

Illustration of the situation water and soil pollution in the region of Bor

June 2021

Table 1 - Results for surface waters

Category of surface water / Location	Parameter	Range (min-max)	Median	MAC	Content > MAC (%)
IV From Bor city to the confluence Bor and Timok River Samples (W1 – W10)	Fe (mg/l)	1.0-1368.1	67.1	2	95.0
	Mn (mg/l)	1.6-95.5	6.5	1	100.0
	Cu (mg/l)	0.16-155.3	26.6	1	95.0
	Zn (mg/l)	0.89-41.2	7.9	5	90.0
	As (µg/l)	2.4-25991.3	59.4	100	20.0
	Ni (µg/l)	191.7-11307.8	1118.8	34	100.0
	Pb (µg/l)	<2.1-969.6	269.0	14	85.0
	Cd (µg/l)	23.8-2627.1	456.5	0.9	100.0
	Cr (mg/l)	0.010-0.15	0.013	0.25	0.0
	Hg (µg/l)	N.D. (<0.5)	N.D. (<0.5)	0.07	/
SO ₄ ²⁻ (mg/l)	744.1-11049.4	1942.7	300	100.0	
III From the confluence Bor and Timok River up to the confluence of Timok and Danube River Samples (W12 – W14)	Fe (mg/l)	0.043-0.081	0.055	0.5	0.0
	Mn (mg/l)	<0.006	-	0.3	0.0
	Cu (mg/l)	0.027-0.035	0.035	0.5	0.0
	Zn (mg/l)	0.006-0.007	0.006	2	0.0
	As (µg/l)	3.3-3.5	3.4	50	0.0
	Ni (µg/l)	5.3-5.7	5.7	34	0.0
	Pb (µg/l)	<2.1	-	14	0.0
	Cd (µg/l)	0.90-1.0	0.93	0.6	100.0
	Cr (mg/l)	<0.005	-	0.1	0.0
	Hg (µg/l)	N.D. (<0.5)	N.D. (<0.5)	0.07	/
SO ₄ ²⁻ (mg/l)	96.6-114.5	101.8	200	0.0	
II Danube Sample (W15)	Fe (mg/l)	<0.007	-	0.5	0.0
	Mn (mg/l)	<0.006-4.3	4.3	0.1	25.0
	Cu (mg/l)	0.011-0.14	0.016	0.005(T=10) 0.112 (T=300)	100.0 25.0
	Zn (mg/l)	<0.005-0.008	0.008	0.3 (T=10) 2(T=500)	0.0 0.0
	As (µg/l)	<2.1-2.8	2.8	10	0.0
	Ni (µg/l)	<3.6-20.6	20.6	34	0.0
	Pb (µg/l)	<2.1	-	14	0.0
	Cd (µg/l)	0.19-0.86	0.40	0.45	50.0
	Cr (mg/l)	<0.005	-	0.05	0.0
	Hg (µg/l)	N.D. (<0.5)	N.D. (<0.5)	0.07	/
SO ₄ ²⁻ (mg/l)	57.0-1490.4	69.6	100	25.0	

Table 2 – Results for wells

Element/ Parameter	Range (min-max)	Median	MAC for drinking water	Content > MAC (%)
Mn (mg/l)	<0.006-26.6	0.030	0.05	9.1
Cu (mg/l)	<0.005-8.4	0.013	2	9.1
Zn (mg/l)	<0.005-2.3	0.32	3	9.1
As (µg/l)	<2.1-11.7	5.3	10	9.1
Ni (µg/l)	<3.6-629.5	8.2	20	9.1
Pb (mg/l)	<2.1	-	10	-
Cr (mg/l)	<0.005	-	0.05	-
Mo (mg/L)	<0.007	-	0.07	-
Hg (mg/l)	<0.0005	-	0.001	-
SO ₄ ²⁻ (mg/l)	814.0-8118.9	1287.2	250	100.0

Table 3 – Results for soil samples

Element/ Parameter	Range (min-max)	Median	MAC	Content > MAC (%)	Remediation values	Content > Remediation values (%)
As (mg/kg)	18.5-379.1	135.4	42	70.0	55	60.0
Cd (mg/kg)	<0.71-3.7	2.2	6.4	0.0	12	0.0
Cr (mg/kg)	118.7-280.8	156.4	240	20.0	380	0.0
Cu (mg/kg)	53.9-5832.3	538.8	110	10.0	190	10.0
Hg (mg/kg)	0.047-0.39	0.14	1.6	0.0	10	0.0
Pb (mg/kg)	23.0-371.0	125.5	310	10.0	530	0.0
Ni (mg/kg)	2.1-30.5	14.9	44	0.0	210	0.0
Zn (mg/kg)	8.1-4294.8	295.6	430	50.0	720	40.0

Table 4 – Results for sediment sample

Element/ Parameter	Value	MAC	Content > MAC (%)	Remediation values	Content > Remediation values (%)
As (mg/kg)	931.0	42	100.0	55	100.0
Cd (mg/kg)	2.0	6.4	0.0	12	0.0
Cr (mg/kg)	89.0	240	0.0	380	0.0
Cu (mg/kg)	5775.2	110	100.0	190	100.0
Hg (mg/kg)	<0.1	1.6	0.0	10	0.0
Pb (mg/kg)	450.0	310	0.0	530	0.0
Ni (mg/kg)	28.1	44	0.0	210	0.0
Zn (mg/kg)	1070.8	430	100.0	720	100.0