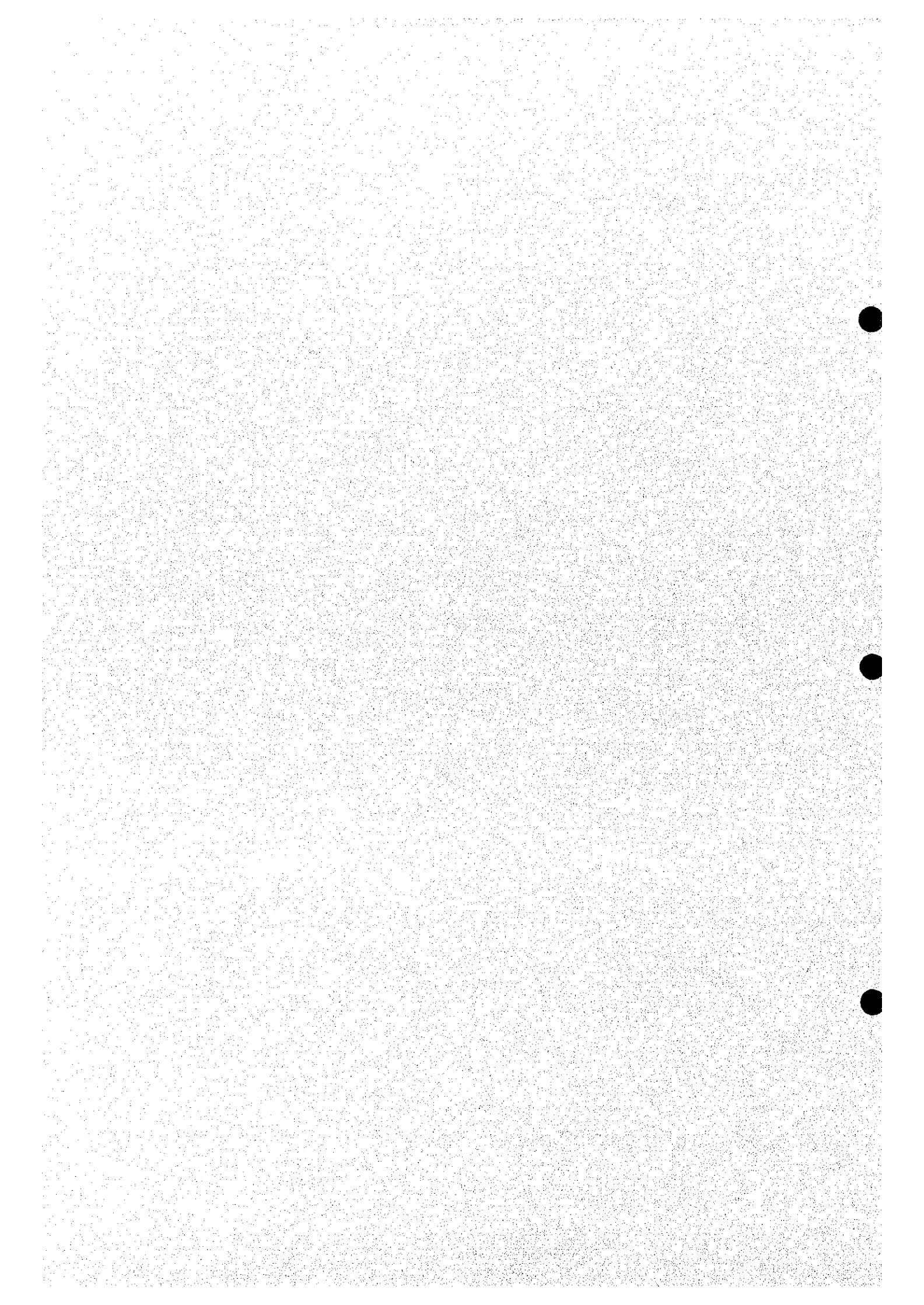


Annex 3

Drinking Water Quality Monitoring



Annex 3 DRINKING WATER QUALITY MONITORING

1. Water Quality Analysis

The Ministry of Health and the Republic Institute for Health Protection (RIHP) has responsibility of water quality test for drinking water including groundwater and spring water. There are ten (10) regional institutes of health protection and twenty (20) local units under the ministry as shown in Figure B.55. The regional institute of health protection can carry out basic water quality analysis, which is equivalent to regular water quality analysis, for drinking water and the RIHP has responsibility of full analysis of chemical components including radiology and pesticides, which is equivalent to periodical water quality analysis.

(1) Regular Water Quality Analysis

According to the regulation for quality and pollution of drinking water (Official Gazette No. 5, 1984), the regular and periodical water quality analyses should be required. The regular water quality analysis is composed of the following components;

- Microbiological component: total coliform bacteria, coliform bacteria of faecal origin and total aerobic mezophile bacteria
- Physical and chemical components: temperature, color, taste, odor, pH, ammonia, nitrate, nitrite, chloride, iron, manganese, $KMnO_4$, and residual chloride

The sampling interval for the regular water quality analysis should depend on the size of population within the water supply system as follows,

Number of population	Sampling interval	Minimum number of samples for each sampling	Minimum number of samples for each month
Less than 5,000	30 days	3	2
5,000 10,000	30 days	4	4
10,000 20,000	15 days	4	8
20,000 50,000	7 days	5	20
50,000 100,000	4 days	6	45
100,000 200,000	2 days	7	105
200,000 400,000	1 day	8	240
More than 400,000	1 day	10	300

(2) Periodical Water Quality Analysis

The periodical water quality analysis is composed of the following components and should be done at least twice a year,

- Same components for the regular water quality analysis
- Calcium, magnesium, fluoride, lead, zinc, copper, selenium, sulphate, and total and carbonate hardness
- Pesticides

In the case of newly established water supply systems, the periodical analysis should be done four times a year and radiological components should be examined twice a year for acquirement of scientific evidence.

There is no indicator of pesticides according to the Republic Institute for Health Protection. However, various kinds of pesticides have been produced for agricultural and industrial uses and the pesticides might be utilized for various purposes. Therefore, the regulation for drinking water should be revised periodically. The water quality analysis for various kinds of newly produced pesticides should be required for safety utilization of the water sources, which are located near or within agricultural and industrial areas.

2. Sanitary Protection Zone

Concerning areas around water sources for public water supply, sanitary protection zones should be established in order to prevent water pollution from human and animal activities. The sanitary protection is regulated in Macedonia and three categories of the sanitary protection zones are defined, i.e., primary (strongly controlled), secondary (restricted), and tertiary (systematically observed) protection zones. The protection zones of the springs for water supply are defined with the regulation for defining and maintenance of the protection zones of the springs for water supply, "Official gazette of R. M. No.17/83, July 1, 1983" and the articles 64, 65 and 66 of the Law on Water, "Official gazette of R. M. No.6/81, March 4, 1981". The sanitary protection zones should be determined according to the following data:

- Type and yield of spring
- Origin and quality of the water
- Direction and speed of ground and surface water in natural conditions and in conditions of water utilization
- Geological structure, pedological characteristics, land configuration, and hydrological and hydrogeological aspects
- Utilization and land management from the viewpoint of water pollution
- Sanitary and technical characteristics of capturing and water distribution
- Current population in the tertiary protection zone, including the existence, development, and the communal infrastructure

The primary sanitary protection zones are most often fenced and well controlled. The secondary sanitary protection zones are prevented from traverse of farmers and animals. The following water

sources are protected in the sanitary protection zones around the water sources. The tertiary sanitary protection zones are very rarely established and not necessarily maintained by communal enterprises or local governments, even if there are regulations for the sanitary protection zones. The following tables show the sanitary protection zones in an area of ha by water source.

City / Town	Water source	Sanitary protection zone (ha)		
		Primary	Secondary	Tertiary
Skopje	Rashche (spring)	36	19,000	191,000
Gostivar	Vrutok (spring)	0.171	8.3	27
Tetovo	Uliverchki (spring), etc.	3.56		
Veles	Reni (well), etc.	9	35	
Pehchevo	Judovi Livadi (intake)	3	100	
Kochani	Grdovski Orman (12 wells)	20		
Struga	Shum (spring)	2.5		
	Radolishta (spring)	1.1		
	Radozhda (spring)	0.1		

The sanitary protection zones are established for the following water sources of the towns,

- Kichevo
- Makedonski Brod
- Kriva Palanka
- Kumanovo
- Sveti Nikole
- Probishtip
- Demir Hisar
- Prilep
- Debar
- Resen
- Ohrid
- Radovish



Annex 4

Legend of Geology



Table AN4.1 Legend of Geology (Polog Valley)

Legend

QUATERNARY / KVARTER			
1	al	Alluvium	Aluvium
2	dpr	Actual alluvial cone	Sovremeni plavinski materijal
3	s	Talus cone	Spari
4	dpr'	Proluvial-diluvial deposits	Proluvijalno-deluvijalen materijal
5	d	Diluvium	Deluvium
6	d	Slope braccia	Padinski brechi
7	pr	Proluvium	Proluvium
8	l1	Limnic terrace (lower terrace)	Ezersko-terasni sedimenti (poniska terasa)
9	l2	Limnic terrace (upper terrace)	Ezersko-terasni sedimenti (povisoka terasa)
10	fgl	Glacioluvial sediments	Glacioluvijalen materijal
11	gl	Morain	Moreni
12	Q	Quaternary in general (only on the profile)	Kvarter vo opshlo (samo na profilot)
TERTIARY / TERCIER			
13	Pl ₃	Sandy clay, sand and marl	Pesoklini glini, pesoci i laporci
14	x	Rhyolite	Rioliti
CRETACEOUS / KREDA			
15	FK ₂ ?	Argillite-phyllite	Argilofiliti
16	K ² ₂	Sandstone, claystone, argilochiste and limestone	Pesochnici, glinci, argiloshisti i varovnici
JURASSIC PERIOD / JURA			
17	Se	Serpentine	Serpentiniti
18	λ	Lamprophyre	Lamprofiri
19	ηJ	Keratophyre	Keratofiri
20	xJ	Rhyolite	Rioliti
21	ββ	Diabase	Dijabazi
22	δJ	Diorite	Dioriti
23	γJ	Granite of Padalishte	Padalishki graniti
24	γJ	Granite of Vrutok	Vrutichki graniti
25	δγJ	Granodiorite	Granodioriti
26	J	Chert	Rozhnaci
27	J	Limestone	Varovnici
28	J	Claystone, sandstone, argilochiste, chert and limestone	Glinci, pesochnici, argiloshisti, rozhnaci i varovnci
TRIASSIC - PALEOZOIC / TRISJA - PALEOZOIK			
29	T _{2,3}	Plate limestone	Plochesti varovnici
30	T ₂ ?	Marbly limestone	Sivobeli mermerizirani varovnici
31	T ₂ ?	Bituminous marble	Bituminozni mermeri
32	T ₂ ?	Dolomite marble	Dolomitski mermeri
33	T ₂	Limestone with chert	Varovnici so rozhnaci
34	T _{1,2} ?	Sandstone and quartzite	Pesochnici i kvarciti
35	T _{1,2} ?	Marbly limestone	Sivobeli mermerizirani varovnici
36	T _{1,2} ?	Series of green-schist and diabose	Serija na zeleni shkrici i dijabazi
37	T _{1,2} ?	Braccia limestone	Brechoidni varovnici
38	T _{1,2}	Limestone with chert	Varovnici so rozhnaci
39	P,T	Quartz-sandstone and quartzite	Kvarcni pesochnici i kvarciti
40	P,T	Quartz-sericite-clayey schist	Kvarc-sericit-glinoviti shkrici
41	SgrPz	Carbonate-graphite schist	Karbonatno-grafitni shkrici
42	A	Amphibolite	Amfiboliti
43	v	Metagabbro	Metagabrovi
44	ββ	Metadiabase	Metadijabazi
45	x	Metarhyolite	Metarioliti
46	FC ₃	Phyllite	Filiti
47	MC ₃	Carbonatic schist and marbly limestone	Karbonatni shkrici i mermerasti varovnici
48	SepC ₃	Metadiabase & green schist	Metadijabazi i zeleni shkrici
49	MD _{1,2}	Plate (sheet) crinoidea marble	Plochesti krinoidski mermeri
50	McaD _{1,2}	Calcutic marble	Kalcitski sivobeli masivni mermeri
51	MdD _{1,2}	Dolomite marble	Dolomitski mermeri
52	MmD _{1,2}	Carbonate schist and plate marble	Karbonatni shkrici i plochesti mermeri
53	SqD _{1,2}	Quartz-chlorite schist	Kvarc-hloritki shkrici
54	D _{1,2}	Meta-sandstone	Metapesochnici
55	QD _{1,2}	Quartzite	Kvarciti
56	D _{1,2}	Meta-conglomerate	Metakonglomerati
57	FD _{1,2}	Phyllitoid	Filitoidi
PALEOZOIC / PALEOZOIK			
58	γ	Granite	Graniti
59	SqsePz ₂	Quartz-sericite schist	Sericit-kvarcni shkrici
60	Sx	Metaquartz porphyry	Metakvarcporfiri
61	ScaPz ₂	Calc schists and marbly limestone	Karbonatni shkrici i mermerisani varovnici
62	Sββ	Varied albitic mostly green schists	Raznovidni albitizirani pretežno zeleni shkrici
63	Sgrse	Graphite sericite-quartz schist	Grafitni sericitkvarcni shkrici
64	Sqm	Quartz mica schist and metasandstone	Kvarc-muskovitski shkrici i metapeschhari
RIFEQ (RIPHEIAN) CAMBRIAN / RIFEJ KAMBRIJUM			
65	M	Plate dolomite and dolomite marble	Plocesti dolomiti i dolomitni mermeri
66	Mm	Cipolin (crystalline limestone) and marble	Cipolini i mermeri
67	Sab	Albitoid phyllite-mica schist and green schist	Albitizirani filitomikasisti i zeleni shkrici
68	Sgr	Graphite schist	Grafitni shkrici
PRECAMBRIAN / PREKAMBRIJUM			
69	δγ	Granodiorite	Granodioriti
70	Mca	Middle grained grey-white calcareous marble	Srednozrnasti sivobeli kalcitski mermeri
71	Md	White-grey fine grained dolomite	Belosivi sitnozrnasti dolomiti
72	M	Dark-grey to black medium grained calcite marble	Temnosivi do crni srednozrnasti kalcitski mermeri
73	M	Grey middle grained calcareous marble with dolomitic layers	Sivi srednozrnasti kalcitski mermeri so prostojci od dolomiti
74	Smba	Quartz-barite mica schist	Kvarc-baritski mikashisti
75	Mm	Cipolin (crystalline limestone) and marble	Cipolini i mermeri
76	Smg	Granat-mica schists	Granatski mikashisti
77	Gab	Albite gneiss	Albitski gnajsevi
78	M'	Marble	Mermeri
79	sm	Mica schist	Mikashisti
80	Sgr	Quartz-graphite mica schist	Kvarc-grafitni mikashisti
81	Smg	Granat-mica schists	Granatski mikashisti
82	Gmb	Two-mica eyed-amygdaloidic gneiss	Dvoliskunski okcastoamygdaloidni gnajsevi
83	Gm	Banded muscovite gneiss	Trakasti muskovitski gnajsevi

Table AN4.2 Legend of Geology (Pelagonija Valley)

Legend

QUATERNARY / KVARTER		
1	al Alluvium	Alluvium
2	pr Slope material	Proluvium
3	d Diluvium	Deluvium
4	b Organogenic marsh (bog iron) sediments	Organogeno-mochurishni sedimenti
5	t River terrace	Rechni terasi
6	fgl Glaciofluvial deposits	Glaciofluvijalni naslagi
7	gl Morain deposits	Morenski naslagi
8	Q Quaternary (only on the profile)	Kvarter vo opshito (samo na profilot)
TERTIARY / TERCIJAR		
9	Pl Gravel and sand	Chakali i pesoci
MESOZOIC / MEZOZOIK		
10	Contact-metamorphic changes	Kontaktmetamorfni izmeni
11	Contact-metasomatic changes (granitisation and feldspathization)	Kontaktmetasomatski izmeni (granitizacija i feldsatsizacija)
12	γ Leucocratic myrmekite granite	Leukokraten mirmekitski granit
13	ββ Diabase	Djabazi
14	vββ Dolerite streak	Doleritski zhili
15	v Gabbro	Gabrovi
MESOZIC-TRIASSIC / MEZOZOIK-TRIJAS		
16	T ₂₃ Massive limestone	Masivni varovnici
17	T ₂₃ Plate (sheet) limestone	Plochesti varovnici
18	T ₁ Marly limestone	Laporoviti varovnici
19	T ₁ Conglomerate	Konglomerati
PALEOZOIC / PALEOZOIK		
20	Thermo-metamorphic changes	Termometamorfni izmeni
21	γ Alkaline granite	Alkalni granit
22	ε a) Syenite; b) Leucocratic syenite	a) Stenit; b) leukokraten sienit
23	γδ Granodiorite	Granodiorit
24	γδ Schistose (shaly) granodiorite	Shkrilest granodiorit
PALEOZOIC-DEVONIAN / PALEOZOIK-DEVON		
25	M Dolomite marble	Dolomitski mermeri
26	M' Marbleized limestone	Mermerizirani varovnici
27	Ssi Hornfels	Rozhnaci
28	Sq Metamorphic conglomerate, sandstone, phyllite etc	Metamorfirani konglomerati, pesochnici, filiti i dr.
29	Sqse Phyllite, slate, phyllitic slate metasandstone; a) metamorphic conglomerate	Filiti, argiloshisti, argilofiliti, metapesochnici; a) metamorfirani konglomerati
30	Sgr Graphite schist	Grafitchni shkrilci
31	x Metamorphosed rhyolite	Metamorfirani rioliti
32	ββ Metamorphosed diabase	Metamorfirani djabazi
33	v Metamorphic gabbro	Metamorfirani gabrovi
34	Q Quartzite	Kvarciti
35	Sco Green schist: a) conglomerate	Zeleni shkrilci; a) konglomerati
36	Sb Biotite schist	Biotitski shkrilci
37	Sse Quartz & quartz-sericite schist	Kvarcni i kvarcno-sericitski shkrilci
38	Mm Marble & cipolin (crystalline limestone)	Mermeri i cipolini
39	Gab Albite gneiss	Albitski gnajsevi
40	Sm Mica schist	Mikashisti
41	Smgr Graphite mica-schist	Grafichki mikashisti
42	G Gneiss	Gnajsevi

Table AN4.3 Legend of Geology (Skopje Valley)

HOLOCENE / HOLOCEN			
1	al	Alluvium	Alluvium
2	s	Talus cone	Sipari
3	d	Diluvium	Deluvium
4	pr	Proluvium	Proluvium
5	mk	Stone sea	More na kamenja
PLEISTOCENE / PLEISTOCEN			
6	dpr	Diuvial-proluvial deposits	Deluvijalno-proluvijalen nanos (postar proluvium)
7	t ₁	Lower terrace	Poniška rečna terasa
8	t ₂	Medium terrace	Sredna rečna terasa
9	t ₃	Upper terrace	Povisoka rečna terasa
10	lj	Lacustrine terrace deposits	Ezerški-terasni naslagi
11	fgl	Glaciofluvial deposits	Glacio-fluvijalni sedimenti
12	gl	Morain deposits	Morenski materijal
13	d	Slope breccia	Pačinski brečči
14	l	Calc tufa	Bigorlivi varovnici i bigor
15	i	Travertine and onyx marble	Traverlin i mermerni oniks
16	j	Lacustrine deposits	Ezerški sedimenti
PLIOCENE / PLOECEN			
17	P ₃	Sand, clay and sandy clay	Pesoci, glini, supesoci i sugluni
18	P ₁	Gravel, sand, sandy clay and marl	Čakali, pesoci, pesčkovi glini i laporci
MIOCENE / MIOCEN			
19	M ₃	Sandstone, clay and clay marl	Pesochnici, glini i laporci
20	M ₂	Basal conglomerate	Dazalni konglomerati
21	M ₂	Marl, silty bentonitic and sand	Laporci, alevritsko-bentonitski glini i pesoci
OLIGOCENE / OLIGOCEN			
22	Ø	Pyroclastic material (pyroclastite)	Piroklastiti
23	τ	Trachyte	Trahiti
24	C ₄	Sandstone, clay marl, clay, conglomerate and breccia	Pesochnici, laporci, glini, konglomerati i brečči
25	O ₁	Reef coral limestone	Sprudni koralni varovnici
26	O ₁	Conglomerate, sandstone, shale and reef coral limestone	Konglomerati, pesocnici, glinci i sprudni varovnici
CRETACEOUS / KREDA			
27	K _{1,2,3}	Carbonate flysch	Karbonatna serija na fliš (turon, senon)
28	K _{1,2,3}	Sandy flysch	Pesochnička serija na fliš (turon, senon)
29	K _{1,2,3}	Basal clastics	Basalni konglomerati i brečči (turon, senon)
30	K ₁	Olistostrome horizon	Olistostromski horizont
31	K ₂	Boulder facies	Blakovska serija
32	K ₂	Intraformational conglomerate	Interserijski konglomerat
33	K ₂	Non flysch deposit	Neflišni sedimenti
34	K ₂	Flysch series	Flišna serija
35	K _{1,2}	Sandstone series	Pesochnička serija
36	K _{1,2}	Massive limestone	Masivni varovnici
JURASSIC / JURA			
37	ββ	Diabase	Dijabazi
38	γββ	Gabbro-diabase	Gabrodijabazi
39	Se	Serpentinite	Serpentiniti
40	Σ	Mixed series	Meshana serija
41	ι	Pyroxenite	Pirokseniti
42	oo	Dunite	Duniti
43	OPY	Harzburgite	Harzburgiti
44	Σ'	Ultrabasic rock (only in the columnar section)	Ultrabazični steni (samo vo stolbot)
45	A'	Amphibole, amphibole and amphibole schist	Amfiboliti, amfibolitski i amfibolitski shkrici
46	J	Ophiolitic melange with olistolith	Ofolitski melanz so olistoliti
TRIASSIC-PALEOZOIC / TRIJAS-PALEOZOIK			
47	T _{2,3}	Massive crystalline limestone	Masivni mermerasti varovnici
48	T _{2,3}	Dolomite	Dolomiti
49	T _{2,3}	Cherty limestone	Varovnici so rozhnjaci
50	nq	Quartz-porphiry	Kvarcporfiri
51	ββ	Diabase and spilit	Diabazi i spiliti
52	P,T?	Crystalline limestone	Mermerasti varovnici
53	P,T?	Epidote-actinolite schist	Epidot-aktinolitiski shkrici
54	P,T?	Phyllite, metamorphic sandstone and schist	Filiti, metamorfisani pesocnici i shkrici
55	v	Hydrothermal alteration	Hidrotermalni izmeni
56	v	Gabbro	Gabrovi
57	Sab	Albitoid chlorite-epidote-sericite schist	Albitzirani horn-epidotsenitski shkrici
58	γ	Granitoid rocks	Granitoidni steni
59	Q	Quartzite	Kvarci
60	M	Marble and calc schist	Mermeri i kaltschisti
61	Socp	Chlorite-epidote-sericite-quartz schist and metadiabase	Horn-epidot-sericit-kvarcni shkrici i metadijabazi
62	Q	Quartz-tectonic breccia	Kvarcno-tektonski brečči
63	Sepoo	Epidote-chlorite schist	Epidot-hloritski shkrici
64	Q	Quartzite and quartz schist	Kvarci i kvarcni shkrici
65	M	Marble	Mermeri
66	Sbm	Biotite-muscovite schist	Biotit-muskovitski shkrici
67	Mi	Migmatite	Migmatiti
68	Gmb	Gneiss	Gnajsevi
69	A	Amphibole, amphibole and amphibole schist	Amfiboliti, amfibolitski i amfibolitski shkrici
PALEOZOIC / PALEOZOIK			
70	γ	Granite	Graniti
71	SqspPz	Quartz-sericite schist	Sericit-kvarcni shkrici
72	Sx	Metaquartz porphyry	Metakvarcporfiri
73	ScaPz	Calc schists and marbly limestone	Karbonatni shkrici i mermerisani varovnici
74	Sps	Varied albitic mostly green schists	Raznovidni albitzirani pretežno zeleni shkrici
75	Sgns	Graphite sericite-quartz schist	Grafitni sericitkvarcni shkrici
76	Sqm	Quartz mica schist and metasandstone	Kvarc-muskovitski shkrici i metapeschchari
RIFEI (RIPHEAN) CAMBRIAN / RIFEJ KAMBRIUM			
77	M	Plate dolomite and dolomite marble	Plocesti dolomiti i dolomitni mermeri
78	Mm	Cipolin (crystalline limestone) and marble	Cipolini i mermeri
79	Sab	Albitoid phyllite-mica schist and green schist	Albitzirani filitmikastisi i zeleni shkrici
80	Sgr	Graphite schist	Grafitni shkrici
PRECAMBRIAN / PREKAMBRIUM			
81	Ø	Granodiorite	Granodioriti
82	Mca	Middle grained grey-white calcareous marble	Srednozmesni sivobeli kaltski mermeri
83	Md	White-grey fine grained dolomite	Beloshi sitnozmesni dolomiti
84	M	Dark-grey to black medium grained calcite marble	Temnosivi do črn srednozmesni kaltski mermeri
85	M	Grey middle grained calcareous marble with dolomitic layers	Sivi srednozmesni kaltski mermeri so proslojci od dolomiti
86	Smba	Quartz-barite mica schist	Kvarc-baritski mikastisi
87	Mm	Cipolin (crystalline limestone) and marble	Cipolini i mermeri
88	Smg	Granat-mica schists	Granatski mikastisi
89	Gab	Albite gneiss	Albitski gnajsevi
90	M'	Marble	Mermeri
91	sm	Mica schist	Mikastisi
92	Sgr	Quartz-graphite mica schist	Kvarc-grafitni mikastisi
93	Smg	Granat-mica schists	Granatski mikastisi
94	Gmb	Two-mica eyed-chrysoidal gneiss	Dvoislusnski okcastoamigdaloidni gnajsevi
95	Gm	Banded muscovite gneiss	Trakasti muskovitski gnajsevi

Table AN4.4 Legend of Geology (Bregalnica Valley)

QUATERNARY - NEOGENE / KVARTER - NEOGEN			
1	al	Alluvium	Atuvijum
2	t ₁	Lower river terrace	Poniška recna terasa
3	t ₂	Higher river terrace	Povisoka recna terasa
4	i	Spring sediments	Izvorski sedimenti
5	d	Diluvium	Diluvijum
6	pr	Slope material	Proluvijum
7	t ₃	Old river terrace	Stara rečna terasa
8		Sand dust, loam and gravel (total Quaternary)	Supesok, suglina i chakal (Kvarter voopsto)
9	trβ	Kajanjite and basalt	Kajaniti i bazalti
10		Hydro-thermal changes	Hidrotermalni izmeni
11	op	Opal breccia	Opalska breča
12	aha	Hornblende-augite andesite	Hornblenda-augit andezit
13	αα	Andesitic ignimbrite	Andezitski ingimbriti
14	αah	Augite-hornblende-biotite andesite	Augit-hornblenda-biotit andeziti
15	Pi,Q	Tufa limestone	Bigorlivi varovnici
16	α'	Andesite breccia	Andezitski breči
17	αhb	Hornblende-augite-biotite andesite	Hornblenda-augit-biotit andeziti
18	θ	Andesitic tuff	Andezitski tuf
19	Pl	Sand, loam and gravel	Pesoci, suglini i chakali
20	M _{2,3}	Clay marl, tuff sandstone and claystone; bituminous claystone (a)	Laporci, tufni pesočnici i glinci; bituminozni glinci (a)
21	ααq	Dacitic ignimbrite	Dacitski ingimbriti
22	αα	Trachyte-andesite	Trahandeziti
23	t	Trachyte	Trahiti
PALEOGENE / PALEOGEN			
24	εδ	Quartz-monzonite porphyry	Kvarcmonzonit porfir
25	E ₃ a	Upper zone of the flysch: claystone and sandstone; clay marl, limestone and claystone (a)	Gorna zona na flysch: glinci i pesočnici; laporci, varovnici i glinci (a)
26	³ E ₃	Lower yellow sandstone	Dolni žolti pesočnici
27	² E ₃	Lower zone of the flysch: grey sandstone and purple claystone (a); conglomerate, sandstone and claystone (b)	Dolna zona na flysch: sivi pesočnici i violetovi glinci (a); konglomerati, pesočnici i glinci (b)
28	¹ E ₃	Basal series: sandstone, clay marl and conglomerate	Bazalna serija: pesočnici, laporci i konglomerati konglomerati
CRETACEOUS / KREDA			
29	³ K ₂	Limestone and clay marl (Senonian)	Varovnici i laporci (senon)
30	¹ K ₂	Claystone, sandstone and siltstone (Senonian)	Glinci, pesočnici i alevoliti (senon)
31	K ₂	Sandstone (Turonian)	Pesočnici (turon)
32	K ₂	Conglomerate and sandstone (Cenomanian)	Konglomerati i pesočnici (cenoman)
33	² K _{1,2}	Sandstone and claystone (Albion-Cenomanian)	Pesočnici i glinci (alb-cenoman)
34	¹ K _{1,2}	Conglomerate (Albion-Cenomanian)	Konglomerati (alb-cenoman)
JURASSIC / JURA			
35	γ	Amphibole granite	Aplitoidni graniti
36	γ	Biotite granite	Biotitski graniti
37	γ	Adamellite	Adameliti
38	v	Gabbro	Gabrovi
LATE PALEOZOIC / MLAD PALEOZOIK			
39	Se	Serpentine	Serpentiniti
40	Sse	Sericite schist	Sericitski shkrici
41	Sgr	Quartz-graphite schist	Kvarcno-grafitni shkrici
42	Sco	Chlorite-sericite schist	Hlorit-sericitski shkrici
43	Sq	Quartzite and quartz sandstone	Kvarciti i kvarcni pesočnici
OLD PALEOZOIC - PRECAMBRIAN / STAR PALEOZOIK - PREKAMBIUM			
44	Scoam	Chlorite-amphibole schist	Hlorit-amfibolski shkrici
45	F	Phyllite, metasandstone and marble	Fikti, metapesočnici i mermeri
46	M'	Marble and carbonate schist	Mermeri i karbonatni shkrici
47	Fgr	Graphite schist and phyllite	Grafitni shkrici i fikti
48	M	Marble	Mermeri
49	Scose	Chlorite-quartz-sericite schist	Hlorit-kvarc-sericitski shkrici
50	Pz ₁	Indefinite older Paleozoic: schist, quartz-porphry and marble	Neopredelen postar paleozoik: shkrici, kvarcporfiri i mermeri
51	Sam	Amphibole-chlorite schist	Amfibol-hloritski shkrici i metadijabazi
52	Samco	Amphibole-chlorite-sericite schist	Amfibol-hlorit-sericitski shkrici
53	vam	Amphibole gabbro	Amfibolski gabro
54	Sep	Epidote-quartz-sericite-chlorite schist	Epidot-kvarc-sericit-hloritski shkrici
55	Sab	Albite-quartz-sericite-chlorite schist	Albit-kvarc-sericit-hloritski shkrici
56	*b γ	Granite (a); schistose granite (b)	Graniti (a); shkristosi graniti (b)
57	Sn	Metamorphic quartz-porphry	Metamorfisani kvarcporfiri
58	G	Augen-amygdaloidal gneisses	Okcsto-amigdaloidni gnajsevi
59	G	Porphyroblastic gneisses	Porfiroblastični gnajsevi
60	GSm	Gneiss, amphibole and mica schist	Gnajsevi, amfiboliti i mikashisti
61	A	Amphibole and amphibole schist	Amfiboliti i amfibolitski shkrici
62	Gm	Muscovite gneisses	Muskovitski gnajsevi
63	Sm	Mica schist and leptynolite	Mikashisti i leptinolit
64	M	Marble	Mermeri
65	Sm	Garnet mica schist	Granatski mikashisti
66	Gmb	Double mica striped gneisses	Dvolisaknski trakasti gnajsevi
67	Gb	Biotite fine grained gneisses	Biotitski sitnozmi gnajsevi
68	Gsi	Sillimanite-cordierite gneisses	Silimanitsko-kordjeritski gnajsevi

Table AN4.5 Legend of Geology (Strumica Valley)

QUATERNARY / KVARTER			
1	al	Alluvium	Aluvium
2	d	Diluvium	Deluvium
3	pr	Slope material	Proluvium
4	t ₁	Lower Terrace	Poniska terasa
5	b	Organogenic marsh (bog iron) sediment	Organogeno-barski sedimenti
6	t ₂	Higher terrace	Povisoka terasa
7	i	Spring tufa	Izvorski bigor
TERTIARY AND JURASSIC / TERCIER I JURA			
8	Pl ₃	Gravel and sand	Čakali i pesoci
9	Pl ₃	Sand, gravel and clay	Pesoci, glini i čakali
10	Pl ₃	Clay	Glini
11		Pyritization	Piritizacija
12	a	Andesite	Andeziti
13	aa	Dacite	Daciti
14	E ₃	Volcanogenic sediment: sandstone; conglomerate limestone and tuffs	Vulkanogeni sedimenti: pesočnici, konglomerati, varovnici i tufovi
15	E ₃	Conglomerate and sandstone	Konglomerati i pesočnici
16	x	Vitrophyric rhyolite	Vitrofirski rioliti
17	x	Rhyolite: a) fine porphyritic; b) massive porphyritic	Rioliti: a) sitnoporfirski; b) krupnoporfirski
18		a) Silicification; b) Contact metamorphic and Scarn	a) Šilifikacija; b) kontaktno izmenili i steni - skarnovi
19	βγJ ₃	Porphyritic granodiorite	Porfiroidni granodioriti
20	γJ ₃	a) Catalysis granite; b) Biotite granite	a) Kataklazirani graniti; b) biotitski graniti
21	ββ	Diabase	Dijabazi
22	v	Gabbro	Gabrovi
23	J ₃	Claystone, sandstone and slate (diabase - hornfel formation)	Glinci, pesočnici i argiloshisti (dijabaz - rozhnachka formacija)
24	J ₃	Claystone, hornstone (dibase - hornfel formation)	Glinci, rozhnaci i dijabazi (dijabaz - rozhnachka formacija)
OLD (LOWER) PALEOZOIC / STAR PALEOZOIK			
25	Se	Serpentinite	Serpentiniti
26	vam	Amphibolite gabbro	Amfibolski gabro
27	γf	Leucocratic massive grained granite (metasomatic)	Leukokrati krupnozmesli graniti (metasomatski)
28		Hydrothermally altered (metamorphic) rocks	Hidrotermalno izmenili steni
29	γ	Aplite (applic) granite	Aplitoidni graniti
30	γ	Fine - grained porphyritic granite	Sitnozmesli porfiroidni graniti
31	γ	Granite porphyry	Graniporfiri
32	γm	Muscovite leucocratic granite	Muskovitski leukokrati graniti
33	γ	Double mica medium grained granite	Dvoislkanski srednozmesli graniti
34	γ	a) Biotite porphyritic granite	a) Biotitski porfiroidni graniti;
	γβ	b) Biotite porphyritic granite diorite	b) Biotitski porfiroidni granodioriti
35	γ	Biotite massive grained granite	Biotitski krupnozmesli graniti
36	γ	Leucocratic shaly granite (Kamenica)	Leukokrati shkrilesti graniti (Kamenica)
37	x'	Fine - grained porphyritic meta rhyolite	Sitnoporfirski metarioliti
38	x'	Medium - grained porphyritic metarhyolite	Krupnoporfirski metarioliti
39	x'	Shaly meta rhyolite	Shkrilesti metarioliti
40	γm	Muscovite gneiss - like granite	Muskovitski gnajsoliki graniti
41	γ	Biotite gneiss - like granite	Biotitski gnajsoliki graniti
42	γ	Double mica gneiss - like granite	Dvoislkanski gnajsoliki graniti
43	F	a) Phyllite; b) Metasandstone	a) Filiti; b) Metapesočnici
44	M'	Marble	Mermeri
45	v	Metagabbro	Metagabrovi
46	Sco	Chlorite schist, metadiabase, desmosite and tuff	Hloritski shkrilci, metadijabazi dezmozili i tufovi
47	x	Metaquartz - porphyry (rhyolite)	Metakvarc - porfiri (rioliti)
48	Sse	Quartz - sericite - chlorite schist	Kvarc - sericit - hloritski shkrilci
49	M	Marble	Mermeri
50	SF	Phyllite and carbonate schist	Filiti i karbonatni shkrilci
51	Sca	Carbonate schist and cipolin	Karbonatni shkrilci i cipolini
52	Sgr	Graphite schist	Grafitični shkrilci
53	v	Metagabbro	Metagabrovi
54	Spy	Amphibole and pyroxene schist	Amfiboliti i piroksenski shkrilci
55	M	Marble	Mermeri
56	Sb	Quartz, biotite and amphibole	Kvarcni, biotitski i amfibolski shkrilci
RIPHEIAN CAMBRIAN / RIFEJ - KAMBRIJUM			
57	Sam	Amphibolite schist	Amfibolski shkrilci
58	Sep	Epidote - quartz - sericite - chlorite schist	Epidot - kvarc - sericit - hloritski shkrilci
59	F	Phyllite and phyllite mica schist	Filiti i filitomikashisti
60	Sab	Albite - quartz - muscovite - chlorite schist	Albit - kvarc - muskovit - hloritski shkrilci
PRECAMBRIAN / PREKAMBRIJUM			
61	M	Marble	Mermeri
62	Sm	Mica schist	Mikashisti
63	SmG	Mica schist and leptynolite	Mikashisti i leptinolit
64	Cr	Leptynite	Leptiniti
65	A	Amphibolite	Amfiboliti
66	Sam	Amphibolite schist	Amfibolski shkrilci
67	Gm	Muscovite gneiss	Muskovitski gnajsevi
68	Gb	Biotite gneiss	Biotitski gnajsevi
69		Pegmatic phase	Pegmatizacija
70	Mi	Migmatite: a) porphyroblastic gneiss b) Feldspathoid gneiss	Migmatiti: a) porfiroblastični gnajsevi b) feldspatizirani gnajsevi
		c) Feldspathoid gneiss	c) feldspatizirani gnajsevi
71	Gmb	Double mica striped (banded) gneiss	Dvoislkanski trakasti gnajsevi



Annex 5

Legend of Hydrogeology



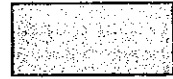
Legend



Medium to high yielding aquifer
Alluvial sands and gravels, $T > 10^{-4} \text{ m}^2/\text{sec}$



Low yielding aquifer
Fine-grained sands, occasionally clayey
 $T < 10^{-4} \text{ m}^2/\text{sec}$
Neogene lake deposits, proluvial and diluvial deposits



Karst aquifer
Karstified limestone and marble
Marble, dolomite and limestone



Local aquifer
Crystalline schist, sedimentary rocks



Practically without aquifer
Homogeneous non-fractured rocks
Marly and clayey rocks

* T: Transmissivity (m^2/sec)

Figure AN5.1 Legend of Hydrogeology

EXPLORATION MARKS AND EXPLOITATION FACILITIES


















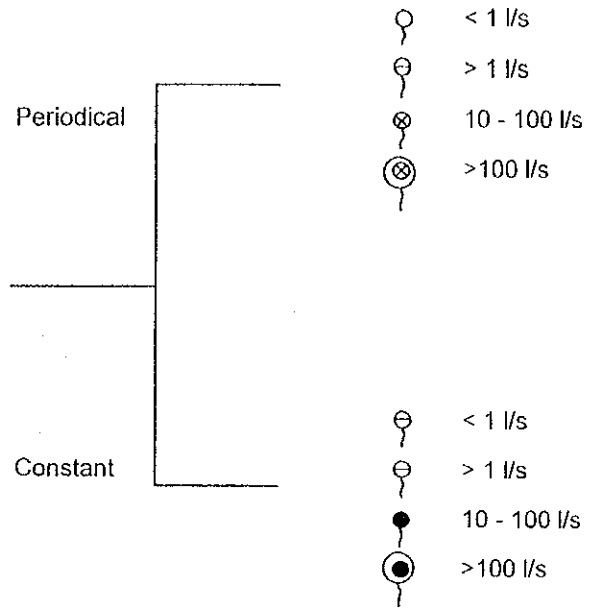
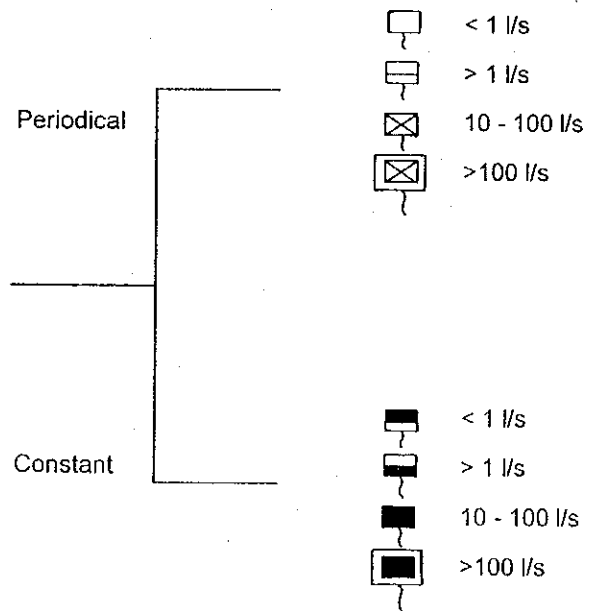
	Radial well
	Infiltration gallery
	Capture of spring and large capacity spring
	Spa (capture of thermomineral water)
	Non-captured (free flowing) spring
	Borehole and dug ringed well
	Group of boreholes and dug ringed wells
	Dug well
	Artesian borehole
	Group of artesian boreholes
	Sub-artesian borehole
	Borehole installed with piezometer
	Group of boreholes installed with piezometer
	Thermomineral borehole
	Group of thermomineral boreholes
	Borehole
	Group of boreholes

Figure AN5.2 Legend of Wells/Boreholes

NATURAL SPRINGS WITH
FREE FLOW



CAPTURED AND PARTIALLY
CAPTURED SPRINGS



For mineral, thermal and thermomineral resources additional marks are inputted from the left side:

M - mineral

T - thermal

TM - thermomineral

Figure AN5.3 Legend of Springs



Annex 6

Surface Water Quality Records



RESULTS OF SURFACE WATER QUALITY ANALYSIS IN THE REPUBLIC OF MACEDONIA FOR YEAR 1996

Table I/1

No.	Labor. code	Date of sampling	Hydrology parameters			Floating solid waste	Odor	Visible color	Det. Color mg/l Pt	Temperature in °C		Clarity		pH	Redox pot. mv	Conductivity mS/cm ²
			W. level H sm	W. flow Q m ³ /s	air					water	mg/l SiO ₂	NTU (turbid)				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
01. River VARDAR - village VRUTOK (intake point)																
24	96-002	22.01.1996			No	No	No	2.5	9.0	1.5	-	-	8.10	62.0	409	
25	96-049	01.04.1996			No	No	No	2.5	9.0	7.0	0.8	1.0	7.80	46.0	210	
26	96-118	27.05.1996			No	No	No	5.0	7.5	19.0	6.9	2.0	7.40	23.0	377	
27	96-218	26.08.1996			No	No	No	2.5	10.0	17.4	5.0	2.0	8.15	65.0	290	
28	96-289	28.10.1996	47		No	No	No	5.0	9.2	10.2	3.0	4.0	7.62	86.0	191	
02. R. VARDAR - v. BALIN DOL (under GOSTIVAR)																
29	96-003	22.01.1996			No	No	No	2.5	5.0	2.0	-	-	7.90	50.0	293	
30	96-050	01.04.1996			No	No	Low turbid.	5.0	4.8	9.0	1.5	34.0	7.75	44.0	245	
31	96-119	27.05.1996			Domestic wast	Rot	Low turbid.	10.0	10.0	23.0	6.9	8.0	7.80	45.0	246	
32	96-219	26.08.1996			No	No	No	5.0	14.0	21.0	5.0	8.0	8.05	60.0	240	
33	96-290	28.10.1996			No	No	No	10.0	9.7	11.9	4.0	8.0	7.61	85.0	124	
03. R. VARDAR - v. SARAKINGI (under TETOVO)																
34	96-004	23.01.1996			No	No	Low turbid.	2.5	5.2	3.0	-	-	8.00	55.0	547	
35	96-018	27.02.1996			No	No	Low turbid.	5.0	4.7	2.1	2.5	-	7.75	41.0	354	
36	96-051	01.04.1996			No	No	Low turbid.	2.5	8.3	13.0	2.5	21.0	7.80	46.0	422	
37	96-120	27.05.1996			Domestic wast	Bez	Low turbid.	10.0	12.0	21.0	8.7	5.0	7.60	38.0	475	
38	96-177	01.07.1996			No	No	No	2.5	18.0	25.0	2.5	6.0	8.45	83.0	485	
39	96-220	26.08.1996			No	No	No	5.0	14.5	23.0	5.0	16.0	8.25	7.1	375	
40	96-291	28.10.1996			No	No	No	12.5	9.8	13.0	4.0	13.0	7.64	87.0	371	
41	96-346	17.12.1996			No	No	No	10.0	5.0	5.0	4.0	3.0	7.90	103.0	282	
04. R. VARDAR - v. JEGUNOVCE																
42	96-005	23.01.1996			No	No	Low turbid.	2.5	4.6	3.0	-	-	8.00	55.0	442	
43	96-019	27.02.1996			No	No	Low turbid.	10.0	2.9	1.7	2.5	-	7.75	41.0	347	
44	96-052	01.04.1996			No	No	Low turbid.	5.0	8.3	15.0	2.5	15	7.88	51.0	382	
45	96-121	27.05.1996			No	No	No	10.0	13.5	22.0	9.3	15	7.60	38.0	421	
46	96-178	01.07.1996			No	No	No	5.0	15.0	25.0	2.5	3	8.40	80.0	438	
47	96-221	26.08.1996			No	No	No	5.0	15.0	22.5	5	64	8.25	71.0	325	
48	96-292	28.10.1996			No	No	Low turbid.	12.5	9.1	12.5	5	14	7.64	87.0	321	
49	96-347	17.12.1996			No	No	Low turbid.	5.0	5.0	5.0	3	8	7.80	97.0	231	

No.	Labor. code	Date of sampling	Hydrology parameters		Physical and organoleptic properties							Conductivity mS/cm ²			
			W. level H sm	W. flow Q m ³ /s	Floating solid waste	Odor	Visible color	Det. Color mg/l Pt	Temperature in °C		Clarity		pH	Redox pot. mv	
									water	air	mg/l SiO ₂				NTU (turbid)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
05. R. VARDAR - SKOPJE - SARAJ															
50	96-006	24.01.1996			No	No	Low turbid.	5.0	4.5	1.5	-	-	8.00	55.0	419
51	96-020	27.02.1996			No	No	Low turbid.	10.0	5.4	7.0	5.0	-	7.82	47.0	367
52	96-056	02.04.1996			No	No	Low turbid.	5.0	8.0	10.0	0.9	26	8.05	61.0	512
53	96-125	28.05.1996			No	No	Low turbid.	10.0	16.0	17.0	9.7	35	8.08	63.0	372
54	96-179	01.07.1996			No	No	No	5.0	18.0	26.0	2.5	8	8.48	85.0	455
55	96-232	27.08.1996			No	No	No	2.5	20.5	32.0	5.0	15	8.60	90.0	385
56	96-296	29.10.1996			No	No	Low turbid.	12.5	10.2	14.4	4.0	13	7.44	75.0	228
57	96-348	17.12.1996			No	No	Low turbid.	5.0	6.8	7.0	4.0	30	7.93	104.0	237
06. R. VARDAR - SKOPJE - VLAJE															
58	96-021	27.02.1996	65	-	No	No	Low turbid.	7.5	6.2	7.0	2.5	-	7.90	51.0	423
59	96-057	02.04.1996	-	-	No	No	Low turbid.	5.0	9.5	14.5	1.3	67.0	8.10	62.0	442
60	96-126	28.05.1996	-	-	No	No	Low turbid.	10.0	16.0	25.0	9.0	28.0	8.20	68.0	466
61	96-180	01.07.1996	-	-	No	No	No	5.0	19.0	25.0	2.5	3.0	8.55	88.0	557
62	96-233	27.08.1996	-	-	No	No	No	2.5	20.0	31.0	5.0	8.0	8.20	66.0	440
63	96-297	29.10.1996	36	-	No	No	Low turbid.	12.5	10.5	16	4	12	7.44	75	389
64	96-352	18.12.1996	-	-	No	No	No	5	7.5	5.6	4	4	8.03	111	443
07. R. VARDAR - SKOPJE - COMPLEX OF BANKS															
65	96-007	24.01.1996	-	-	No	No	Low turbid.	5	5	2.5	-	-	8	55	613
66	96-022	27.02.1996	-	-	No	No	Low turbid.	10	6.2	8.5	5.0	-	7.9	51	452
67	96-058	02.04.1996	-	-	No	No	Zamatena	5	9.5	14.8	1.3	22.0	8.05	61	475
68	96-127	28.05.1996	-	-	No	No	Low turbid.	10	14	18.8	9.0	27.0	8.15	65	498
69	96-181	01.07.1996	-	-	No	No	No	5	17	23	3.0	3.0	8.6	92	641
70	96-234	27.08.1996	-	1	No	No	No	2.5	18	31	5.0	9.0	8.35	75	400
71	96-298	29.10.1996	68	-	No	No	Low turbid.	12.5	10.6	16	4.0	13.0	7.39	72	308
72	96-353	18.12.1996	-	-	No	No	No	5	7.3	7.4	4.0	4.0	8.05	111	441
08. R. VARDAR - SKOPJE - JURUMLERI															
73	96-008	24.01.1996	-	-	Dom. and indus	Rot	Low turbid.	5	5.3	2.5	-	-	8.02	59	817
74	96-025	28.02.1996	-	-	No	No	Low turbid.	12.5	6.6	8.8	9.0	-	7.82	48	468
75	96-060	03.04.1996	-	-	No	Rot	Turbid	5	9.2	10	1.3	13.0	7.95	54	450
76	96-129	29.05.1996	-	-	Domestic wast	No	Low turbid.	5	13.5	9	10.5	40.0	8	56	592
77	96-184	02.07.1996	-	-	Domestic wast	Rot	No	5	17.5	26.4	3.5	4.0	8.12	65	563
78	96-236	28.08.1996	-	-	Domestic wast	Rot	Turbid	5	18.4	25	7.5	11.0	7.6	36	655
79	96-300	30.10.1996	110	-	Dom. and indus	No	Low turbid.	12.5	9.9	13.6	5.0	16.0	7.41	74	506
80	96-010	18.12.1996	-	-	No	No	Low turbid.	7.5	7.5	6.2	4.0	7.0	7.99	108	569

Table 1/3

No.	Labor. code	Date of sampling	Hydrology parameters			Physical and organoleptic properties									
			W. level H sm	W. flow Q m ³ /s	Floating solid waste	Odor	Visible color	Det. Color mg/l Pt	Temperature in °C		Clarity		pH	Redox pot. mv	Conductivity mS/cm ²
									water	air	mg/l SiO ₂	NTU (turbid)			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
09. R. VARDAR - v. BASINO SELO															
81	96-010	25.01.1996			No	No	Low turbid.	7.5	5.4	3.7	-	-	7.80	45.0	755
82	96-026	28.02.1996			No	No	Low turbid.	10.0	6.0	4.2	5.00	-	7.85	49.0	470
83	96-061	03.04.1996			No	No	Low turbid.	2.5	9.6	14.0	1.70	37.00	7.90	52.0	440
84	96-130	29.05.1996			No	No	Low turbid.	5.0	15.0	11.0	12.40	37.00	7.82	49.0	578
85	96-165	02.07.1996			No	No	No	5.0	20.0	28.0	3.50	2.00	8.22	71.0	802
10. R. VARDAR - v. BASINO SELO															
86	96-237	29.08.1996			No	No	No	5.0	22.5	32.0	7.5	7.0	8.30	75.0	630
87	96-301	30.10.1996			Lubricants	No	Low turbid.	12.5	11.8	17.8	5.0	15.0	7.33	69.0	491
88	96-355	18.12.1996			No	No	Low turbid.	7.5	7.3	7.8	4.0	5.0	8.05	111.0	345
11. R. VARDAR - VELES															
89	96-011	25.01.1996	-	-	No	No	Turbid	7.5	5.6	4.0	-	-	7.70	40.0	817
90	96-027	28.02.1996	135	-	No	No	Low turbid.	10.0	5.8	7.8	5.0	-	7.82	48.0	570
91	96-062	03.04.1996	-	-	No	No	Turbid	7.5	9.9	14.0	1.4	42.0	7.90	52.0	440
92	96-131	29.05.1996	-	-	No	No	Low turbid.	5.0	15.0	10.0	11.4	54.0	7.80	46.0	574
93	96-186	02.07.1996	-	-	Petrol	No	No	5.0	24.0	31.0	3.0	4.0	8.20	69.0	767
94	96-236	29.08.1996	-	-	No	No	No	5.0	24.8	34.0	7.5	12.0	8.40	80.0	645
95	96-302	30.10.1996	72	-	Oil and Dorm.	Na masio	Low turbid.	12.5	11.5	17.1	4.0	14.0	7.29	66.0	501
96	96-356	18.12.1996	104	-	No	No	Low turbid.	7.5	7.5	10.6	5.0	5.0	7.94	105.0	437
12. R. VARDAR - After inflow of R. BABUNA															
97	96-012	25.01.1996			No	No	Turbid	7.5	5.8	4.0	-	-	7.70	40.0	776
98	96-028	28.02.1996			No	No	Low turbid.	12.5	5.8	8.0	5	-	7.85	49.0	518
99	96-063	03.04.1996			Lubricants	No	Turbid	5.0	9.9	14.5	1.1	32.0	7.80	46.0	398
100	96-132	29.05.1996			No	No	Turbid	7.5	15.0	10.0	13.2	122.0	7.80	46.0	565
101	96-187	02.07.1996			No	No	No	5.0	23.0	30.0	3	3.0	8.22	71.0	802
102	96-239	29.08.1996			No	No	No	5.0	23.5	34.0	7.5	7.0	8.50	86.0	940
103	96-303	30.10.1996			Dorm. and indus	Masio	Low turbid.	15.0	11.5	17.9	4	12.0	7.26	64.0	490
104	96-357	18.12.1996			No	No	Low turbid.	7.5	7.6	-	6	5.0	7.85	100.0	427
13. R. VARDAR - v. NOGAEVCI															
105	96-065	04.04.1996			No	No	Turbid	2.5	9.2	10.0	1.3	11.0	7.60	36.0	505
106	96-134	30.05.1996			No	No	Turbid	10.0	12.0	14.4	14.6	54.0	7.60	35.0	628
107	96-241	29.08.1996			No	No	No	10.0	23.2	29.5	10	10.0	7.90	55.0	730
108	96-305	31.10.1996			No	No	No	7.5	11.8	14.3	4	15.0	7.34	69.0	498

No.	Labor. code	Date of sampling	Hydrology parameters			Physical and organoleptic properties							Conductivity mS/m ²		
			W. level H sm	W. flow Q m ³ /s	Floating solid waste	Odor	Visible color	Det. Color mg/l Pt	Temperature in °C		mg/l SiO ₂	Clarity NTU (turbid)		pH	Redox pot. mv
									water	air					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
14. R. VARDAR - v. STARO GRADSKO															
109	96-013	26.01.1996			No	No	Turbid	7.5	5.2	5.0	-	-	7.40	22.0	775
110	96-030	29.02.1996			No	No	Low turbid.	12.5	5.8	4.0	5	-	7.50	30.0	472
111	96-066	04.04.1996			No	No	Turbid	2.5	9.5	11.8	2	33.0	7.75	43.0	502
112	96-135	30.05.1996			No	No	Turbid	10.0	12.5	17.5	14.2	66.0	7.85	51.0	654
113	96-189	03.07.1996			No	No	No	5.0	24.0	29.0	3	4.0	8.20	69.0	886
16. R. VARDAR - v. STARO GRADSKO															
114	96-242	29.08.1996			No	No	No	10.0	24.0	30.0	10.0	13.0	8.60	90.0	960
115	96-306	31.10.1996			No	No	No	10.0	6.3	9.0	4.0	13.0	7.37	71.0	620
116	96-359	19.12.1996			No	No	Low turbid.	10.0	7.4	5.5	5.0	4.0	8.01	109.0	370
17. R. VARDAR - DEMIR KAPIJA															
117	96-014	26.01.1996			No	No	Turbid	7.5	5.6	9.0	-	-	7.60	36.0	519
118	96-031	29.02.1996			No	No	Low turbid.	12.5	5.8	6.5	5.0	-	7.68	39	547
119	96-070	05.04.1996			No	No	Turbid	2.5	9.0	11.0	2.5	134.0	7.40	24	522
120	96-139	31.05.1996			No	No	Turbid	10.0	13.0	18.0	13.0	52.0	7.50	30	699
121	96-190	03.07.1996			No	No	No	5.0	21.0	33.0	3.5	5.0	8.28	74	793
122	96-247	30.08.1996			No	No	No	10.0	22.4	25.0	10.0	6.0	8.00	58	915
123	96-	01.11.1996			No	No	No	10.0	7.3	5.2	5.0	9.0	7.56	83	627
124	96-359	19.12.1996			No	No	No	7.5	7.2	5.8	5.0	5.0	7.92	103	456
18. R. VARDAR - GEVGELIJA															
125	96-015	26.01.1996			No	No	Turbid	7.5	5.6	12.0	-	-	7.80	44	593
126	96-032	29.02.1996	85		No	No	Low turbid.	12.5	7.0	10.2	5.0	-	7.75	41	450
127	96-071	05.04.1996			No	No	Turbid	2.5	10.2	11.5	1.9	90.0	7.55	32	525
128	96-140	31.05.1996			No	No	Turbid	10.0	16.8	25.0	14.6	95.0	7.72	42	646
129	96-191	03.07.1996			No	No	No	5.0	24.0	30.5	4.0	8.0	8.40	80	818
130	96-248	30.08.1996			No	No	No	10.0	24.0	30.0	10.0	19.0	8.48	80	685
131	96-311	01.11.1996	100		No	No	No	10.0	7.4	20.7	5.0	7.0	7.81	97	508
132	96-360	19.12.1996			No	No	Low turbid.	-	8.2	15.2	5.0	6.0	7.95	105	464
23. LIPKOVSKO LAKE - Dam															
156	96-035	26.03.1996			No	No	Low turbid.	10.0	5.0	6.0	2.7	12.0	8.05	61.0	350
157	96-104	21.05.1996			No	No	No	10.0	18.2	29.0	7.3	5.0	7.90	52.0	341
158	96-203	20.08.1996			No	No	No	10.0	18.5	30.5	5.0	6.0	8.80	100.0	425
159	96-274	22.10.1996			No	No	No	10.0	13.2	11.6	3.0	31.0	7.94	95.0	206

Table 1/5

No.	Labor. code	Date of sampling	Hydrology parameters			Physical and organoleptic properties										
			W. level H sm	W. flow Q m ³ /s	W. flow Q m ³ /s	Floating solid waste	Odor	Visible color	Det. Color mg/l Pt	Temperature in °C		Clarity		pH	Redox pot. mv	Conductivity mS/cm ²
										water	air	mg/l SiO ₂	NTU (turbid)			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
23 a. R. LIPKOVSKA - v. BEDINJE																
160	96-036	26.03.1996			Domestic wast	No	Low turbid.	10.0	8.0	8.0	3.5	41.0	8.10	62.0	500	
161	96-105	21.05.1996			No	No	Low turbid.	7.5	17.2	29.0	17.0	9.0	7.60	35.0	771	
162	96-204	20.08.1996			No	No	No	10.0	19.5	30.5	20.0	28.0	8.10	64.0	476	
163	96-275	22.10.1996			No	No	Low turbid.	10.0	13.5	14.8	8.0	13.0	7.75	94.0	578	
24. R. KUMANOVSKA - v. DOBROSANE																
164	96-037	26.03.1996			Domestic wast	Rot	Turbid	15	9	11	5.3	46	8.05	61	775	
165	96-106	21.05.1996			Oil and Dom.	Rot	Turbid	15	17.6	28.2	19.2	42	7.5	30	1211	
166	96-205	20.08.1996			Oil and Dom.	Rot	Turbid	20	16.2	23	20	39	8.3	74	909	
167	96-276	22.10.1996			Lubricants	Rot	Turbid	15	13.1	13.8	10	77	7.75	94	846	
29. R. BREGALNICA - v. BUDINARCI																
185	96-039	27.03.1996			No	No	Low turbid.	10.0	3.0	2.0	3.1	15.0	7.84	46.0	290	
186	96-108	23.05.1996			No	No	No	15.0	12.4	22.0	21.4	7.0	7.20	15.0	289	
187	96-208	21.08.1996			No	No	Low turbid.	12.5	15.8	22.5	12.5	29.0	8.05	64.0	341	
189	96-280	23.10.1996			No	No	No	15.0	7.1	9.6	9.0	22.0	7.36	70.0	227	
30. R. BREGALNICA - v. OCI PALE																
190	96-040	27.03.1996			Domestic wast	Rot	Turbid	7.5	5.0	4.0	3.0	34.0	7.80	46.0	382	
191	96-109	23.05.1996			No	No	Low turbid.	12.5	13.8	20.0	15.0	3.0	7.20	15.0	502	
192	96-209	21.08.1996			No	No	No	10.0	18.0	26.0	10.0	5.0	8.70	95.0	688	
193	96-281	23.10.1996			No	No	No	15.0	9.9	9.1	7.5	19.0	7.57	83.0	507	
31. a. Accumulation 'KALIMANCI' - Dam																
194	96-042	27.03.1996			No	No	No	12.5	5.0	5.0	1.9	16.0	7.65	37.0	400	
195	96-111	23.05.1996			No	No	No	10.0	20.0	22.0	1.5	7.0	9.00	115.0	357	
196	96-211	21.08.1996			No	No	No	10.0	23.4	25.0	5.0	6.0	8.70	95.0	500	
197	96-283	23.10.1996			No	No	No	12.5	15.0	8.3	7.5	6.0	7.32	67.0	392	
31. R. BREGALNICA - Downflow from acum. " KALIMANCI "																
198	96-041	27.03.1996			No	No	No	10.0	4.0	5.0	1.8	15.0	7.70	40.0	315	
199	96-110	23.05.1996			No	No	No	17.5	6.8	23.2	17.2	11.0	7.30	20.0	426	
200	96-210	21.08.1996			No	No	No	10.0	14.4	23.0	12.5	4.0	8.20	68.0	341	
201	96-282	23.10.1996			No	No	No	5.0	9.0	7.8	12.5	4.0	7.57	83.0	364	

Table 1/6

No.	Labor. code	Date of sampling	Hydrology parameters		Physical and organoleptic properties										
			W. level H sm	W. flow Q m ³ /s	Floating solid waste	Odor	Visible color	Det. Color mg/l Pt	Temperature in °C		Clarity		pH	Redox pot. mv	Conductivity mS/sm ²
									water	air	mg/l SiO ₂	NTU (turbid)			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
32. R. BREGALNICA - v. KRUPISTE															
202	96-044	28.03.1996			No	No	Low turbid.	12.5	6.0	3.0	2.4	33.0	7.55	32.0	430
203	96-113	22.05.1996			No	No	Low turbid.	12.5	18.5	30.6	17.2	10.0	7.50	30.0	726
204	96-213	21.08.1996			No	No	No	10.0	18.3	27.5	20.0	3.0	8.20	68.0	594
205	96-284	23.10.1996			No	No	No	12.5	10.9	10.6	8.0	9.0	7.50	78.0	505
33. R. BREGALNICA - v. SUFILARI (under SHTIP)															
206	96-045	28.03.1996			No	No	Turbid	12.5	7.0	8.0	2.5	97.0	7.75	44.0	460
207	96-114	22.05.1996			Domestic wast	Rot	Turbid	20.0	19.2	31.0	17.6	15.0	7.30	22.0	762
208	96-214	22.08.1996			Dom. and indus	Rot	Low turbid.	10.0	17.0	22.0	20.0	10.0	8.20	68.0	728
209	96-285	24.10.1996			No	No	Low turbid.	12.5	11.5	13.1	10.0	12.0	7.53	80.0	471
34. R. BREGALNICA - v. UBOGO															
210	96-243	29.08.1996			No	No	No	15.0	22.4	28.0	15.0	15.0	8.60	90.0	815

RESULTS OF SURFACE WATER QUALITY ANALYSIS IN REPUBLIC OF MACEDONIA FOR YEAR 1996

Table II/1

No.	Date of sampling	CO ₂		Mineralisation						Alkalinity			Oxygen properties						
		Residual mg/l	Agresiv. mg/l	Solid particles mg/l		Dissolved particles mg/l		Suspended particles mg/l		mg-equiv./l		Oxygen mg/l O ₂	Saturation % O ₂	BOB ₅ mg/l O ₂		Perm.index mg/l KMnO ₄ (COD)			
				Total	Mineral.	Organ.	Total	Mineral.	Organ.	Total	Mineral.			Organ.	"p"		"m"	O ₂	O ₂
1	3	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
01. River VARDAR - village VRUTOK (intake point)																			
24	22.01.1996	0.00	0.00	325	210	115	245	135	110	80	75	5	0.05	2.35	11.82	105.6	0.86	0.41	1.62
25	01.04.1996	0.00	0.00	157	87	70	149	83	64	8	4	4	0.10	2.45	11.46	102.4	2.00	0.80	3.16
26	27.05.1996	0.00	0.00	165	45	120	150	40	110	15	5	10	0.15	2.45	12.25	105.5	1.41	0.88	3.48
27	26.06.1996	0.00	0.00	207	161	46	200	155	45	7	6	1	0.10	2.55	12.37	133.0	0.35	1.31	5.17
28	28.10.1996	0.00	0.00	200	145	55	165	120	45	35	25	10	0.05	2.00	12.29	110.3	1.14	1.42	5.61
02. R. VARDAR - v. BALINDOL																			
29	22.01.1996	0.00	0.00	305	190	115	270	170	100	35	20	15	0.05	1.25	13.05	105.50	4.65	1.47	5.81
30	01.04.1996	1.32	-	190	84	106	126	50	76	64	34	30	0.00	1.95	12.95	104.10	6.56	3.52	13.90
31	27.05.1996	0.00	0.00	190	125	65	150	105	45	40	20	20	0.10	2.00	11.80	108.10	3.41	2.48	9.80
32	26.08.1996	0.00	0.00	166	122	44	149	121	28	17	1	16	0.50	2.00	12.07	120.90	1.68	2.22	8.77
33	28.10.1996	0.00	0.00	185	140	45	145	120	25	40	20	20	0.05	1.16	12.37	112.50	2.79	1.42	5.61
03. R. VARDAR - v. SARAKINCI																			
34	23.01.199	0.00	0.00	440	270	170	365	205	160	75	65	10	0.05	3.10	11.35	92.2	3.89	1.71	6.76
35	27.02.199	0.00	0.00	310	270	40	280	260	20	30	10	20	0.05	2.90	12.90	103.4	2.70	2.03	8.02
36	01.04.199	0.88	-	284	178	106	223	157	66	61	21	40	0.00	3.60	10.70	94	2.53	2.32	9.17
37	27.05.199	0.00	0.00	290	210	80	220	150	70	70	60	10	0.10	3.15	10.93	104.8	2.09	2.46	9.80
38	01.07.199	0.00	0.00	290	210	80	240	190	50	50	20	30	0.10	1.75	10.60	115.5	2.97	2.00	7.90
39	26.08.199	-	-	259	218	41	215	201	14	44	17	27	0.50	2.32	11.57	117.2	1.37	2.55	10.08
40	28.10.199	0.00	0.00	330	240	90	265	210	55	65	30	35	0.05	2.70	11.65	106.1	1.77	1.42	5.61
41	17.12.199	0.00	0.00	235	150	85	175	125	50	60	25	35	0.10	2.80	12.10	97.8	3.78	3.34	13.20
04. R. VARDAR - v. JEGUNOVCE																			
42	23.01.199	0.00	0.00	395	220	175	295	205	90	100	15	85	0.05	2.80	11.25	89.9	3.53	2.04	8.06
43	27.02.199	0.00	0.00	410	240	170	280	210	70	130	30	100	0.05	2.50	13.60	104	3.70	2.35	9.28
44	01.04.199	1.32	-	299	151	148	216	93	123	83	58	25	0.00	3.60	10.63	93.4	2.93	3.44	13.58
45	27.05.199	0.00	0.00	250	190	60	220	170	50	30	20	10	0.10	2.80	10.85	107.6	1.30	4.00	15.80
46	01.07.199	0.00	0.00	255	205	50	230	190	40	25	15	10	0.10	1.95	11.42	117	3.96	2.96	11.99
47	26.08.199	0.00	0.00	262	208	54	200	178	22	62	30	32	0.10	3.35	11.79	120.8	4.65	2.22	8.77
48	28.10.199	0.00	0.00	275	200	75	230	160	70	45	40	5	0.05	2.00	12.00	107.5	4.23	1.67	5.60
49	17.12.199	2.64	-	170	80	90	140	65	75	30	15	15	0.00	2.25	11.00	88.9	1.71	3.42	13.51

No.	Date of sampling	CO ₂		Mineralisation										Alkalinity				Oxygen properties			
		Residual mg/l	Agrav. mg/l	Solid particles mg/l			Dissolved particles mg/l			Suspended particles mg/l				mg-equiv./l		Oxygen mg/l O ₂	Saturation % O ₂	BOD ₅ mg/l O ₂	Perm. index mg/l		
				Total	Mineral.	Organ.	Total	Mineral.	Organ.	Total	Mineral.	Organ.	"p"	"m"	O ₂				KMnO ₄ (COD)		
1	3	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
05. R. VARDAR - SKOPJE - SARAJ																					
50	24.01.199	0.00	0.00	390	245	145	300	180	120	90	65	25	0.05	2.40	13.50	107.7	0.87	2.45	9.66		
51	27.02.199	0.00	0.00	345	215	130	200	100	100	145	115	30	0.05	3.05	14.50	118.4	3.10	2.59	10.23		
52	02.04.199	0.00	0.00	210	116	94	167	100	67	49	16	27	0.10	2.45	10.66	92.9	2.77	2.48	9.80		
53	28.05.199	0.00	0.00	285	200	85	250	180	70	35	20	15	0.15	3.30	10.50	109.8	0.48	3.20	12.64		
54	01.07.199	0.00	0.00	230	120	110	210	100	110	20	20	0	0.20	3.20	12.00	130.7	3.21	2.64	10.43		
55	27.08.199	0.00	0.00	287	188	99	253	165	88	34	23	11	0.20	3.10	13.41	153.1	0.12	2.40	9.48		
56	29.10.199	0.00	0.00	220	160	60	180	140	40	40	20	20	0.10	2.18	11.82	108.7	2.32	1.85	6.52		
57	18.12.199	0.00	0.00	310	235	75	195	125	70	115	110	5	0.15	2.25	13.70	115.9	3.93	5.16	20.39		
06. R. VARDAR - SKOPJE - VLAE																					
58	27.02.199	0.00	0.00	290	250	40	220	200	20	70	50	20	0.05	3.45	11.73	97.8	1.30	2.19	8.65		
59	02.04.199	0.00	0.00	270	169	101	205	158	47	65	11	54	0.10	3.90	11.23	101.5	2.22	2.48	9.80		
60	28.05.199	0.00	0.00	280	225	55	200	155	45	80	70	10	0.15	2.90	11.78	123.2	0.83	2.96	11.89		
61	01.07.199	0.00	0.00	210	120	90	170	90	80	40	30	10	0.30	2.80	10.20	113.2	1.73	2.56	10.11		
62	27.08.199	0.00	0.00	274	215	59	218	181	37	56	34	22	0.05	3.20	12.72	143.9	0.17	2.00	7.90		
63	29.10.199	0.00	0.00	230	185	45	205	170	35	25	15	10	0.10	2.90	12.26	113.5	2.20	1.57	6.20		
64	18.12.199	0.00	0.00	275	80	195	260	70	190	15	10	5	0.20	3.40	12.81	110.3	2.13	1.89	7.47		
07. R. VARDAR - SKOPJE - KOMPLEKS BANKI																					
65	24.01.199	0.00	0.00	420	305	115	330	240	90	90	65	25	0.10	3.55	12.80	103.5	0.99	2.12	8.38		
66	27.02.199	0.00	0.00	390	240	150	290	220	70	100	20	80	0.05	4.00	11.20	93.3	5.20	2.59	10.23		
67	02.04.199	0.00	0.00	300	126	174	243	85	158	57	41	16	0.10	4.20	11.11	100.5	6.27	2.88	11.38		
68	28.05.199	0.00	0.00	310	180	130	255	140	115	55	40	15	0.05	3.90	11.30	113.2	1.22	2.64	10.43		
69	01.07.199	0.00	0.00	322	180	142	220	160	60	102	82	20	0.25	3.00	11.33	120.9	6.91	2.80	11.06		
70	27.08.199	0.00	0.00	327	237	90	220	141	79	107	96	11	0.15	2.75	12.48	135.9	1.77	2.10	8.30		
71	29.10.199	0.00	0.00	245	200	45	210	180	30	35	20	15	0.10	3.00	12.28	114.0	4.71	1.41	5.57		
72	18.12.199	0.00	0.00	275	90	185	205	80	125	70	10	60	0.10	3.40	12.85	110.1	1.62	1.63	6.44		
08. R. VARDAR - SKOPJE - JURUMLERI																					
73	24.01.199	0.00	0.00	470	355	115	360	285	75	110	70	40	0.10	3.95	10.81	88.0	2.29	3.43	13.55		
74	28.02.199	0.00	0.00	315	145	170	270	120	150	45	25	20	0.05	4.00	10.80	90.9	6.30	3.65	14.42		
75	03.04.199	0.00	0.00	305	255	50	235	205	30	70	50	20	0.10	4.25	10.31	92.5	4.04	2.92	11.54		
76	29.05.199	0.00	0.00	320	205	115	260	180	80	60	25	35	0.10	3.30	10.37	102.8	4.63	4.20	18.57		
77	02.07.199	0.00	0.00	400	300	100	330	250	80	70	50	20	0.25	2.05	7.97	85.9	5.53	3.44	13.59		
78	28.08.1996	0.00	0.00	400	326	74	337	182	55	63	44	19	0.50	5.20	4.91	53.8	6.48	2.38	9.40		
79	30.10.199	0.00	0.00	405	180	225	280	170	110	125	10	115	0.10	4.10	10.74	98.1	4.64	2.81	11.10		
80	18.12.199	0.00	0.00	385	210	175	265	210	145	120	90	30	0.10	3.50	12.70	109.4	3.30	1.97	7.78		

Table II/3

No.	Date of sampling	CO ₂		Mineralisation						Alkalinity			Oxygen properties						
		Residual mg/l	Agrasive mg/l	Solid particles mg/l		Dissolved particles mg/l		Suspended particles mg/l		mg-equiv./l		Oxygen mg/l O ₂	Saturation % O ₂	BOD ₅ mg/l O ₂	Perm.index mg/l				
1	3	17	18	Total	Mineral.	Organ.	Total	Mineral.	Organ.	Total	Mineral.	Organ.	"p"	"m"	30	31	32	33	34
09. R. VARDAR - v. BASINO SELO																			
81	25.01.1999	0.00	0.00	480	300	180	350	270	80	130	30	100	0.10	3.65	13.94	113.8	7.11	3.15	12.49
82	28.02.1999	0.00	0.00	310	160	150	260	130	130	50	30	20	0.10	3.25	10.72	88.9	4.50	3.08	12.17
83	03.04.1999	0.00	0.00	295	205	90	230	180	50	65	25	40	0.10	4.10	10.12	91.7	6.06	3.89	15.37
84	29.05.1999	0.00	0.00	400	260	140	300	230	70	100	30	70	0.10	3.90	9.55	97.8	5.60	8.51	33.62
85	02.07.1999	0.00	0.00	400	280	120	340	240	100	60	40	20	0.35	2.90	9.70	109.7	4.66	4.96	19.60
10. R. VARDAR - v. BASINO SELO																			
86	28.08.1996	0.00	0.00	396	272	124	316	214	102	80	58	22	0.2	5.65	12.76	150.8	4.52	2.46	9.72
87	30.10.1996	0.00	0.00	390	185	205	275	109	175	115	85	30	0.2	3.64	10.16	96.9	7.54	3.23	12.76
88	18.12.1999	0.00	0.00	340	195	145	295	170	125	45	25	20	0.1	3.1	10.04	86	5.89	4.37	17.27
11. R. VARDAR - VELES																			
89	25.01.1999	0.00	0.00	470	300	170	370	245	125	100	55	45	0.10	3.00	10.84	89.0	5.22	3.57	14.10
90	28.02.1999	0.00	0.00	385	210	175	270	200	70	115	10	105	0.05	4.45	10.70	88.3	7.30	3.81	15.05
91	03.04.1999	0.00	0.00	360	260	100	310	230	80	50	30	20	0.05	4.35	9.80	89.5	5.51	4.22	16.87
92	29.05.1999	0.00	0.00	315	250	65	270	230	40	45	20	25	0.10	4.10	9.57	98.1	7.00	6.73	26.69
93	02.07.1999	0.00	0.00	420	280	140	340	250	90	80	30	50	0.25	3.50	9.82	117.2	6.40	5.60	22.13
94	28.08.1996	0.00	0.00	429	280	149	356	251	105	73	29	44	0.20	5.75	14.28	175.4	5.32	2.79	11.02
95	30.10.1999	0.00	0.00	300	125	175	265	100	165	35	25	10	0.10	3.60	9.95	94.3	5.43	3.81	15.05
96	18.12.1999	0.00	0.00	335	195	140	275	145	130	60	50	10	0.10	3.20	10.69	92.1	7.49	3.43	13.55
12. R. VARDAR - After inflow of R. BABUNA																			
97	25.01.1999	0.00	0.00	450	285	165	350	260	90	100	25	75	0.10	3.30	11.72	96.7	9.54	3.16	12.49
98	28.02.1999	0.00	0.00	270	210	60	255	200	55	15	10	5	0.05	3.15	10.75	86.7	6.80	3.81	15.05
99	03.04.1999	0.00	0.00	325	225	100	300	210	90	25	15	10	0.10	3.60	9.50	86.6	5.86	4.62	18.25
100	29.05.1999	0.00	0.00	370	270	100	320	230	90	50	40	10	0.10	4.20	10.50	107.6	7.68	8.35	32.99
101	02.07.1999	0.00	0.00	400	260	140	360	240	120	40	20	20	0.20	3.80	10.22	122.0	6.02	4.88	19.28
102	28.08.1996	0.00	0.00	356	206	150	331	201	130	25	5	20	0.20	5.25	9.94	119.5	2.42	3.78	14.94
103	30.10.1999	0.00	0.00	290	155	135	260	135	125	30	20	10	0.10	3.45	10.32	97.8	7.37	3.56	14.07
104	18.12.1999	0.00	0.00	320	205	115	275	190	85	45	15	30	0.05	3.05	12.22	105.5	3.99	4.37	17.26
13. R. VARDAR - v. NOGAJEVCI																			
105	04.04.1999	0.00	0.00	390	205	185	255	145	110	135	60	75	0.05	3.70	10.54	94.6	6.75	5.51	21.77
106	30.05.1999	1.76	-	355	290	65	285	250	35	70	40	30	0.00	3.95	10.13	97.1	6.05	4.38	17.31
107	29.08.1999	2.64	-	535	365	170	458	281	167	77	74	3.0	0.00	4.05	7.94	94.9	2.81	3.60	14.22
108	31.10.1999	0.00	0.00	295	190	105	250	160	90	45	15	30	0.15	3.60	10.73	102.4	6.03	1.90	7.51

No.	Date of sampling	CO ₂		Mineralisation				Alkalinity				Oxygen properties							
		Residual mg/l	Agresiv. mg/l	Solid particles mg/l		Dissolved particles mg/l		Suspended particles mg/l		mg-equiv./l	mg/l O ₂	Saturation % O ₂	BOD ₅ mg/l O ₂	Perm. index mg/l					
				Total	Mineral.	Organ.	Total	Mineral.	Organ.					O ₂	KMnO ₄ (COD)				
1	3	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
14. R. VARDAR - v. STARO GRADSKO																			
109	26.01.199	0.00	0.00	510	330	180	410	310	100	100	20	80	0.05	3.30	11.44	92.9	7.10	3.73	14.74
110	29.02.199	0.00	0.00	470	250	220	420	240	180	50	10	40	0.05	3.60	10.30	85.0	5.10	4.95	19.56
111	04.04.199	0.00	0.00	305	230	75	240	205	35	65	25	40	0.05	3.55	10.61	95.9	6.40	4.60	18.17
112	30.05.199	0.00	0.00	420	260	160	370	230	140	50	30	20	0.15	5.00	8.11	98.3	2.84	2.72	10.75
113	03.07.199	1.32	0.00	390	200	190	360	180	180	30	20	10	0.00	3.80	10.00	97.0	4.46	3.81	15.05
15. R. VARDAR - v. STARO GRADSKO																			
114	29.08.1996	0.00	0.00	565	456	109	486	403	93	69	53	16	0.20	5.10	9.89	116.2	1.27	3.3	13.04
115	31.10.199	0.00	0.00	385	150	235	300	100	200	85	50	35	0.10	3.75	11.11	92.8	4.41	2.48	9.8
116	19.12.199	0.00	0.00	275	170	105	250	160	90	25	10	15	0.10	3.30	11.18	95	1.68	1.63	6.44
17. R. VARDAR - DEMIR KAPIJA																			
117	26.01.199	0.00	0.00	450	265	185	365	205	160	85	60	25	0.05	3.50	11.93	97.9	5.03	4.05	16
118	29.02.199	0.00	0.00	460	350	110	390	330	60	70	20	50	0.05	3.50	9.9	81.7	2.6	4.46	17.62
119	05.04.199	0.00	0.00	523	375	148	295	160	135	226	215	13	0.05	3.25	11.11	99.3	5.39	7.41	29.28
112	31.05.199	1.32	0.00	430	300	130	350	260	100	70	40	30	0.00	3.45	10.39	101.9	2.91	3.97	15.69
121	03.07.199	0.00	0.00	390	260	130	340	210	130	50	0	50	0.15	4.05	8.54	98.4	2.85	3.2	12.64
122	30.08.1996	0.00	0.00	465	341	124	432	325	107	33	16	17	0.25	5.20	9.81	115.8	1.36	2.14	8.46
123	01.11.199	0.00	0.00	360	210	150	290	155	135	70	55	15	0.05	3.90	10.54	90.3	2.75	2.23	8.81
124	19.12.199	0.00	0.00	270	195	75	240	180	60	30	15	15	0.05	3.15	11.17	95.5	3.44	1.8	7.11
18. R. VARDAR - GEVELIJA																			
125	26.01.199	0.00	0.00	465	275	190	390	260	120	85	15	70	0.05	3.50	12.50	102.6	4.64	3.73	14.74
126	29.02.199	0.00	0.00	500	320	180	380	260	120	120	60	60	0.05	3.50	10.34	87.9	4.90	5.11	20.19
127	05.04.199	0.00	0.00	490	320	170	280	135	145	210	185	25	0.05	3.10	11.83	108.8	3.43	4.83	19.08
128	31.05.199	0.00	0.00	435	305	130	365	255	110	70	50	20	0.05	2.90	10.69	113.6	3.59	4.86	19.20
129	03.07.199	0.00	0.00	435	240	195	370	200	170	65	40	25	0.20	4.50	10.10	122.4	3.20	2.40	9.48
130	30.08.1996	0.00	0.00	402	304	98	329	263	66	73	41	32	0.35	4.70	12.85	155.8	2.70	2.63	10.39
131	01.11.199	0.00	0.00	315	175	140	250	150	100	65	25	40	0.15	3.10	13.40	115.1	3.83	2.48	9.80
132	19.12.199	0.00	0.00	275	225	50	260	220	40	15	5	10	0.05	3.30	11.96	104.8	2.88	2.14	8.46
23. LIPKOVSKO LAKE - Dam																			
156	6.03.199	0.00	0.00	299	204	95	264	188	76	35	16	19	0.25	2.55	14.18	114.6	2.60	2.43	9.60
157	1.05.199	0.00	0.00	210	110	100	180	100	80	30	10	20	0.15	2.63	12.64	137.7	8.69	1.30	5.14
158	0.08.199	0.00	0.00	221	119	102	201	106	95	20	13	7	0.15	2.70	11.95	131.3	4.21	1.82	7.19
159	2.10.199	0.00	0.00	200	155	45	170	150	20	30	5	25	0.05	1.95	10.04	98.9	0.52	3.00	11.85

Table II/5

No.	Date of sampling	CO ₂		Mineralisation						Alkalinity			Oxygen properties						
		Residual mg/l	Agresiv. mg/l	Solid particles mg/l		Dissolved particles mg/l		Suspended particles mg/l		mg-equiv./l	"p"	"m"	Oxygen mg/l O ₂	Saturation % O ₂	BOD ₅ mg/l O ₂	Perm.index mg/l			
				Total	Mineral.	Organ.	Total	Mineral.	Organ.							Total	Mineral.	Organ.	O ₂
1	3	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
23 a. R. LIPKOVSKA - v. BEDINJE																			
160	6.03.199	0.00	0.00	447	309	138	390	284	106	57	25	32	0.00	4.35	10.98	95.7	2.21	3.16	12.49
161	1.05.199	0.00	0.00	395	245	150	230	155	75	165	90	75	0.05	3.44	11.00	117.9	3.08	2.52	9.96
162	0.08.199	0.00	0.00	385	279	106	358	266	92	27	13	14	0.10	3.75	12.85	143.9	2.33	1.74	6.87
163	2.10.199	0.00	0.00	445	310	135	390	280	110	55	30	25	0.15	3.30	10.19	101.0	1.01	3.54	13.99
24. R. KUMANOVSKA - v. DOBROSANE																			
164	6.03.199	0.00	0.00	592	270	322	495	218	277	97	52	45	0.20	6.05	8.09	72.3	8.57	8.11	32.04
165	1.05.199	0.00	0.00	670	350	320	490	250	240	180	100	80	0.00	7.35	3.85	41.6	2.66	13.00	51.36
166	0.08.199	0.00	0.00	586	337	249	481	314	167	105	23	82	0.20	5.65	5.50	57.8	25.10	9.10	35.95
167	2.10.199	0.00	0.00	660	425	235	510	350	160	150	75	75	0.25	5.30	3.39	33.3	59.36	12.15	48.00
28. R. BREGALNICA - v. BUDINARCI																			
185	7.03.199	1.58	-	303	169	134	247	138	109	56	31	25	0.00	1.60	13.68	104.8	4.31	4.06	16.00
186	3.05.199	0.00	0.00	230	110	120	170	60	110	60	50	10	0.05	1.42	12.19	117.9	2.83	3.36	13.27
187	1.08.199	0.00	0.00	261	151	100	198	114	84	63	37	26	0.10	2.18	11.05	115.1	5.52	4.80	18.96
189	3.10.199	0.00	0.00	230	145	85	190	130	60	40	15	25	0.10	1.50	10.36	88.3	0.59	2.92	11.54
30. R. BREGALNICA - v. OCI PALE																			
190	7.03.199	0.00	0.00	328	144	184	276	138	138	52	6	46	0.15	2.75	11.83	95.6	6.72	6.24	24.65
191	3.05.199	0.00	0.00	400	250	150	280	160	120	120	90	30	0.05	2.70	10.10	100.8	5.36	4.00	15.80
192	1.08.199	0.00	0.00	407	240	167	367	236	131	40	4	36	0.40	4.00	13.37	145.6	3.54	3.72	14.70
193	3.10.199	0.00	0.00	330	205	125	270	170	100	60	35	25	0.25	1.85	9.50	86.8	5.17	3.42	13.51
31.a Accumulation 'KALIMANCI' - Dam																			
194	7.03.199	1.06	-	287	191	96	233	174	59	54	17	37	0.00	2.25	13.06	105.6	1.80	3.24	12.80
195	3.05.199	0.00	0.00	170	160	10	160	150	10	10	10	0	0.50	1.70	12.15	137.4	4.25	3.60	14.22
196	1.08.199	0.00	0.00	288	162	126	270	153	117	18	9	9	0.30	1.45	10.76	129.2	2.72	3.39	13.39
197	3.10.199	5.10	-	220	165	55	175	145	30	45	20	25	0.00	1.65	6.33	64.9	1.71	1.92	7.59
31. R. BREGALNICA - Downflow from acum. " KALIMANCI "																			
198	7.03.199	1.23	-	251	192	59	200	172	28	51	20	31	0.00	2.45	12.36	97.3	2.54	3.08	12.17
199	3.05.199	0.00	0.00	330	220	110	290	180	110	70	40	40	0.05	1.85	11.69	98.9	3.08	2.80	11.06
200	1.08.199	1.76	-	236	111	125	186	100	86	50	11	39	0.00	2.05	14.35	145.1	3.60	1.99	7.86
201	3.10.199	1.94	-	235	140	95	195	110	85	40	30	10	0.00	1.85	10.74	96.0	4.37	1.92	7.59
32. R. BREGALNICA - v. KRUPISTE																			
202	8.03.199	0.00	0.00	320	222	98	285	200	85	35	22	13	0.05	2.65	11.55	95.8	0.88	3.73	14.74
203	2.05.199	0.00	0.00	420	315	105	350	280	70	70	35	35	0.05	2.85	10.58	116.3	3.59	3.60	14.22
204	1.08.199	0.00	0.00	369	304	65	355	302	53	14	2	12	0.15	4.25	14.10	154.4	3.85	2.48	9.80
205	3.10.199	0.00	0.00	330	200	130	290	175	115	40	25	15	0.10	3.75	11.58	108.2	1.60	1.92	7.59

Table II /6

No.	Date of sampling	CO ₂		Mineralisation						Alkalinity			Oxygen properties						
		Residual mg/l	Agresiv. mg/l	Solid particles mg/l		Dissolved particles mg/l		Suspended particles mg/l		mg-equiv./l		Oxygen mg/l O ₂	Saturation % O ₂	BOD ₅		Perm.index mg/l			
				Total	Mineral.	Organ.	Total	Mineral.	Organ.	Total	Mineral.			Organ.	"p"	"m"	O ₂	KMnO ₄ (COD)	
1	3	17	16	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
33. R. BREGALNICA - v. SUFILARI (under SHTIP)																			
206	8.03.199	0.00	0.00	368	234	134	323	219	104	45	15	30	0.05	2.60	13.21	112.3	2.76	5.11	20.19
207	2.05.199	0.00	0.00	460	320	140	390	270	120	70	50	20	0.10	3.90	9.90	110.2	6.80	5.52	21.81
208	2.08.199	0.00	0.00	474	282	192	356	254	102	118	28	90	0.15	4.85	9.84	105.0	5.40	4.30	16.99
209	4.10.199	0.00	0.00	405	345	60	355	315	40	50	30	20	0.10	3.40	11.00	104.3	3.92	2.17	8.57
34. R. BREGALNICA - v. UBOGO																			
210	9.08.199	0.00	0.00	480	327	153	407	303	104	73	24	49	0.40	5.85	11.18	132.0	1.52	4.30	16.99

RESULTS OF SURFACE WATER QUALITY ANALYSIS IN REPUBLIC OF MACEDONIA FOR YEAR 1996

Table III f1

No.	Date of sampling	Biogenic elements					Anions and cations							Hardness					
		Ammonia mg/l N	Nitrites mg/l N	Nitrates mg/l N	Phosphates mg/l PO ₄ ³⁻	Bicarbon. mg/l HCO ₃	Carbon. mg/l CO ₃ ²⁻	Hydrox. mg/l OH ⁻	Chlorides mg/l Cl ⁻	Sulfates mg/l SO ₄ ²⁻	Calcium mg/l Ca ²⁺	Magnes. mg/l Mg ²⁺	Sodium mg/l Na ⁺	Potassium mg/l K ⁺	Total mg/l	Carbonate mg/l	Non-carbonate mg/l		
1	3	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
01. River VARDAR - village VRUTOK (intake point)																			
24	22.01.1996	0.101	0.011	0.000	0.0000	137	3	0.0	11.3	12.5	40.1	8.5	1.7	0.6	7.6	1358	4.0	71.5	3.6
25	01.04.1996	0.000	0.010	0.027	0.0000	137	6	0.0	10.6	7.9	33.6	12.0	2.0	0.6	7.4	1323	4.1	73.3	3.3
26	27.05.1996	0.040	0.010	0.270	0.0000	131	9	0.0	17.0	5.1	30.1	15.8	1.5	0.8	7.8	139.4	5.3	94.7	2.5
27	26.08.1996	0.420	0.020	0.180	0.0020	143	6	0.0	8.9	16.3	36.1	12.8	2.0	1.0	8.0	143.0	5.2	92.9	2.8
28	28.10.1996	0.000	0.000	0.250	0.0130	119	3	0.0	5.5	8.7	37.1	3.6	1.0	0.8	6.0	107.2	1.8	32.2	4.2
02. R. VARDAR - v. BALIN DOL																			
29	22.01.1996	0.264	0.076	0.000	0.0110	70	3	0.0	13.4	28.8	28.1	6.7	2.7	1.0	5.5	98.3	2.4	42.9	3.1
30	01.04.1996	0.187	0.010	0.080	0.0000	119	0	0.0	9.8	8.8	23.7	11.4	2.5	1.4	5.9	105.5	1.2	21.5	4.7
31	27.05.1996	0.180	0.020	0.340	0.0000	110	6	0.0	16.2	10.3	32.1	9.7	2.2	1.4	6.7	119.8	2.5	44.7	4.2
32	26.08.1996	0.320	0.020	0.360	0.0020	61	30	0.0	8.9	27.8	27.1	14.6	2.5	1.4	7.1	126.9	3.9	69.7	3.2
33	28.10.1996	0.070	0.010	0.390	0.0010	65	3	0.0	5.5	11.2	22.0	2.4	2.2	1.0	3.6	64.3	0.8	14.3	2.8
03. R. VARDAR - v. SARAKINCI																			
34	23.01.1996	0.284	0.084	0.000	0.0000	183	3	0.0	11.3	20.0	49.1	11.6	5.5	1.8	9.5	169.8	5.6	100.1	3.9
35	27.02.1996	0.152	0.011	0.000	0.0000	171	3	0.0	16.3	17.4	46.1	9.7	8.5	3.0	8.7	155.5	3.4	60.8	5.3
36	01.04.1996	0.187	0.020	0.030	0.0350	220	0	0.0	17.6	21.3	51.3	18.0	5.5	2.1	11.3	202.0	6.6	118.0	4.7
37	27.05.1996	0.100	0.040	1.150	0.0000	180	6	0.0	18.2	14.7	41.1	18.8	4.2	1.5	10.1	180.5	5.9	105.5	4.2
38	01.07.1996	0.260	0.030	0.740	0.0105	95	6	0.0	16.5	64.0	48.1	8.6	5.2	1.8	8.7	155.5	2.7	48.3	6.0
39	26.08.1996	0.230	0.030	0.810	0.0035	81	30	0.0	11.1	49.9	49.1	9.7	5.0	1.8	9.1	162.6	5.5	98.3	3.6
40	28.10.1996	0.000	0.010	0.240	0.0010	159	3	0.0	8.7	18.0	50.1	4.9	5.2	1.5	8.1	144.8	3.9	69.7	4.2
41	17.12.1996	0.150	0.100	0.610	0.0050	159	6	0.0	6.3	13.5	55.1	2.4	-	-	8.3	148.3	6.3	112.6	2.0
04. R. VARDAR - v. JEGUNOVCE																			
42	23.01.1996	0.171	0.024	0.000	0.0010	153	3	0.0	11.3	25.0	40.1	12.2	4.5	1.5	8.4	150.1	4.6	82.2	3.8
43	27.02.1996	0.187	0.011	0.000	0.0000	146	3	0.0	13.8	18.3	40.1	8.5	8.1	3.0	7.6	135.8	2.0	35.7	5.6
44	01.04.1996	0.132	0.020	0.000	0.0350	220	0	0.0	16.7	18.0	53.3	15.6	6.8	2.0	11.0	196.6	6.6	118.0	4.4
45	27.05.1996	0.060	0.040	0.840	0.0010	159	6	0.0	20.1	14.7	45.1	12.8	4.0	1.4	9.2	164.4	5.1	91.2	4.1
46	01.07.1996	0.180	0.060	0.500	0.0125	107	6	0.0	18.1	65.3	48.1	12.2	5.0	1.7	9.5	169.8	5.0	89.4	4.5
47	26.08.1996	0.380	0.040	0.840	0.0020	192	6	0.0	11.1	22.7	39.1	21.9	4.0	1.8	10.5	187.7	7.3	130.5	3.2
48	28.10.1996	0.000	0.010	0.220	0.0000	116	3	0.0	7.9	20.1	38.1	4.9	3.7	1.4	6.4	114.4	2.1	37.5	4.3
49	17.12.1996	0.030	0.060	0.140	0.0030	137	0	0.0	5.5	14.1	43.1	3.0	-	-	6.7	119.8	5.2	92.9	1.5

Table III/2

No.	Date of sampling	Biogenic elements				Anions and cations								Hardness					
		Ammonia mg/l N	Nitrites mg/l N	Nitrates mg/l N	Phosphates mg/l PO ₄ ³⁻	Bicarbon. mg/l HCO ₃	Carbon. mg/l CO ₃ ²⁻	Hydrox. mg/l OH	Chlorides mg/l Cl	Sulfates mg/l SO ₄ ²⁻	Calcium mg/l Ca ²⁺	Magnes. mg/l Mg ²⁺	Sodium mg/l Na ⁺	Potassium mg/l K ⁺	Total mg/l	Carbonate °dH	Non-carbonate °dH		
1	3	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
05. R. VARDAR - SKOPJE - SARAJ																			
50	24.01.1996	0.171	0.017	0.000	0.0000	140	3	0.0	11.7	16.2	36.1	10.9	4.2	1.5	7.6	135.8	4.0	71.5	3.6
51	27.02.1996	0.198	0.017	0.000	0.0000	180	3	0.0	14.6	19.5	50.1	9.7	7.7	2.8	9.2	164.4	3.6	64.3	5.6
52	02.04.1996	0.264	0.020	0.023	0.0015	137	6	0.0	15.9	20.4	35.5	28.2	5.8	2.4	11.4	203.8	6.2	110.8	5.2
53	28.05.1996	0.040	0.020	0.710	0.0025	183	9	0.0	19.0	14.7	45.1	18.8	2.7	1.4	10.6	189.5	6.1	109.0	4.5
54	01.07.1996	0.270	0.030	0.590	0.0105	171	12	0.0	16.4	25.6	46.1	17.0	5.8	1.8	10.4	185.9	5.4	96.5	5.0
55	27.08.1996	0.050	0.020	1.490	0.0015	165	12	0.0	9.2	45.0	48.1	17.6	5.2	2.0	10.8	193.0	6.7	119.8	4.1
56	29.10.1996	0.000	0.020	0.220	0.0035	121	6	0.0	6.3	14.7	40.1	3.6	4.2	1.7	6.4	114.4	3.2	57.2	3.2
57	17.12.1996	0.000	0.050	0.900	0.0040	119	9	0.0	7.9	17.3	39.1	5.5	-	-	6.7	119.8	4.2	75.1	2.5
06. R. VARDAR - SKOPJE - VLAE																			
58	27.02.1996	0.187	0.011	0.000	0.0000	204	3	0.0	14.6	23.5	55.1	12.8	7.2	2.2	10.6	189.5	5.1	91.2	5.5
59	02.04.1996	0.241	0.010	0.027	0.0015	226	6	0.0	19.2	18.9	25.7	37.1	6.1	2.4	12.1	216.3	7.1	126.9	5.0
60	28.05.1996	0.020	0.030	0.630	0.0030	159	9	0.0	17.0	16.0	41.1	15.2	4.2	1.4	9.2	164.4	4.7	84.0	4.5
61	01.07.1996	0.130	0.040	0.460	0.0110	134	18	0.0	16.1	35.9	42.1	16.4	7.7	2.2	9.7	173.4	4.7	84.0	5.0
62	27.08.1996	0.100	0.020	1.940	0.0020	165	15	0.0	12.6	21.5	34.1	21.9	6.5	2.2	9.8	175.2	4.9	87.6	4.9
63	29.10.1996	0.000	0.010	0.460	0.0010	165	6	0.0	9.1	20.5	48.1	9.1	5.8	1.7	8.8	157.3	5.3	94.7	3.5
64	18.12.1996	0.000	0.040	0.080	0.0035	183	12	0.0	7.9	21.4	64.1	6.7	-	-	10.5	187.7	7.7	137.6	2.8
07. R. VARDAR - SKOPJE - KOMPLEKS BANKI																			
65	24.01.1996	0.264	0.033	0.000	0.0100	204	6	0.0	14.6	26.3	55.1	15.2	6.8	1.8	11.2	200.2	6.9	123.3	4.3
66	27.02.1996	0.311	0.020	0.000	0.0000	238	3	0.0	15.5	21.7	60.1	13.4	11.5	3.2	11.5	205.6	6.0	107.2	5.5
67	02.04.1996	0.540	0.030	0.045	0.0000	244	6	0.0	19.6	20.7	42.5	29.6	8.5	2.6	13.9	248.4	8.1	144.8	5.8
68	28.05.1996	0.240	0.030	0.840	0.0035	232	3	0.0	16.6	17.3	53.1	20.1	5.5	2.0	12.0	214.5	7.2	128.7	4.8
69	01.07.1996	0.260	0.030	0.490	0.0105	153	15	0.0	15.7	41.6	43.1	18.2	9.1	2.6	10.2	182.3	5.2	92.9	5.0
70	27.08.1996	0.320	0.030	1.620	0.0035	150	9	0.0	14.4	62.8	46.1	18.2	9.1	3.0	10.6	189.5	5.4	96.5	5.2
71	29.10.1996	0.110	0.020	0.380	0.0035	171	6	0.0	10.3	21.1	53.1	6.7	7.2	2.1	9.0	160.9	5.4	96.5	3.6
72	18.12.1996	0.090	0.110	0.000	0.0040	195	6	0.0	8.7	21.1	59.1	9.1	-	-	10.4	185.9	8.3	148.4	2.1
08. R. VARDAR - SKOPJE - JURUMLERI																			
73	24.01.1996	0.738	0.160	0.023	0.0000	229	6	0.0	19.6	42.0	74.1	10.9	12.2	2.6	12.9	230.6	8.3	148.4	4.6
74	28.02.1996	0.623	0.013	0.000	0.0000	238	3	0.0	25.1	31.5	62.1	14.6	18.0	3.7	12.0	214.5	5.6	100.1	6.4
75	03.04.1996	0.342	0.010	0.000	0.0000	247	6	0.0	18.4	20.7	53.3	22.8	7.5	2.5	12.7	227.0	8.6	153.7	4.1
76	29.05.1996	0.200	0.030	1.420	0.0045	189	6	0.0	15.4	32.7	49.1	17.0	7.2	2.6	10.8	193.0	5.2	92.9	5.6
77	02.07.1996	0.600	0.050	0.420	0.0130	95	15	0.0	29.0	106.3	53.1	17.6	16.8	3.0	11.5	205.6	5.9	105.5	5.6
78	28.08.1996	1.100	0.070	2.240	0.0060	256	30	0.0	21.1	30.8	69.1	24.9	15.0	3.3	15.4	275.3	9.9	177.0	5.5
79	30.10.1996	0.440	0.030	0.480	0.0040	238	6	0.0	14.2	28.8	65.1	13.4	11.5	2.5	12.2	218.1	8.0	143.0	4.2
80	18.12.1996	0.530	0.110	0.000	0.0040	201	6	0.0	11.1	25.4	64.1	8.5	-	-	10.9	194.8	8.9	159.1	2.0

Table III/3

No.	Date of sampling	Biogenic elements				Anions and cations								Hardness					
		Ammonia mg/l N	Nitrites mg/l N	Nitrates mg/l N	Phosphates mg/l PO ₄ ³⁻	Bicarbon. mg/l HCO ₃	Carbon. mg/l CO ₃ ²⁻	Hydrox. mg/l OH	Chlorides mg/l Cl	Sulfates mg/l SO ₄ ²⁻	Calcium mg/l Ca ²⁺	Magnes. mg/l Mg ²⁺	Sodium mg/l Na ⁺	Potassium mg/l K ⁺	Total mg/l	Carbonate dH	Non-carbonate dH		
1	3	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
09. R. VARDAR - v. BASINO SELO																			
81	25.01.1996	0.679	0.018	0.025	0.0040	211	6	0.0	20.9	40.1	58.1	16.4	13.0	3.0	11.9	212.7	7.0	125.1	4.9
82	28.02.1996	0.424	0.017	0.000	0.0000	186	6	0.0	26.7	47.2	54.1	17.0	14.5	3.1	11.5	205.5	5.1	91.2	6.4
83	03.04.1996	0.443	0.030	0.000	0.0035	238	6	0.0	15.1	23.0	49.4	23.4	9.1	2.7	12.3	219.8	7.3	130.5	5.0
84	29.05.1996	0.040	0.090	2.600	0.0035	226	6	0.0	19.8	34.6	55.1	22.5	6.8	3.0	12.9	230.6	7.3	130.5	5.6
85	02.07.1996	0.360	0.210	0.650	0.0120	134	21	0.0	28.2	119.7	66.1	21.9	18.2	3.8	14.3	255.6	9.3	166.2	5.0
10. R. VARDAR - v. BASINO SELO																			
86	28.08.1996	0.590	0.350	3.340	0.0060	320	12	0.0	22.5	20.0	72.1	25.5	16.0	4.6	16.0	286.0	9.4	168.0	6.6
87	30.10.1996	0.360	0.090	0.360	0.0050	198	12	0.0	19.0	28.8	58.1	11.5	15.2	3.6	10.5	187.7	6.7	119.8	3.8
88	18.12.1996	0.260	0.170	0.200	0.0040	177	6	0.0	11.9	22.8	56.1	8.5	-	-	9.8	175.2	7.1	127.0	2.7
11. R. VARDAR - VELES																			
89	25.01.1996	1.049	0.193	0.027	0.0070	171	6	0.0	26.8	67.7	56.1	16.4	16.8	3.3	11.6	206.9	7.3	130.5	4.3
90	28.02.1996	0.567	0.018	0.000	0.0000	265	3	0.0	23.4	37.4	56.1	15.8	32.0	8.7	11.5	205.6	6.2	110.8	5.3
91	03.04.1996	0.474	0.030	0.000	0.0035	259	3	0.0	15.9	23.6	63.2	16.8	11.2	3.2	12.7	227.0	8.0	143.0	4.7
92	29.05.1996	0.340	0.100	2.960	0.0065	238	6	0.0	17.0	40.3	53.1	26.1	8.5	3.1	13.4	239.5	7.2	128.7	6.2
93	02.07.1996	0.430	0.190	0.500	0.0120	183	15	0.0	30.2	100.5	58.1	28.6	20.0	4.1	14.7	262.7	8.5	151.9	6.2
94	28.08.1996	0.360	0.270	1.900	0.0090	326	12	0.0	22.5	25.9	77.2	23.1	19.0	4.7	16.1	287.8	10.4	185.9	5.7
95	30.10.1996	0.220	0.100	0.750	0.0050	208	6	0.0	23.0	32.7	56.1	12.8	18.5	3.4	10.8	193.0	6.6	118.0	4.2
96	18.12.1996	0.460	0.190	0.110	0.0050	183	6	0.0	11.9	31.6	54.1	9.7	-	-	9.8	175.2	6.7	119.8	3.1
12. R. VARDAR - After inflow of R. BABUNA																			
97	25.01.1996	0.738	0.015	0.000	0.0020	189	6	0.0	26.3	55.9	55.1	18.2	16.5	3.1	11.9	212.7	7.6	135.8	4.3
98	28.02.1996	0.470	0.015	0.000	0.0000	186	3	0.0	28.0	45.1	48.1	15.8	19.5	5.2	10.4	185.9	4.0	71.5	6.4
99	03.04.1996	0.295	0.030	0.023	0.0035	220	6	0.0	13.1	22.2	49.4	19.2	8.1	3.0	11.3	202.0	6.6	118.0	4.7
100	29.05.1996	0.410	0.100	1.620	0.0070	244	6	0.0	15.8	26.9	53.1	23.7	8.1	3.1	12.9	230.6	7.4	132.3	5.5
101	02.07.1996	0.360	0.220	0.960	0.0125	208	12	0.0	26.2	89.0	68.1	23.1	18.7	3.9	14.8	264.5	8.8	157.3	6.0
102	28.08.1996	0.390	0.230	1.650	0.0050	296	12	0.0	19.9	25.6	67.1	23.7	17.2	3.9	14.8	264.5	7.8	139.4	7.0
103	30.10.1996	0.160	0.080	0.130	0.0035	198	6	0.0	21.4	25.9	54.1	10.9	16.8	3.4	10.1	180.5	5.3	94.7	4.8
104	18.12.1996	0.240	0.140	0.590	0.0050	180	3	0.0	11.9	29.8	54.1	9.1	-	-	9.7	173.4	6.3	112.6	3.4
13. R. VARDAR - v. NOGAEVCI																			
105	04.04.1996	0.691	0.030	0.000	0.0050	220	3	0.0	18.8	28.9	51.3	20.4	8.5	9.2	11.9	212.7	5.3	94.7	6.6
106	30.05.1996	0.620	0.070	1.670	0.0095	241	0	0.0	21.4	46.7	63.1	18.8	12.6	3.3	13.2	235.9	6.2	110.8	7.0
107	29.08.1996	0.800	0.910	2.650	0.0540	247	0	0.0	75.7	90.3	100.2	21.3	22.2	4.9	18.9	337.8	7.0	125.1	11.9
108	31.10.1996	0.110	0.680	0.210	0.0050	214	9	0.0	16.6	33.3	60.1	12.2	-	-	11.2	200.2	5.9	105.5	5.3

No.	Date of sampling	Biogenic elements				Anions and cations								Hardness					
		Ammonia mg/l N	Nitrites mg/l N	Nitrates mg/l N	Phosphates mg/l PO ₄ ³⁻	Bicarbon. mg/l HCO ₃	Carbon. mg/l CO ₃ ²⁻	Hydrox. mg/l OH ⁻	Chlorides mg/l Cl ⁻	Sulfates mg/l SO ₄ ²⁻	Calcium mg/l Ca ²⁺	Magnes. mg/l Mg ²⁺	Sodium mg/l Na ⁺	Potassium mg/l K ⁺	Total mg/l	Carbonate %BH	Non-carbonate %BH		
14. R. VARDAR - v. STARO GRADSKO																			
1	3	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
109	26.01.1996	0.650	0.030	0.025	0.0050	195	3	0.0	20.1	84.6	60.1	21.3	14.5	3.2	13.3	237.7	5.5	98.3	7.8
110	29.02.1996	0.661	0.030	0.027	0.0000	214	3	0.0	20.5	48.7	54.1	14.6	22.2	6.3	10.9	194.8	3.9	69.7	7.0
111	04.04.1996	0.661	0.040	0.050	0.0035	211	3	0.0	18.0	36.2	53.3	18.0	9.5	3.6	11.6	207.3	6.1	109.0	5.5
112	30.05.1996	0.660	0.060	1.710	0.0085	232	0	0.0	18.2	85.1	73.1	18.8	13.5	3.6	14.6	261.0	6.2	110.8	8.4
113	03.07.1996	0.060	0.140	0.740	0.011	286.8	9	0	25.4	52.5	66.1	28	20	4.2	15.7	280.62	9.3	186.23	6.4
16. R. VARDAR - v. STARO GRADSKO																			
114	29.08.1996	1.000	0.830	2.100	0.0510	287	12	0.0	29.2	161.1	118.2	25.5	20.2	5.2	22.4	400.4	8.8	157.3	13.6
115	31.10.1996	0.230	0.890	0.310	0.0030	217	6	0.0	16.6	35.9	60.1	13.4	-	-	11.5	205.6	6.2	110.8	5.3
116	19.12.1996	0.290	0.140	0.000	0.0065	189	6	0.0	13.4	34.7	55.1	11.6	-	-	10.4	185.9	5.6	100.1	4.8
17. R. VARDAR - DEMIR KAPUJA																			
117	26.01.1996	0.264	0.035	0.000	0.0070	208	3	0.0	20.5	58.9	61.1	15.8	15.6	4.2	12.2	218.1	6.3	112.6	5.9
118	29.02.1996	0.253	0.015	0.045	0.0000	208	3	0.0	23.4	36.4	49.1	15.2	20.0	6.3	10.4	185.9	4.1	73.3	6.3
119	05.04.1996	0.128	0.030	0.023	0.0035	192	3	0.0	18.8	48.1	43.4	22.8	10.8	3.6	11.3	202.0	5.0	89.4	6.3
112	31.05.1996	0.330	0.330	1.410	0.0095	211	0	0.0	21.4	81.3	63.1	20.7	13.7	4.0	13.6	243.1	7.8	139.4	5.8
121	03.07.1996	0.000	0.020	0.830	0.0150	229	9	0.0	25.4	42.9	54.1	23.1	17.5	4.7	12.9	230.6	5.9	105.5	7.0
122	30.08.1996	0.070	0.060	12.800	0.0440	287	15	0.0	24.4	138.6	106.2	26.1	21.0	5.7	20.9	373.6	10.4	185.9	10.5
123	01.11.1996	0.100	0.140	0.850	0.0140	232	3	0.0	18.2	39.1	60.1	14.6	-	-	11.8	210.9	6.5	116.2	5.3
124	19.12.1996	0.060	0.090	0.060	0.0070	186	3	0.0	11.9	32.4	54.1	10.9	-	-	10.1	180.5	6.3	112.6	3.8
18. R. VARDAR - GEVGELIJA																			
125	26.01.1996	0.264	0.041	0.025	0.0070	208	3	0.0	21.3	69.6	63.1	16.4	16.8	3.9	12.6	225.2	5.7	101.9	6.9
126	29.02.1996	0.198	0.017	0.048	0.0000	208	3	0.0	20.5	40.4	50.1	14.6	20.2	6.2	10.4	185.9	2.8	50.0	7.6
127	05.04.1996	0.093	0.020	0.023	0.0040	183	3	0.0	19.6	56.5	53.3	17.4	10.5	3.9	11.4	203.8	5.3	94.7	6.1
128	31.05.1996	0.460	0.380	0.670	0.0085	171	3	0.0	18.2	102.4	56.1	22.5	14.1	4.1	13.0	232.4	6.0	107.2	7.0
129	03.07.1996	0.000	0.020	0.630	0.0125	250	12	0.0	22.6	73.6	66.1	26.7	19.5	4.7	15.4	275.3	7.8	139.4	7.6
130	30.08.1996	0.090	0.030	1.340	0.0360	244	21	0.0	21.8	98.1	96.2	17.0	18.8	5.4	17.4	311.0	6.3	112.6	11.1
131	01.11.1996	0.190	0.240	0.270	0.0050	171	9	0.0	18.2	49.9	54.1	14.6	-	-	10.9	194.8	4.9	87.6	6.0
132	19.12.1996	0.030	0.060	0.500	0.0070	195	3	0.0	11.9	37.4	57.1	12.2	-	-	10.8	193.0	6.0	107.2	4.8
23. LIPKOVSKO LAKE - Dam																			
155	26.03.1996	0.101	0.010	0.023	0.0040	137	15	0.0	13.1	18.9	37.5	14.4	1.0	2.2	8.6	153.7	4.4	78.6	4.2
157	21.05.1996	0.150	0.150	0.440	0.0015	142	9	0.0	15.8	17.9	42.1	12.2	3.0	2.1	8.7	155.5	3.9	69.7	4.8
158	20.08.1996	0.520	0.020	0.670	0.0000	146	9	0.0	11.8	39.0	40.1	17.6	3.5	2.2	9.7	173.4	5.6	100.1	4.1
159	22.10.1996	0.050	0.020	0.220	0.0035	113	3	0.0	5.1	21.8	35.1	6.1	2.5	2.2	6.3	112.6	3.9	69.7	2.4

Table III /5

No.	Date of sampling	Biogenic elements					Anions and cations							Hardness					
		Ammonia mg/l N	Nitrites mg/l N	Nitrates mg/l N	Phosphates mg/PO ₄ ³⁻	Bicarbon. mg/HCO ₃	Carbon. mg/CO ₃ ²⁻	Hydrox. mg/l OH ⁻	Chlorides mg/l Cl ⁻	Sulfates mg/l SO ₄ ²⁻	Calcium mg/ Ca ²⁺	Magnes. mg/l Mg ²⁺	Sodium mg/l Na ⁺	Potassium mg/l K ⁺	Total mg/l	Carbonate mg/l	Non-carbonate mg/l		
1	3	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
23 a. R. LIPKOVSKA - v. BEDINJE																			
160	26.03.1996	0.043	0.030	0.045	0.0050	265	0	0.0	19.6	30.8	59.2	22.8	9.7	3.2	13.5	241.3	7.4	132.3	6.1
161	21.05.1996	0.120	0.180	3.250	0.0035	204	3	0.0	22.9	31.4	42.1	24.3	8.8	3.0	11.5	205.6	5.8	103.7	5.7
162	20.08.1996	0.430	0.050	4.940	0.0000	217	6	0.0	18.5	34.8	45.1	22.5	14.1	3.9	11.5	205.6	5.3	94.7	6.2
163	22.10.1996	0.200	0.040	3.520	0.0010	183	9	0.0	15.8	89.6	60.1	21.3	12.6	3.8	13.3	237.7	8.7	155.5	4.6
24. R. KUMANOVSKA - v. DOBROSANE																			
164	26.03.1996	3.691	0.120	0.045	0.0100	345	12	0.0	27.0	43.2	79.9	32.3	17.5	5.3	18.5	330.7	8.0	143.0	10.5
165	21.05.1996	9.500	3.650	1.650	0.0055	449	0	0.0	45.5	46.1	62.1	59.6	27.0	6.7	22.4	400.4	18.2	325.3	4.2
166	20.08.1996	1.200	0.410	1.420	0.0040	320	12	0.0	40.6	98.8	89.2	29.2	35.5	9.2	19.2	343.2	11.5	205.6	7.7
167	22.10.1996	0.650	0.220	1.080	0.014	293	15	0.0	29.3	95.1	84.2	28.0	25.8	9.1	18.2	325.3	13.2	235.9	5.0
29. R. BREGALNICA - v. BUDINARCI																			
185	27.03.1996	0.427	0.010	0.045	0.0100	98	0	0.0	15.5	30.5	17.8	14.4	8.1	3.2	5.8	103.7	2.7	48.3	3.1
186	23.05.1996	0.180	0.180	0.710	0.0040	81	3	0.0	17.4	35.9	26.1	9.7	7.5	3.1	5.9	105.5	0.6	10.7	5.3
187	21.08.1996	0.560	0.190	1.210	0.0090	121	6	0.0	18.5	52.3	31.1	15.2	15.2	6.1	7.8	139.4	1.8	32.2	6.0
189	23.10.1996	0.210	0.030	0.140	0.0055	79	6	0.0	9.5	43.5	24.0	8.5	11.5	4.3	5.3	94.7	1.1	19.7	4.2
30. R. BREGALNICA - v. OCI PALE																			
190	27.03.1996	0.357	0.020	0.045	0.0050	150	9	0.0	13.1	35.2	33.6	16.8	12.2	3.6	8.6	153.7	1.4	25.0	6.8
191	23.05.1996	0.150	0.130	1.000	0.0040	159	3	0.0	22.6	41.0	44.1	14.6	11.5	4.0	9.5	169.8	2.5	44.7	7.0
192	21.08.1996	0.320	0.260	0.730	0.0040	195	24	0.0	19.9	102.1	60.1	28.0	22.7	7.2	14.8	264.5	8.5	151.9	6.3
193	23.10.1996	0.140	0.040	0.220	0.0060	82	15	0.0	39.6	84.5	44.1	12.8	26.2	5.7	9.1	152.7	5.2	92.9	3.9
31.a Accumulation 'KALIMANCI' - Dam																			
194	27.03.1996	0.152	0.010	0.045	0.0070	137	0	0.0	22.1	42.9	36.5	14.4	11.5	3.9	8.4	150.1	0.1	1.8	8.3
195	23.05.1996	0.040	0.100	0.100	0.0070	43	30	0.0	23.3	40.3	33.1	11.6	8.1	3.0	7.3	130.5	2.3	41.1	5.0
196	21.08.1996	0.000	0.000	0.000	0.0000	52	18	0.0	45.2	71.9	39.1	18.2	11.5	4.0	9.7	173.4	4.1	73.3	5.6
197	23.10.1996	0.000	0.000	0.070	0.0050	101	0	0.0	12.7	68.5	36.1	10.3	12.2	4.1	7.4	132.3	1.2	21.5	6.2
31. R. BREGALNICA - Downflow from acum. " KALIMANCI "																			
198	27.03.1996	0.152	0.020	0.045	0.0050	150	0	0.0	16.3	47.3	39.5	13.8	11.5	4.0	8.7	155.5	1.8	32.2	6.9
199	23.05.1996	0.130	0.100	1.030	0.0040	107	3	0.0	19.4	57.0	38.1	12.2	9.7	3.4	8.1	144.8	1.5	25.8	6.6
200	21.08.1996	0.000	0.010	0.760	0.0020	125	0	0.0	12.2	60.7	34.2	15.8	9.5	3.2	8.4	150.1	4.9	87.6	3.5
201	23.10.1996	0.000	0.000	0.300	0.0050	113	0	0.0	13.1	63.4	35.1	13.4	10.5	3.4	8.0	143.0	4.5	80.4	3.5
32. REKA BREGALNICA - s. KRUPISTE																			
202	28.03.1996	0.591	0.130	0.050	0.0110	156	3	0.0	18.8	51.2	41.5	16.2	12.6	4.6	9.5	169.8	3.0	53.6	6.5
203	22.05.1996	0.150	0.140	0.730	0.0040	168	3	0.0	22.6	109.1	52.1	23.7	17.5	4.9	12.7	227.0	4.6	82.2	8.1
204	21.08.1996	0.040	0.010	0.310	0.0020	241	9	0.0	19.2	71.9	42.1	31.0	29.0	7.0	13.0	232.4	6.7	119.8	6.3
205	23.10.1996	0.200	0.050	0.280	0.0050	227	6	0.0	13.5	57.1	50.1	16.4	20.0	5.4	10.8	193.0	4.9	87.6	5.9

Table III /5

No.	Date of sampling	Biogenic elements					Anions and cations								Hardness				
		Ammonia mg/l N	Nitrites mg/l N	Nitrates mg/l N	Phosphates mg/l PO ₄ ³⁻	Bicarbon. mg/l HCO ₃	Carbon. mg/l CO ₃ ²⁻	Hydrox. mg/l OH ⁻	Chlorides mg/l Cl ⁻	Sulfates mg/l SO ₄ ²⁻	Calcium mg/l Ca ²⁺	Magnes. mg/l Mg ²⁺	Sodium mg/l Na ⁺	Potassium mg/l K ⁺	Total mg/l	Carbonate mg/l	Non-carbonate mg/l		
1	3	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
33. REKA BREGALNICA - s. SUFILARI (Pod STIP)																			
206	28.03.1996	1.030	0.170	0.090	0.0105	153	3	0.0	21.6	55.6	42.4	16.2	14.5	5.1	9.7	173.4	4.2	75.1	5.5
207	22.05.1996	0.220	0.080	0.410	0.0065	226	6	0.0	22.2	103.7	65.1	26.1	21.5	5.5	15.1	270.0	6.7	119.8	8.4
208	22.08.1996	0.470	0.080	1.020	0.0062	278	9	0.0	22.5	98.8	68.1	23.2	30.5	8.6	16.2	289.6	9.5	169.8	6.7
209	24.10.1996	0.460	0.050	0.120	0.0050	195	6	0.0	26.1	65.4	55.1	17.0	23.5	6.4	11.6	207.3	5.4	96.5	6.2
34. REKA BREGALNICA - s. UBOGO																			
210	29.08.1996	0.190	0.040	1.520	0.0120	308	24	0.0	24.7	91.6	79.2	32.8	31.0	8.9	18.6	332.5	9.6	171.6	9.0

RESULTS OF SURFACE WATER QUALITY ANALYSIS IN REPUBLIC OF MACEDONIA FOR YEAR 1996

Table IV /1

No.	Date of samples	Toxic and hazardous heavy metals										Total beta radioactivity			Microbiological properties		Biological properties	
		Iron mg/l Fe	Manganese mg/l Mn	Lead mg/l Pb	Zinc mg/l Zn	Cadmium mg/l Cd	Chromium mg/l Cr+6	Vk. mg/l	Sulfides mg/l H ₂ S		Bq/l	Bq/l	Bq/l	Est. count of Coliforms	Identification	Grade of saprobiological or biological production.	Index of saprob. prod.	
01. River VARDAR - village VRUTOK (Intake point.)																		
1	3	54	55	56	57	58	59	68	69	70	71	75	76	78	79			
24	22.01.1996	0.024	0.000	0.000	0.004	0.0000	0.0000	0.000	0.000	0.000	-	-	-	-	-	-	-	
25	01.04.1996	0.011	0.000	0.000	0.008	0.0000	0.0000	0.000	0.000	0.000	-	0	Not classified	-	-	-	-	
26	27.05.1996	0.098	0.000	0.000	0.002	0.0000	0.0017	0.000	0.000	0.000	-	0	Not classified	-	-	-	-	
27	26.08.1996	0.035	0.000	0.000	0.007	0.0000	0.0000	0.000	0.000	0.000	-	8	E.coli	-	-	-	-	
28	28.10.1996	0.015	0.000	-	-	-	-	0.000	0.000	0.000	-	6	E.coli	-	-	-	-	
02. R. VARDAR - v. BALIN DOL																		
29	22.01.1996	0.079	0.000	0.000	0.005	0.0003	0.0017	0.000	0.000	0.000	-	-	-	-	-	-	-	
30	01.04.1996	0.022	0.000	0.000	0.008	0.0017	0.0000	0.000	0.000	0.000	-	240,000	E.coli ; Sulfure Clostridium	-	β-mezosap.	1.91		
31	27.05.1996	0.093	0.003	0.009	0.007	0.0000	0.0017	0.000	0.000	0.000	-	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	β-α mezosap.	2.45		
32	26.08.1996	0.026	0.000	0.000	0.004	0.0000	0.0000	0.000	0.000	0.000	-	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	β-mezosap.	2.28		
33	28.10.1996	0.025	0.001	-	-	-	-	0.000	0.000	0.000	-	240,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	β-mezosap.	2.18		
03. R. VARDAR - v. SARAKINCI																		
34	23.01.199	0.062	0.002	0.000	0.004	0.0021	0.0026	0.239	0.019	0.220	-	-	-	-	-	-	-	
35	27.02.199	0.048	0.009	0.000	0.013	0.0043	0.0013	0.000	0.000	0.000	-	-	-	-	-	-	-	
36	01.04.199	0.022	0.005	0.000	0.009	0.0000	0.0000	0.000	0.000	0.000	-	240,000	E.coli ; Sulf. Clo.;	-	β-mezosap.	2.41		
37	27.05.199	0.106	0.007	0.009	0.006	0.0021	0.0026	0.000	0.000	0.000	-	>2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	β-mezosap.	2.25		
38	01.07.199	0.055	0.015	0.000	0.000	0.0000	0.0017	0.000	0.000	0.000	-	380,000	E.coli ; B. Proteus	-	-	-		
39	26.08.199	0.064	0.002	0.000	0.004	0.0000	0.0000	0.000	0.000	0.000	-	2,400,000	E.coli ; B. Proteus	-	β-mezosap.	2.05		
40	28.10.199	0.029	0.009	-	-	-	-	0.000	0.000	0.000	-	240,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	β-mezosap.	2.03		
41	17.12.199	-	-	-	-	-	-	0.460	0.046	0.414	-	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-		
04. R. VARDAR - v. JEGUNOVCE																		
42	23.01.199	0.022	0.002	0.000	0.004	0.0021	0.0087	0.000	0.000	0.000	-	-	-	-	-	-	-	
43	27.02.199	0.110	0.003	0.000	0.007	0.0039	0.0039	0.996	0.130	0.967	-	-	-	-	-	-	-	
44	01.04.199	0.028	0.005	0.000	0.006	0.0000	0.0043	0.000	0.000	0.000	-	2,400,000	E.coli	-	β-mezosap.	2.20		
45	27.05.199	0.077	0.004	0.004	0.007	0.0026	0.0087	0.315	0.057	0.258	-	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	β-mezosap.	2.06		
46	01.07.199	0.049	0.005	0.000	0.001	0.0000	0.0087	0.000	0.000	0.000	-	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-		
47	26.08.199	0.031	0.005	0.000	0.005	0.0013	0.0175	0.000	0.000	0.000	-	380,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	β-mezosap.	1.81		
48	28.10.199	0.058	0.007	-	-	-	-	0.0021	0.000	0.000	-	240,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	β-mezosap.	2.34		
49	17.12.199	-	-	-	-	-	-	0.770	0.092	0.678	-	240,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-		

No.	Date of samples	Toxic and hazardous heavy metals							Total beta radioactivity			Microbiological properties		Biological properties	
		Iron mg/l Fe	Manganese mg/l Mn	Lead mg/l Pb	Zinc mg/l Zn	Cadmium mg/l Cd	Chromium mg/l Cr+6	Vk. mg/l	Sulfides mg/l H ₂ S	Bq/l	Est. count of Coliforms	Identification	Grade of saprobiological or biological production.	Index of saprob. prod.	
1	3	54	55	56	57	58	59	68	69	70	71	75	76	78	79
05. R. VARDAR - SKOPJE - SARAJ															
50	4. 01. 199	0.249	0.002	0.009	0.006	0.0013	0.0043	0.000	0.000	0.000	-	-	-	-	-
51	7. 02. 199	0.042	0.006	0.009	0.011	0.0043	0.0043	0.000	0.000	0.000	-	-	-	-	-
52	2. 04. 199	0.033	0.002	0.000	0.022	0.0000	0.0035	0.000	0.000	0.000	-	-	E. coli; Sulf. Clo;	β-mezosap.	1.78
53	8. 05. 199	0.087	0.005	0.009	0.002	0.0021	0.0061	0.000	0.000	0.000	-	-	E. coli; B. Proteus; Sulf. Clo;	β-mezosap.	1.93
54	1. 07. 199	0.053	0.004	0.000	0.001	-	0.0087	0.000	0.000	0.000	-	-	E. coli; B. Proteus; Sulf. Clo;	β-mezosap.	2.18
55	7. 08. 199	0.023	0.003	0.000	0.002	0.0000	0.0092	0.000	0.000	0.000	-	-	E. coli; B. Proteus; Sulf. Clo;	β-mezosap.	2.35
56	9. 10. 199	0.086	0.002	-	-	-	0.0000	0.000	0.000	0.000	-	-	E. coli; Sulfidoreduktivni kl	β-mezosap.	1.87
57	7. 12. 199	-	-	-	-	-	-	1.080	0.108	0.972	-	-	E. coli; B. Proteus; Sulf. Clo;	-	-
06. R. VARDAR - SKOPJE - VLAJE															
58	7. 02. 199	0.142	0.009	0.004	0.009	0.0048	0.0035	0.000	0.000	0.000	-	-	-	-	-
59	2. 04. 199	0.025	0.001	0.000	0.011	0.0000	0.0000	0.000	0.000	0.000	-	-	E. coli; B. Proteus; Sulf. Clo;	-	-
60	8. 05. 199	0.106	0.005	0.009	0.002	0.0026	0.0083	0.000	0.000	0.000	-	-	E. coli; B. Proteus; Sulf. Clo;	-	-
61	1. 07. 199	0.059	0.004	0.000	0.000	0.0074	0.0070	0.000	0.000	0.000	-	-	E. coli; B. Proteus; Sulf. Clo;	-	-
62	7. 08. 199	0.004	0.001	0.000	0.004	0.0000	0.0021	0.455	0.023	0.432	-	-	E. coli; B. Proteus	-	-
63	9. 10. 199	0.040	0.003	-	-	-	0.0021	0.000	0.000	0.000	-	-	E. coli; B. Proteus; Sulf. Clo;	-	-
64	8. 12. 199	-	-	-	-	-	-	1.080	0.086	0.993	-	-	E. coli; B. Proteus; Sulf. Clo;	-	-
07. R. VARDAR - SKOPJE - KOMPLEKS BANKI															
65	4. 01. 199	0.007	0.001	0.013	0.011	0.0030	0.0065	0.000	0.000	0.000	-	-	-	-	-
66	7. 02. 199	0.035	0.008	0.004	0.009	0.0052	0.0021	0.058	0.006	0.052	-	-	-	-	-
67	2. 04. 199	0.048	0.004	0.009	0.020	0.0000	0.0021	0.000	0.000	0.000	-	-	E. coli; B. Proteus; Sulf. Clo;	β-mezosap.	1.80
68	8. 05. 199	0.072	0.007	0.009	0.002	0.0035	0.0052	0.126	0.008	0.118	-	-	E. coli; B. Proteus; Sulf. Clo;	β-mezosap.	1.94
69	1. 07. 199	0.048	0.004	0.000	0.026	0.0008	0.0061	0.441	0.009	0.432	-	-	E. coli; B. Proteus; Sulf. Clo;	-	-
70	7. 08. 199	0.028	0.001	0.000	0.039	0.0000	0.0026	0.182	0.006	0.176	-	-	E. coli; B. Proteus; Sulf. Clo;	β-mezosap.	1.97
71	9. 10. 199	0.035	0.003	-	-	-	0.0000	0.000	0.000	0.000	-	-	E. coli; B. Proteus; Sulf. Clo;	β-O mezosap.	1.57
72	8. 12. 199	-	-	-	-	-	-	0.460	0.035	0.425	-	-	E. coli; B. Proteus; Sulf. Clo;	-	-
08. R. VARDAR - SKOPJE - JURUMLERI															
73	4. 01. 199	0.044	0.011	0.022	0.033	0.0043	0.0092	0.119	0.010	0.110	-	-	-	-	-
74	8. 02. 199	0.065	0.013	0.004	0.026	0.0035	0.0043	0.059	0.007	0.052	0.11	-	-	-	-
75	3. 04. 199	0.020	0.005	0.013	0.009	0.0013	0.0021	0.000	0.000	0.000	0.1	-	E. coli; B. Proteus; Sulf. Clo;	β-mezosap.	1.80
76	9. 05. 199	0.106	0.015	0.004	0.012	0.0021	0.0043	0.126	0.010	0.116	0.17	-	E. coli; B. Proteus; Sulf. Clo;	β-mezosap.	2.23
77	2. 07. 199	0.062	0.002	0.015	0.009	0.0021	0.0074	0.000	0.000	0.000	0.15	-	E. coli; B. Proteus	β-mezosap.	2.38
78	28. 08. 199	0.090	0.010	0.000	0.026	0.0000	0.0000	0.152	0.027	0.125	0.32	-	E. coli; B. Proteus; Sulf. Clo;	p - sap.	3.44
79	0. 10. 199	0.033	0.020	-	-	-	0.0013	0.000	0.000	0.000	0.1	-	E. coli; B. Proteus; Sulf. Clo;	β-mezosap.	2.00
80	8. 12. 199	-	-	-	-	-	-	1.540	0.123	1.417	0.08	-	E. coli; Sulf. Clo;	-	-

Table IV/3

No.	Date of samples	Toxic and hazardous heavy metals										Microbiological properties			Biological properties	
		Iron mg/l Fe	Manganese mg/l Mn	Lead mg/l Pb	Zinc mg/l Zn	Cadmium mg/l Cd	Chromium mg/l Cr+6	Sulfides mg/l H ₂ S		Total beta radioactivity Bq/l	Est. count of Coliforms	Identification	Grade of saprobiological or biological production.	Index of saprob. prod.		
1	3	54	55	56	57	58	59	68	69	70	71	75	76	78	79	
09. R. VARDAR - v. BASINO SELO																
81	5.01.199	0.023	0.008	0.016	0.027	0.0035	0.0092	0.119	0.014	0.105	-	-	-	-	-	
82	8.02.199	0.026	0.021	0.002	0.012	0.0021	0.0026	0.176	0.019	0.156	-	-	-	-	-	
83	9.05.199	0.033	0.007	0.009	0.015	0.0035	0.0000	0.000	0.000	0.000	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
84	9.05.199	0.250	0.012	0.004	0.006	0.0008	0.0026	0.000	0.000	0.000	>2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
85	2.07.199	0.071	0.002	0.009	0.008	0.0013	0.0061	0.000	0.000	0.000	2,400,000	E.coli ; B. Proteus	-	-	-	
10. R. VARDAR - v. BASINO SELO																
86	28.08.199	0.026	0.009	0.000	0.027	0.0000	0.0035	0.000	0.000	0.000	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
87	30.10.1995	0.053	0.047	-	-	-	-	0.000	0.000	0.000	380,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
88	8.12.199	-	-	-	-	-	-	2.000	0.150	1.850	210,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
11. R. VARDAR - VELES																
89	5.01.199	0.106	0.009	0.009	0.015	0.0030	0.0070	0.060	0.009	0.051	-	-	-	-	-	
90	8.02.199	0.044	0.023	0.000	0.018	0.0021	0.0017	0.234	0.028	0.206	-	-	-	-	-	
91	3.04.199	0.044	0.007	0.035	0.015	0.0057	0.0000	0.000	0.000	0.000	380,000	E.coli ; Sulf. Clo.;	β-mezosap.	-	2.305	
92	9.05.199	0.123	0.013	0.000	0.003	0.0013	0.0017	0.189	0.023	0.166	>2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	β-mezosap.	-	2.24	
93	2.07.199	0.059	0.002	0.007	0.014	0.0000	0.0061	0.000	0.000	0.000	2,400,000	E.coli ; B. Proteus	-	-	-	
94	28.08.199	0.074	0.018	0.000	0.022	0.0000	0.0021	0.000	0.000	0.000	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	α-mezosap.	-	2.75	
95	0.10.199	0.052	0.042	-	-	-	-	0.000	0.000	0.000	>2400000	E.coli ; B. Proteus ; Sulf. Clo.;	β-mezosap.	-	2.35	
96	8.12.199	-	-	-	-	-	-	0.310	0.028	0.282	960,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
12. R. VARDAR - After inflow of R. BABUNA																
97	5.01.199	0.030	0.016	0.022	0.022	0.0030	0.0070	0.000	0.000	0.000	-	-	-	-	-	
98	8.02.199	0.043	0.023	0.009	0.018	0.0045	0.0008	0.176	0.019	0.156	-	-	-	-	-	
99	3.04.199	0.059	0.007	0.035	0.020	0.0000	0.0000	0.000	0.000	0.000	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	β-mezosap.	-	2.00	
100	9.05.199	0.126	0.008	0.000	0.004	0.0013	0.0017	0.126	0.015	0.111	>2400000	E.coli ; B. Proteus ; Sulf. Clo.;	α-mezosap.	-	3.28	
101	2.07.199	0.068	0.003	0.007	0.015	0.0026	0.0043	0.000	0.000	0.000	210,000	E.coli ; B. Proteus ; Sulf. Clo.;	α-mezosap.	-	2.59	
102	28.08.199	0.043	0.008	0.000	0.040	0.0000	0.0105	0.000	0.000	0.000	380,000	E.coli ; B. Proteus ; Sulf. Clo.;	β-α mezosap.	-	2.52	
103	0.10.199	0.048	0.032	-	-	-	0.0030	0.000	0.000	0.000	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	β-mezosap.	-	2.13	
104	8.12.199	-	-	-	-	-	-	0.310	0.034	0.276	210,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
13. R. VARDAR - v. NOGAEVCI																
105	4.04.199	0.019	0.010	0.219	0.007	0.0008	0.0000	0.000	0.000	0.000	240,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
106	0.05.199	0.097	0.007	0.009	0.002	0.0013	0.0008	0.126	0.023	0.103	2,400,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
107	9.08.199	0.060	0.021	0.000	0.038	0.0030	0.0026	0.000	0.000	0.000	38,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	
108	1.10.199	0.046	0.020	-	-	-	-	0.769	0.219	0.550	24,000	E.coli ; B. Proteus ; Sulf. Clo.;	-	-	-	

Table IV/4

No.	Date of samples	Toxic and hazardous heavy metals										Total beta radioactivity			Microbiological properties		Biological properties	
		Iron mg/l Fe	Manganese mg/l Mn	Lead mg/l Pb	Zinc mg/l Zn	Cadmium mg/l Cd	Chromium mg/l Cr+6	Sulfides mg/l H ₂ S		Est. count of Coliforms	Identification	Grade of saprobiological or biological production.	Index of saprob. prod.					
1	3	54	55	56	57	58	59	68	69	70	71	75	76	78	79			
14. R. VARDAR - v. STARO GRADSKO																		
109	6.01.199	0.047	0.020	0.018	0.006	0.0021	0.0043	0.299	0.078	0.221	-	-	-	-	-			
110	9.02.199	0.109	0.028	0.004	0.008	0.0021	0.0039	0.117	0.026	0.091	0.12	-	-	-	-			
111	4.04.199	0.019	0.011	0.013	0.010	0.0013	0.0000	0.000	0.000	0.000	0.10	240,000	E.coli; B. Proteus; Sulf. Clo.;	β-mezosap.	2.12			
112	0.05.199	0.131	0.025	0.013	0.006	0.0035	0.0026	0.630	0.069	0.551	0.19	380,000	E.coli; B. Proteus; Sulf. Clo.;	β-mezosap.	2.28			
113	3.07.199	0.040	0.003	0.013	0.021	0.0021	0.0026	0.000	0.000	0.000	0.19	50,000	E.coli	-	-			
16. R. VARDAR - v. STARO GRADSKO																		
114	29.08.199	0.004	0.006	0.000	0.031	0.0017	0.0026	0.000	0.000	0.000	0.37	240,000	E.coli; B. Proteus; Sulf. Clo.;	α-mezosap.	2.59			
115	1.10.199	0.047	0.022	-	-	-	0.0000	0.000	0.000	0.000	0.42	38,000	E.coli; B. Proteus; Sulf. Clo.;	β-mezosap.	2.11			
116	9.12.199	-	-	-	-	-	-	0.150	0.012	0.138	0.13	240,000	E.coli; B. Proteus; Sulf. Clo.;	-	-			
17. R. VARDAR - DEMIR KAPIJA																		
117	6.01.199	0.046	0.002	0.035	0.011	0.0028	0.0035	0.000	0.000	0.000	-	-	-	-	-			
118	9.02.199	0.050	0.007	0.004	0.095	0.0021	0.0013	0.117	0.018	0.100	-	-	-	-	-			
119	5.04.199	0.044	0.005	0.013	0.010	0.0013	0.0000	0.000	0.000	0.000	-	240,000	E.coli; Sulf. Clo.;	β-mezosap.	2.09			
112	1.05.199	0.055	0.004	0.009	0.009	0.0035	0.0017	0.189	0.042	0.147	-	240,000	E.coli; Sulf. Clo.;	β-mezosap.	2.29			
121	3.07.199	0.042	0.002	0.009	0.005	0.0017	0.0017	0.000	0.000	0.000	-	22,000	E.coli; Sulf. Clo.;	-	-			
122	30.08.199	0.198	0.002	0.000	0.022	0.0021	0.0030	0.304	0.024	0.280	-	38,000	E.coli; B. Proteus; Sulf. Clo.;	β-mezosap.	2.40			
123	1.11.199	0.088	0.004	-	-	-	0.0000	0.615	0.111	0.504	-	240,000	E.coli; B. Proteus; Sulf. Clo.;	β-mezosap.	2.39			
124	9.12.199	-	-	-	-	-	-	0.610	0.061	0.549	-	210,000	E.coli; B. Proteus; Sulf. Clo.;	-	-			
18. R. VARDAR - GEVGELIJA																		
125	6.01.199	0.088	0.002	0.035	0.007	0.0030	0.0048	0.000	0.000	0.000	-	-	-	-	-			
126	9.02.199	0.050	0.008	0.004	0.007	0.0021	0.0013	0.293	0.038	0.255	0.10	-	-	-	-			
127	5.04.199	0.048	0.010	0.013	0.015	0.0017	0.0000	0.060	0.012	0.048	0.12	150,000	E.coli; Sulf. Clo.;	β-α mezosap.	2.19			
128	1.05.199	0.044	0.004	0.004	0.004	0.0030	0.0017	0.693	0.104	0.589	0.20	240,000	E.coli; Sulf. Clo.;	β-mezosap.	2.50			
129	3.07.199	0.025	0.017	0.008	0.003	0.0021	0.0017	0.000	0.000	0.000	0.22	20,000	E.coli	-	-			
130	30.08.199	0.176	0.000	0.000	0.018	0.0030	0.0051	0.243	0.007	0.236	0.35	38,000	E.coli; B. Proteus; Sulf. Clo.;	β-mezosap.	1.85			
131	1.11.199	0.037	0.000	-	-	-	0.0000	0.923	0.111	0.812	0.32	16,000	E.coli; Sulf. Clo.;	β-mezosap.	2.13			
132	9.12.199	-	-	-	-	-	-	0.150	0.013	0.137	0.14	38,000	E.coli; B. Proteus; Sulf. Clo.;	-	-			
23. LIPIKOVSKO LAKE - Dam																		
156	6.03.199	0.034	0.000	0.000	0.010	0.0000	0.0000	0.000	0.000	0.000	-	<200	E.coli	-	-			
157	1.05.199	0.187	0.009	0.000	0.024	0.0000	0.0008	0.252	0.025	0.227	-	880	E.coli	-	-			
158	0.08.199	0.018	0.000	0.000	0.000	0.0000	0.0000	0.030	0.000	0.030	-	24,000	E.coli	-	-			
159	2.10.199	0.143	0.004	-	-	-	-	0.000	0.000	0.000	-	24,000	E.coli; B. Proteus	-	-			

Table IV /5

No.	Date of samples	Toxic and hazardous heavy metals										Total beta radioactivity			Microbiological properties		Biological properties	
		Iron mg/l Fe	Manganese mg/l Mn	Lead mg/l Pb	Zinc mg/l Zn	Cadmium mg/l Cd	Chromium mg/l Cr+6	Vk. mg/l	Sulfides mg/l H ₂ S	mg/l HS	mg/l	Bq/l	Est. count of Coliforms	Identification	Grade of saprobiological or biological production.	Index of saprob. prod.		
1	3	54	55	56	57	58	59	68	69	70	71	75	76	78	79			
23 a. R. LIPKOVSKA - v. BEDINJE																		
160	6.03.199	0.051	0.000	0.000	0.012	0.0000	0.0000	0.000	0.000	0.000	-	240,000	E.coli ; Enterobacter	-	-			
161	1.05.199	0.118	0.015	0.000	0.002	0.0008	0.0000	0.000	0.000	0.000	-	240,000	E.coli ; B. Proteus ; Sulfido	-	-			
162	0.08.199	0.018	0.004	0.000	0.003	0.0000	0.0000	0.455	0.032	0.423	-	240,000	E.coli ; B. Proteus ; Sulfido	-	-			
163	2.10.199	0.108	0.012	-	-	-	-	0.308	0.042	0.266	-	150,000	E.coli ; Sulf. Clo.;	-	-			
24. R. KUMANOVSKA - v. DOBROSANE																		
164	6.03.199	0.044	0.014	0.004	0.010	0.0000	0.0000	0.000	0.000	0.000	-	>2,400,000	E.coli ; B. Proteus ; Sulfido	-	-			
165	1.05.199	0.068	0.255	0.000	0.002	0.0017	0.0000	0.000	0.000	0.000	-	2,400,000	E.coli ; B. Proteus ; Sulfido	-	-			
166	0.08.199	0.145	0.116	0.000	0.005	0.0028	0.0000	0.000	0.000	0.000	-	2,400,000	E.coli ; B. Proteus ; Sulfido	-	-			
167	2.10.199	0.094	0.137	-	-	0.0021	2.154	0.291	1.863	-	-	>2,400,000	E.coli ; Sulf. Clo.;	-	-			
29. R. BREGALNICA - v. BUDINARCI																		
185	7.03.199	0.081	0.005	0.009	0.011	0.0000	0.0000	0.378	0.042	0.336	-	240,000	E.coli ; Sulf. Clo.;	-	-			
186	3.05.199	0.101	0.051	0.009	0.011	0.0000	0.0000	0.504	0.181	0.322	-	38,000	E.coli ; B. Proteus ; Sulfido	-	-			
187	1.08.199	0.070	0.002	0.000	0.004	0.0000	0.0000	0.000	0.000	0.000	-	240,000	E.coli ; B. Proteus ; Sulfido	-	-			
189	3.10.199	0.154	0.158	-	-	0.0000	0.0000	0.000	0.000	0.000	-	2,400,000	E.coli ; B. Proteus ; Sulfido	-	-			
30. R. BREGALNICA - v. OCI PALE																		
190	7.03.199	0.046	0.001	0.013	0.011	0.0000	0.0000	0.530	0.076	0.554	-	2,400,000	E.coli ; B. Proteus ; Sulfido	β-mezosap.	2.08			
191	3.05.199	0.066	0.022	0.004	0.002	0.0021	0.0000	0.441	0.199	0.282	-	24,000	E.coli ; B. Proteus ; Sulfido	β-mezosap.	2.34			
192	1.08.199	0.027	0.016	0.000	0.004	0.0000	0.0000	0.000	0.000	0.000	-	15,000	E.coli ; Sulf. Clo.;	α - β mezosap.	3.06			
193	3.10.199	0.064	0.079	-	-	0.0000	0.0000	0.000	0.000	0.000	-	24,000	E.coli ; B. Proteus ; Sulfido	β-mezosap.	1.66			
31.a. Acumulation ' KALIMANCI ' - Dam																		
194	7.03.199	0.077	0.000	0.004	0.026	0.0000	0.0000	0.315	0.050	0.264	-	<200	E.coli	-	-			
195	3.05.199	0.015	0.007	0.004	0.022	0.0013	0.0000	0.819	0.008	0.811	-	<200	E.coli	-	-			
196	1.08.199	0.012	0.000	0.000	0.000	0.0000	0.0000	0.000	0.000	0.000	-	880	E.coli	-	-			
197	3.10.199	0.031	0.018	-	-	0.0000	0.0000	0.461	0.143	0.318	-	<200	E.coli	-	-			
31. R. BREGALNICA - Downflow from acum. " KALIMANCI "																		
198	7.03.199	0.134	0.005	0.000	0.048	0.0000	0.0000	0.378	0.057	0.321	-	3,800	E.coli	-	-			
199	3.05.199	0.216	0.011	0.009	0.033	0.0021	0.0000	0.756	0.234	0.522	-	<200	E.coli ; B. Proteus	-	-			
200	1.08.199	0.011	0.008	0.000	0.021	0.0000	0.0000	0.000	0.000	0.000	-	15,000	E.coli ; B. Proteus	-	-			
201	3.10.199	0.044	0.021	-	-	0.0000	0.0000	0.154	0.028	0.126	-	5,000	E.coli ; Sulf. Clo.;	-	-			
32. R. BREGALNICA - v. KRUPISTE																		
202	8.03.199	0.074	0.133	0.022	0.050	0.0000	0.0000	0.000	0.000	0.000	-	38,000	E.coli ; Sulf. Clo.;	-	-			
203	2.05.199	0.123	0.084	0.018	0.004	0.0021	0.0000	0.189	0.042	0.147	-	38,000	E.coli ; B. Proteus ; Sulfido	-	-			
204	1.08.199	0.062	0.422	0.009	0.001	0.0000	0.0000	0.000	0.000	0.000	-	3,800	E.coli ; Sulf. Clo.;	-	-			
205	3.10.199	0.136	0.224	-	-	-	-	0.000	0.000	0.000	-	38,000	E.coli ; Sulf. Clo.;	-	-			

Table IV /6

No.	Date of samples	Toxic and hazardous heavy metals										Total beta radioactivity Bq/l	Microbiological properties		Biological properties	
		Iron mg/l Fe	Manganese mg/l Mn	Lead mg/l Pb	Zinc mg/l Zn	Cadmium mg/l Cd	Chromium mg/l Cr+6	Vk. mg/l	Sulfides mg/l H ₂ S		Est. count of Coliforms		Identification	Grade of saprobiological or biological production.	Index of saprob. prod.	
1	3	54	55	56	57	58	59	68	69	70	71	75	76	78	79	
33. R. BREGALNICA - v. SUFILARI (under SHTIP)																
206	8.03.199	0.131	0.074	0.009	0.041	0.0000	0.0000	0.000	0.000	0.000	0.11	240,000	E.coli ; B. Proteus ; Sulfido	β-mezosap.	2.04	
207	2.05.199	0.103	0.009	0.018	0.007	0.0021	0.0017	0.567	0.176	0.391	0.28	240,000	E.coli ; B. Proteus ; Sulfido	β-mezosap.	2.60	
208	2.08.199	0.044	0.015	0.000	0.004	0.0000	0.0000	0.000	0.000	0.000	0.37	>240,000	E.coli ; B. Proteus ; Sulfido	β-mezosap.	2.30	
209	4.10.199	0.113	0.075	-	-	0.0000	0.0000	0.154	0.034	0.120	0.17	>2,400,000	E.coli ; B. Proteus ; Sulfido	β-mezosap.	2.43	
34. R. BREGALNICA - v. UBOGO																
210	9.08.199	0.343	0.120	0.000	0.035	0.0000	0.0000	0.061	0.002	0.059	-	15,000	E.coli ; B. Proteus ; Sulfido	β-mezosap.	2.33	