

(2002/5/22 2001/11/1)

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1999 ()

Some Characteristics of Tigris River Pollution for Baghdad City

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ABSTRACT

Six observation sites were chosen from Tigris River for Baghdad City to know the pollution with major, minor and trace elements (physical and chemical properties). The study depended on 24 variables in two periods, first in January and the second in April from water year 1999-2000 to show the characteristics of pollution and the effect of embargo on this water resource. The results reflect that higher concentration in some elements when we compare the results with previous study especially in SO₄, Fe, Ni and Cd, so we must put suitable plans to stop this deterioration in the environment of Tigris River.

.(166155 km²)

(1970 km)

.(Buday, 1980)

.(Buring, 1960)

.(1)

(%67)

.(%33)

.(1983)

(0.1 m/km)

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6

3

(1)

(2000-1999)

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7		1
		2
17		3
		4
		5
		6

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Michale et al.,)

: (1995

(TDS) -

.Hach Turbidiometer Turbidity () -

(Ec) -

.Pye Unicam pH meter (pH) -

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C 800

UV-Spectrophotometer -

-) 543 (Pye Unicam)

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(Cr,Co,Zn,Ni,Cd,Cu,Mn,Fe,Mg,Ca) -

Atomic (Perkin-Elmer)

.Absorption Spectrophotometer Model 370 A

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(T.H) -

$$\text{T.H (as CaCO}_3\text{)} = 2.497 \times \text{Ca (ppm)} + 4.116 \times \text{Mg (ppm)}$$

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(2)
(2000-1999)

: 1994 1967

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Stn. No.	T °C			pH			TDS			Ca ppm			Mg ppm			Na ppm		
	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max
1	14	20	--	7.9	8.1	6.5-8.5	700	804	1000	89	107	200	38	36	50	85	87	200
2	13	26	--	7.8	8.2	6.5-8.5	743	788	1000	110	102	200	30	35	50	71	79	--
3	13	25	--	7.7	8.1	6.5-8.5	132	813	1000	90	10	200	38	37	50	81	85	--

4	18	26	--	7.8	8.1	6.5-8.5	723	792	1000	92	87	200	38	41	50	81	75	--
5	13	26	--	7.9	8.1	6.5-8.5	767	842	1000	92	113	200	41	40	50	77	86	--
6	18	27	--	7.8	8.0	6.5-8.5	715	816	1000	90	92	200	38	41	50	90	89	--
Stn. No.	K ppm			T.H			SO ₄ ppm			Cl ppm			Turbidity			NO ₂ ppm		
	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max
1	2.4	2.2	--	384	418	500	212	235	200	100	107	200	14	16	5	.004	.004	3
2	3	2.1	--	408	400	500	326	271	200	103	104	200	13	18	5	.004	.006	3
3	2.8	2	--	388	409	500	244	282	200	109	106	200	43	13	5	.003	.003	3
4	2.9	2.4	--	370	393	500	240	316	200	103	96	200	28	13	5	.006	.015	3
5	2.5	2	--	403	440	200	340	306	200	114	104	200	68	15	5	.004	.007	3
6	2.8	2.6	--	388	403	500	224	294	200	102	102	200	17	15	5	.005	.014	3
Stn. No.	CN ppm			Fe ppm			Mn ppm			Cu ppm			Cr ppm			F ppm		
	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max
1	nil	nil	.02	5	1.84	0.3	.13	.06	0.1	.012	.008	.05	.05	.06	.05	.2	.23	.2
2	nil	nil	.02	1.4	1.85	0.3	.05	.07	0.1	.004	.008	.05	.07	.07	.05	.35	.25	.2
3	nil	nil	.02	3.8	2	0.3	.13	.07	0.1	.012	.008	.05	.26	.06	.05	.23	.25	.2
4	nil	nil	.02	2.89	1.8	0.3	.1	.08	0.1	.008	.004	.05	.33	.05	.05	.2	.25	.2
5	nil	nil	.02	2.08	1.87	0.3	.07	.07	0.1	.008	.008	.05	.11	.13	.05	.35	.3	.2
6	nil	nil	.02	3.3	3.3	0.3	.12	.11	0.1	.016	.024	.05	.13	.08	.05	.29	.15	.2
Stn. No.	Ni ppm			Ag ppm			Co ppm			As ppm			Pb ppm			Cd ppm		
	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max	Jan	Apr	Max
1	.07	.05	.1	.01	.01	.01	.038	.04	.05	nil	nil	.05	.02	.04	.05	.018	.006	.005
2	.13	.1	.1	.014	.01	.01	.06	.04	.05	nil	nil	.05	.02	.04	.05	.022	.006	.005
3	.48	.09	.1	.014	.01	.01	.014	.04	.05	nil	nil	.05	.02	.04	.05	.042	.01	.005
4	.61	.1	.1	.14	.01	.01	.014	.04	.05	nil	nil	.05	.05	.08	.05	.046	.01	.005
5	.18	.29	.1	.01	.1	.01	.03	.1	.05	nil	nil	.05	.08	.08	.05	.026	.006	.005
6	.23	.14	.1	.01	.08	.01	.06	.06	.05	nil	nil	.05	.08	.04	.05	.026	.01	.005

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.(Hem, 1985)

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) (1992) (1985)

(1997

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(ISO 14000)

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.1992

.1995

.1983

.1997

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