

(2009/4)(2008/11)

(C°, Turbidity, CL, CL⁻, SO₄, TDS, EC, pH)

()

(Cl⁻)

pH

TDS

(13) 417

(23) WHO

(21)

"

(16)

Klebsilla Pneumonia

Coliform

Lime

(17)

pH

(22)

Trihalomethane

AWWA

(THM)

(3)

(O.M) Organic Mater

(20)

-

(6)

(24)

(Nonpoint source) (NPS)

.(9) pathogens ,Toxic substances ,Nutrients ,Sediments

Edstrom Industries

3 2

(10)

(DBP_s) Disinfection by-products

(18) (THM)

(DBP_s)

(8)

(SPM_s)

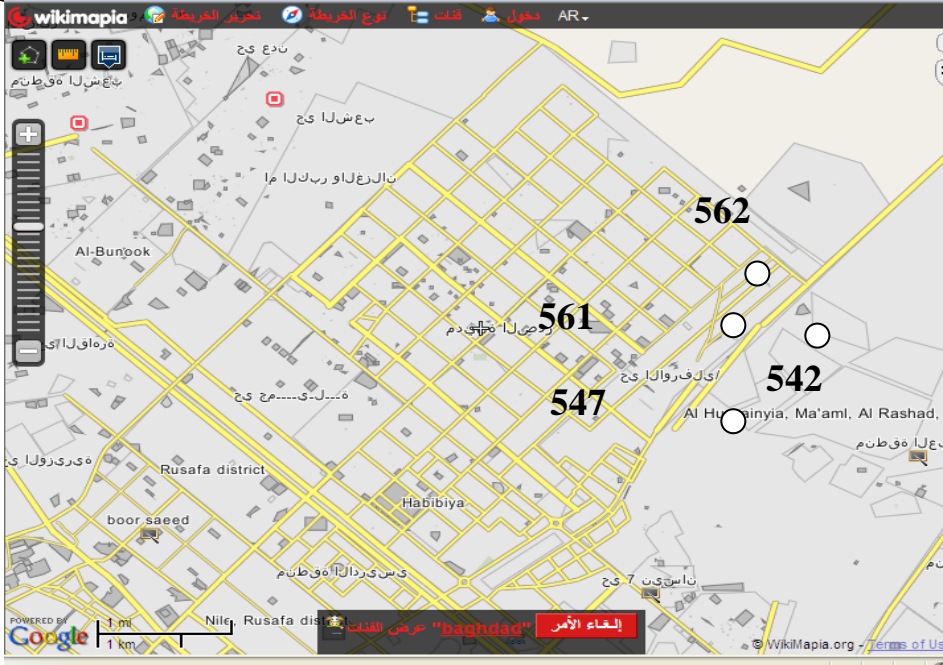
(Total Organic Carbon) (TOC)

(12) Suspended particulate Matters

(11)

80

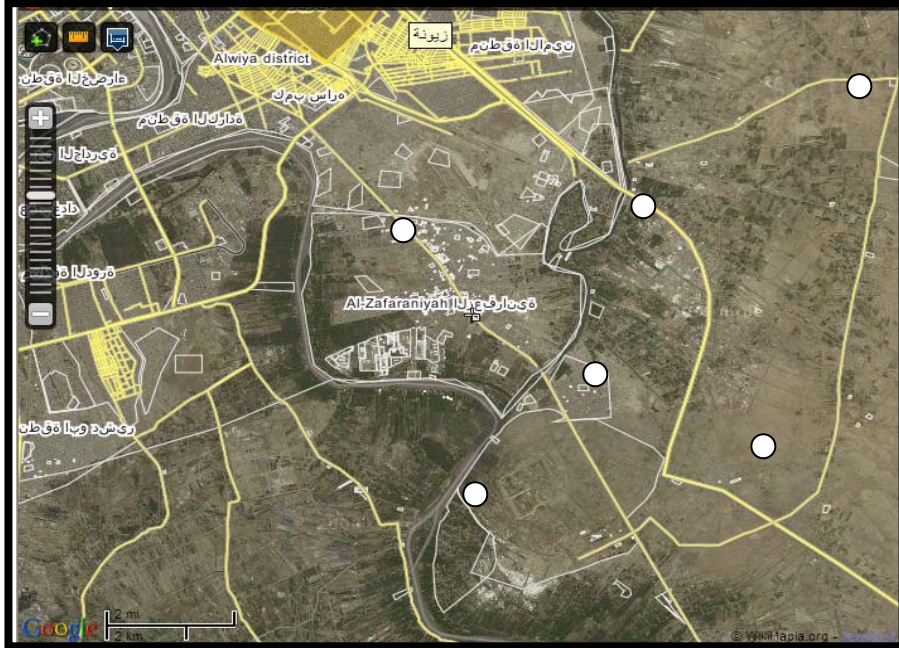
(1) 31



(1):

! (nvjack-beede-photos-map_sadr-city_jpg.)

(.



(http://wikimapia.org).

(2):

2009/4

2008/11

(2 1)

(1): (.) .

65	64-45	44-15	14-5	4-1			
4	34	49	24	3	0		
3	31	53	24	3	0		
6	34	62	53	67	38		
6	32	62	44	63	40		
11	61	150	223	217	44		
10	60	131	218	211	45		
32	168	181	52	11	2		
29	169	183	57	9	1		

(2): (.) .

1				4		
	1	1	1	15		
				3		
	1					
				2		
				1		

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. (25)

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/

/

.(4) APHA,

(3)

:(3)

pH	4500-HB
EC	2540-E
TDS	2540-D
CL ⁻	4500CL-D
SO ⁻	4500-SO ₄ ⁻ E
Turbidity	2130B
Temperature	2550
bacteria	9222
CL.Residual	5200CL-R

:

/

/

.(5)

2008/11 (1)
561 547 543 2000/4
562

(2)

()

SO₄⁻,CL-R (5 4)
Temp, Turb. ,CL,TDS
: ,EC ,pH

⊗4)

Variable	No of sampling	Mean	sum	minimum	Maximum
CL-R	3*6	0.52	9.4	0.2	1.0
PH	3*6	6.9	124.3	5.0	9.0
EC	3*6	855.0	15390	50.0	1240.0
TDS	3*6	427	7635.0	60.0	750.0
SO4	3*6	393.5	7083.0	160.0	686.0
CL	3*6	118.4	2131.3	77.8	160.0
Turb-	3*6	10.9	196.79	0.0	31.
Tamp-	3*6	20.99	377.9	17.0	24.5

(5):

Variable	No of sampling	Mean	sum	minimum	Maximum
CL-R	#3*6	0.356	6.4	0.1	1.0
PH	3*6	7.5	135.5	5.2	10.8
EC	3*6	4026.0	72480.0	340.0	24400
TDS	3*6	725.000	13050.0	290.0	5070.0
SO4	3*6	316.111	5690.0	133.0	726.0
CL	3*6	128.278	2309.0	92.0	160.0
Turb-	3*6	54.628	983.3	1.0	41.3
Tamp-	3*6	25.861	465.5	17.0	31.0

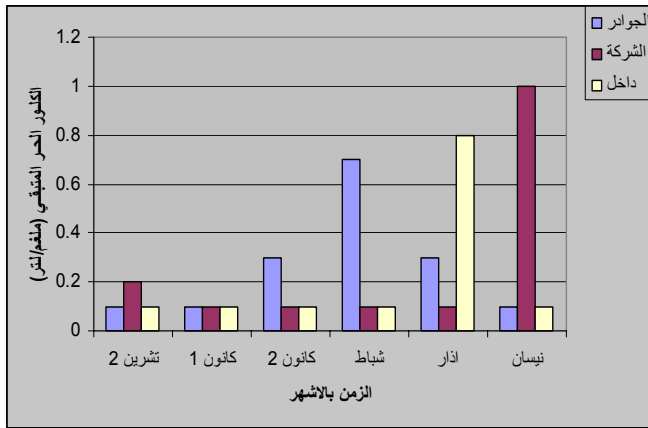
() #3*6

/ 0.5 / 1-0.2
 / 0.3 / 1-0.1
 (13) / 0.6

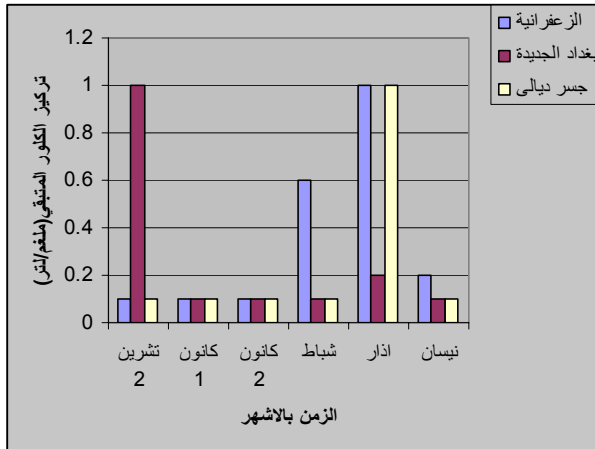
(5 4)

(3)

(4)



(3):



(4):

pH

(4) 9-5

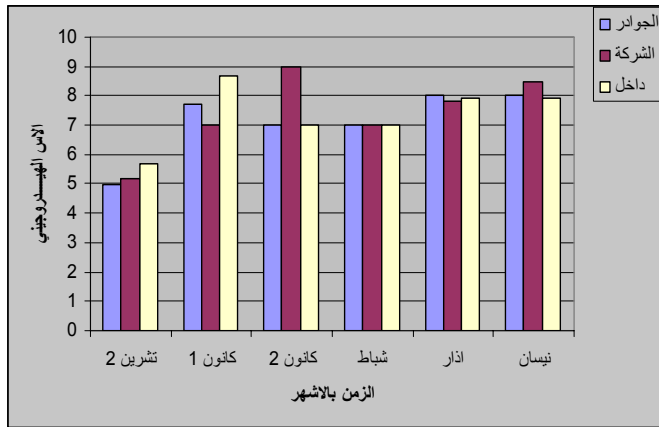
7.5 10.8-5.2 6.9

(8.5-6.5)

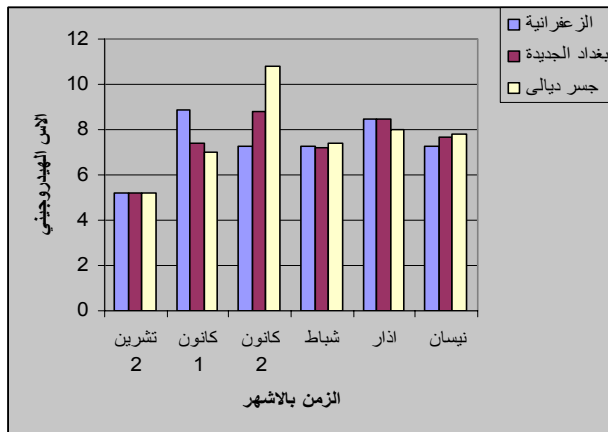
(13)

(5)

(6)



(5):

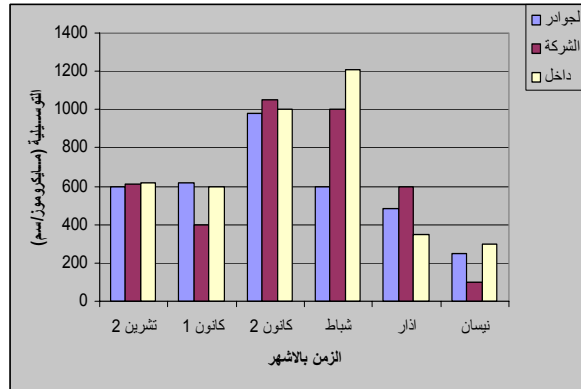


(6):

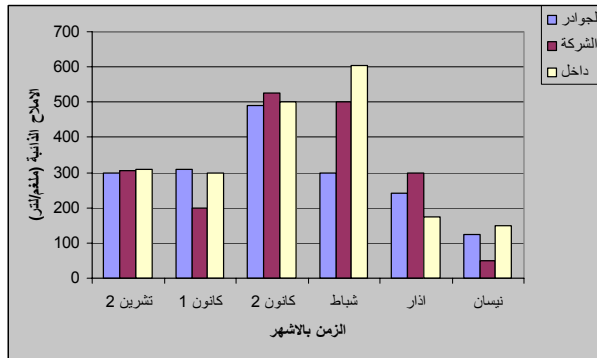
1240-50 μ s/cm (4)
 / 418 / 750-60 855 μ s/cm
 24400-340 μ s/ cm (5)
 / 725 / 5070-290 4026 μ s/cm
 (13) / 500-1000

(9 10)

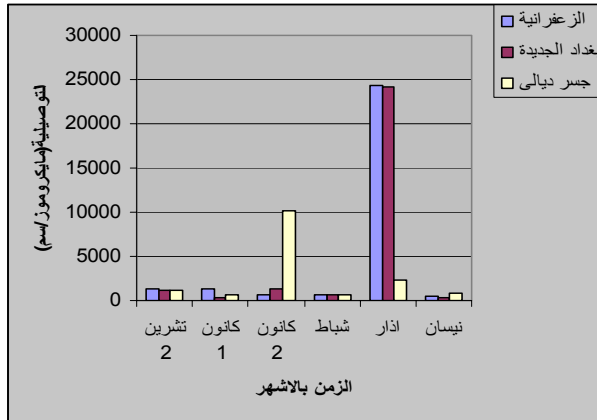
(7 8)



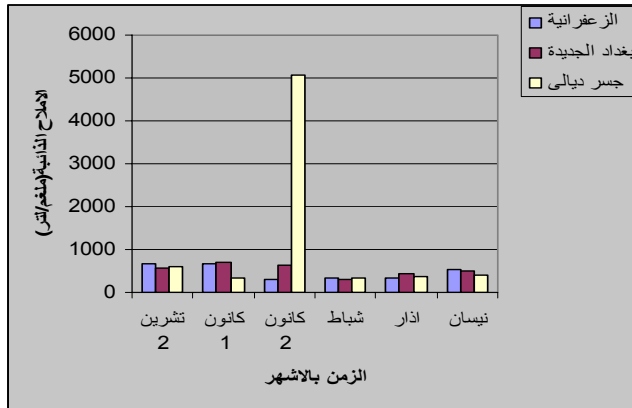
:(7)



:(8)



(9):

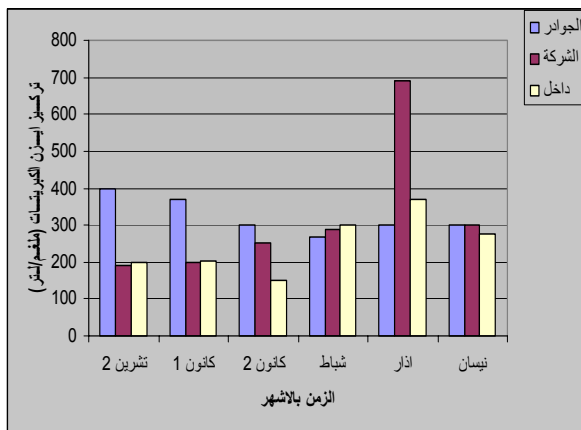


(10):

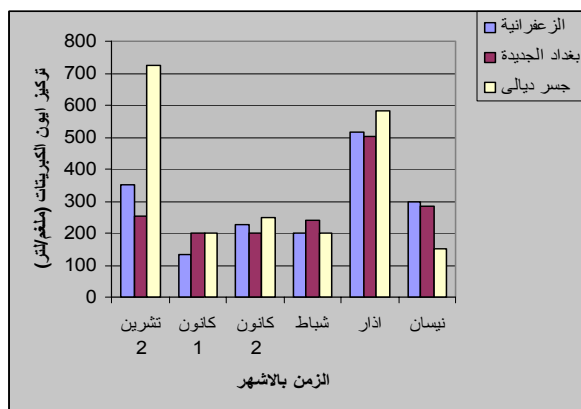
/ 686-160 (4) :
 (5) / 393.5
 / 316.1 / 726-133
 (13) / 400 -200

(12 11)

(24)



:(11)



:(12)

:

1998

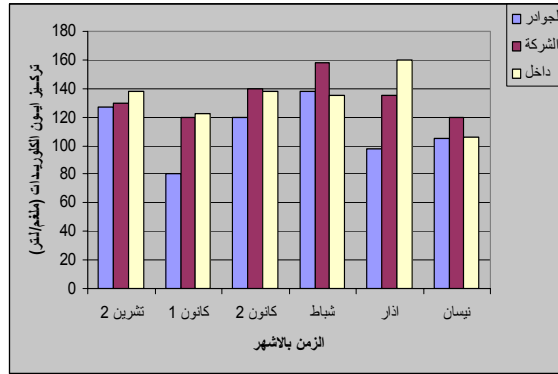
/ 160-77.8

(4) / 250-500

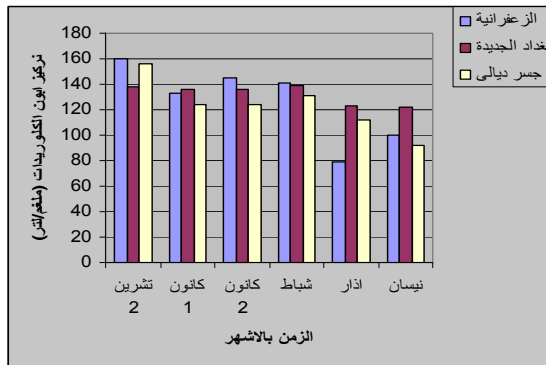
(5) / 118.4

/ 128.27 / 160-92

(13 14)



:(13)



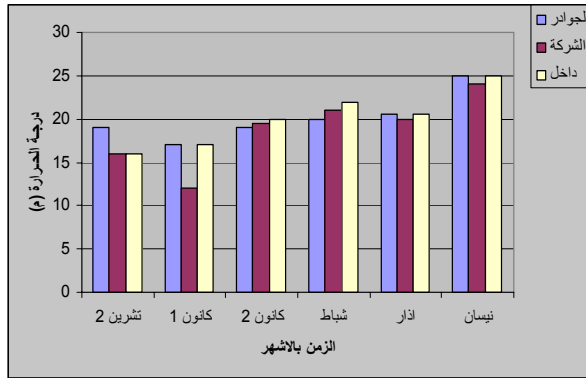
:(14)

35

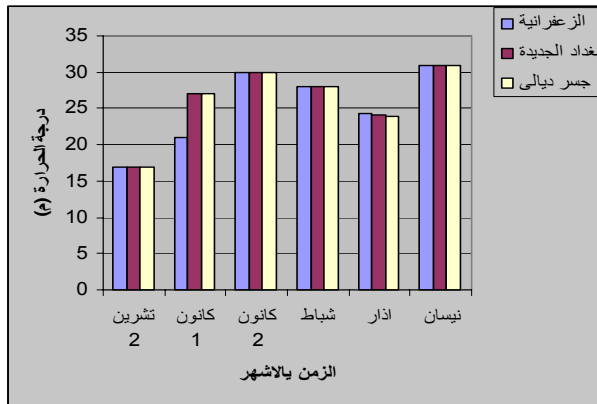
2009/4 2008/11

20.99

25.861



:(15)



:(16)

NTU 10-0

(17 18) (Nephelometer Turbidity Unit)

NTU 31-0

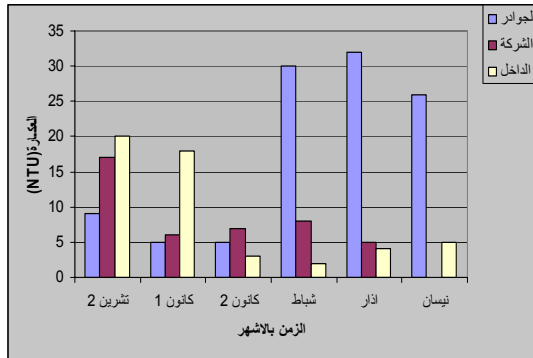
NTU 10.93

(5,4)

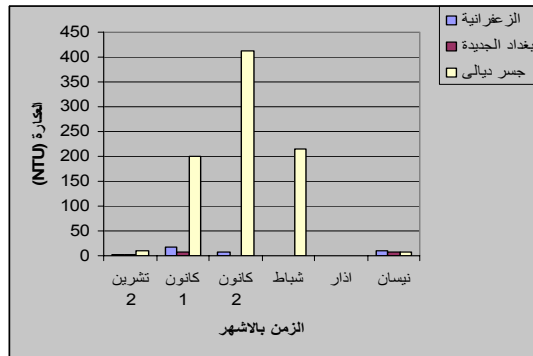
NTU 54.628

NTU 41.3-1

(15).



(17):



(18):

:

(6)

Enteric

"

.(11)

diseases

:(6)

2009/4	2009/3	2009/2	2009/1	2008/12	2008/11		
0	0	0	0	0	0		
0	0	0	0	0	0		
0	0	0	0	0	0		
12	12	0	115	0	0		
0	0	0	0	0	0		
0	0	0	0	0	0		

:

(2)

Escherichia coli

Shigella dysenteriat

Salmonella typhi

(5)

(3)

44 -15

(1)

14-5

64-45

5-1

(1)

(UTI)

(A,B,C,D,E)

pneumonia ,Escherichia coli)

(Urinary Tract Infection)

(14)

(*Proteus mirabilis,Klebsilla*

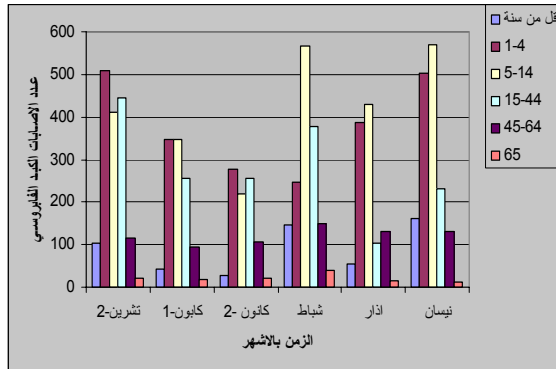
64-45

(4)

(22 21 20 19)

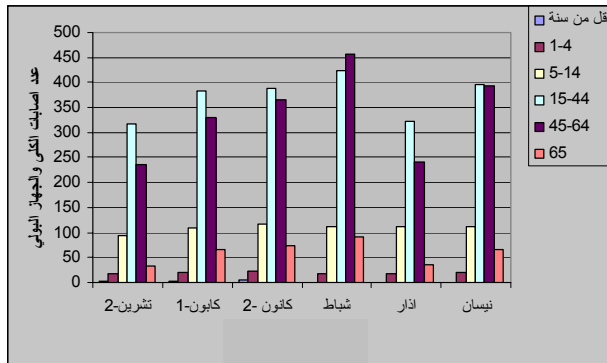
(23)

(24)



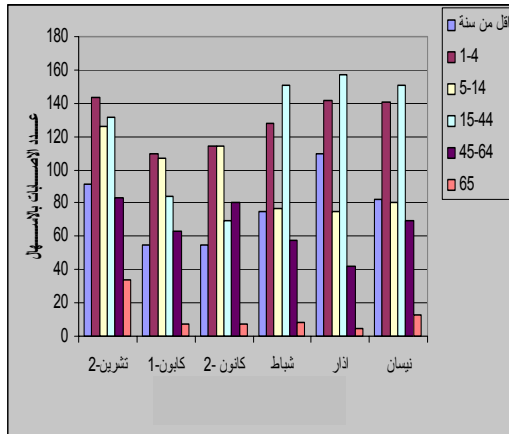
شكل (19):

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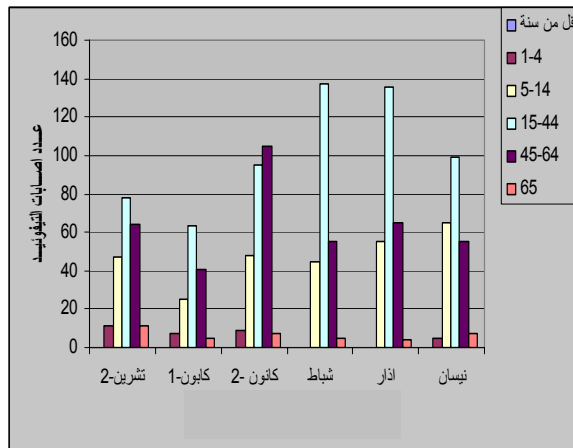
شكل (20):

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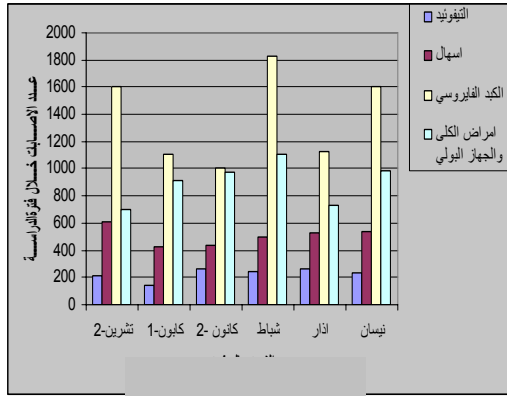
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شكل (21):



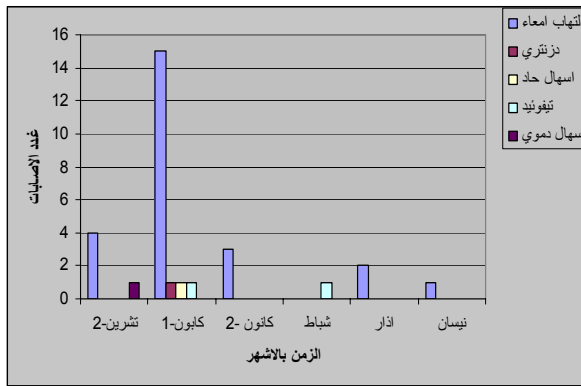
() .

شكل (22):



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شكل (23):



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شكل (24):

(statistics)

(7)

(correlation matrix)

)

(8)

(19)

(7)

:(7)

STAT BASIC STATS	Correlations							
	Variable	CL-R	PH	EC	TDS	SO ₄ ⁻	CL ⁻	Turb.
CL-R	1.00	-.26	.26	-.05	.60	-.05	.04	-.53
PH	-.26	1.00	.41	.56	-.32	-.43	.01	.58
EC	.26	.41	1.00	.5	.40	-.34	-.07	-.09
TDS	-.05	.56	.5	1.00	-.08	.08	.35	.15
SO ₄ ⁻	.60	-.32	.40	-.08	1.00	.13	.03	-.57
CL ⁻	-.05	-.43	-.34	.08	.13	1.00	.13	-.48
Turb.	.04	.01	-.07	.35	.03	.13	1.00	-.03
Tamp	-.53	.58	-.09	.15	-.57	-.48	-.03	1.00

:(8)

STAT BASIC STATS	Correlations							
	Variable	CL-R	PH	EC	TDS	SO ₄ ⁻	CL ⁻	Turb.
CL-R	1.00	-.54	.04	-.02	-.46	.27	.43	.41
PH	-.54	1.00	.27	.15	.13	-.38	-.08	-.41
EC	.04	.27	1.00	.30	-.50	-.10	-.21	.01
TDS	-.02	.15	.30	1.00	-.19	.30	.24	.07
SO ₄ ⁻	-.46	.13	-.50	-.19	1.00	.06	.04	-.32
CL ⁻	.27	-.38	-.10	.30	.06	1.00	.26	.26
Turb.	.43	-.08	-.21	.24	.04	.26	1.00	-.03
Tamp	.41	-.41	.01	.07	-.32	.26	-.03	1.00

.1

.2

.3

.1 .(1990) .

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Field Surveying Study for Chemical and Microbial Pollution of Drinking water in AL-Sofrania and AL-Sadder Town

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Applied Sciences Depart/ University of
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Thorria R. AL-Awad

Esra'a
A. Ajeel

Abstract

This research was prepared for and carried during. (Nov.2008- June 2009), because this study believes in the importance of field work and investigation of chemical and microbial con contamination in of the water network in Baghdad, starting with this the highly suspected area (due to their demographic and socioeconomic status), resulting in the emergence of many diseases because of this suspected pollution.

The parameters (Temp C°, pH, EC, TDS ,SO₄,CL,CL) were examined to measure the level of chemical pollution and microbial parameters (Coliform ,*E.coli*) were examined to measure the level of bacterial contamination, in addition to surveying pathological parameters for microbial and mixed infection, The results showed no evidence of bacterial contamination in the drinking water of AL-Sofrania, this could be due to renewal of drinking water net work, and the disease cases recorded in AL- Sofrania hospital may be caused by other sours of pollution that should be investigated, while there were clear evidences of pollution in some section of AL-Sadder town because of the break downs in the drinking water pipes and renewal was not carried on in all sections of the town at that time. The chemical lab. Results showed low values for(CL) in AL-Sofrania compared to Iraqi and international standards ,and that might help in spreads and transmission of pathogens through water net and reduce the efficiency of its renewal which could assist in pH and high TDS values was clear in drinking water in AL-Sadder town which may be due to mixing of drinking water with sewage because of breakdowns in pipes.