which made many years before)

(3) In one case toilet is connected outflow only from bath, in another case toilet is connected mix outflow.

(4) There is no engineering standards on structure. People construct individual septic tanks which are different without engineering standard.

(5) Permission for cleaning, removal of sludge is given to Public Enterprise Communal Hygiene. It costs 50 Euro. People ask the private persons for removal of the sludge illegally for 5-12 Euro.

(6) The place near to the bridge on Bullevar Serbija is point where is permitting to put sludge in River Vardar.

(7) The average volume of sludge is 10 m^3 and three times a year, approximately 30 m^3 /year for one septic tank. There are 20,000 to 30,000 septic tanks so the volume of sludge is 600,000 to 900,000 m^3 /year in total.