

**دراسة تركيز بعض العناصر النزرة والأيونات الموجبة والسالبة في المياه الجوفية لمناطق
مختارة من محافظة بابل**

$PO_4^{-3}, SO_4^{-2}, NO_3^{-}, NO_2^{-}$

Zn, Mn, Fe, Pb, Ni, Cu, Co وتركيز

(WHO)

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Abstract

An analytical study is carried out for the ground water in some of regions from Babylon Governorate (alsfra, alsadda, aldblla, algzaaer, aldolab, alhashmya, alneel, kefal/hussynia, alkefal). Show the suitability of this water for use of Human, Animals, and agriculture, the concentration of trace elements Zn, Mn, Fe, pb, Ni, Cu and Co, anions $PO_4^{-3}, SO_4^{-2}, NO_3^{-}$, and NO_2^{-} , the concentration of K^{+} and Na^{+} ions and the pH, conductivity, temperature were determined for the samples of ground water, this study shows that the concentrations of this trace elements, anions and cations increased in some of samples of ground water and reduced in the other from the data which limited by the world health organization and Iraqi AZO for drink water, this due to the physics of the region, industrial effluents and the type of fertilizers and insecticides that is used in agriculture. This study shows that the aground water in this region is suitable for animals and agriculture use, but not suitable for human use.

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(c-o-p) (c-p)

(stannous chloride method)

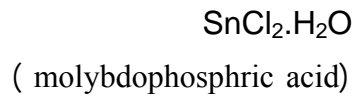
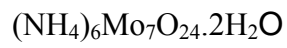
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(molybdophosphric acid)

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Co, Zn, Mn, Fe, Pb, Ni, Cu

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- ١٩٩٦ (WHO)
- (١٩٩٦ ,WHO,1996)(٣)
- Na⁺
- Hem,)
- NaCl , (1989
- , (Hem ,1989) K⁺
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Sulphur)

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(٣٩٧,٥ - ٧٧,٥٢)

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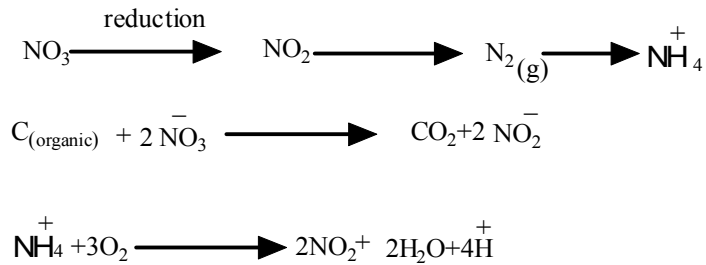
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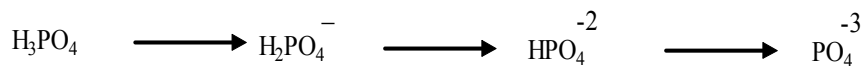
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(P⁺⁵-P⁺³)

.(Hem, 1989)(PO₄⁻³)

: H₃PO₄

(Orthophosphate)

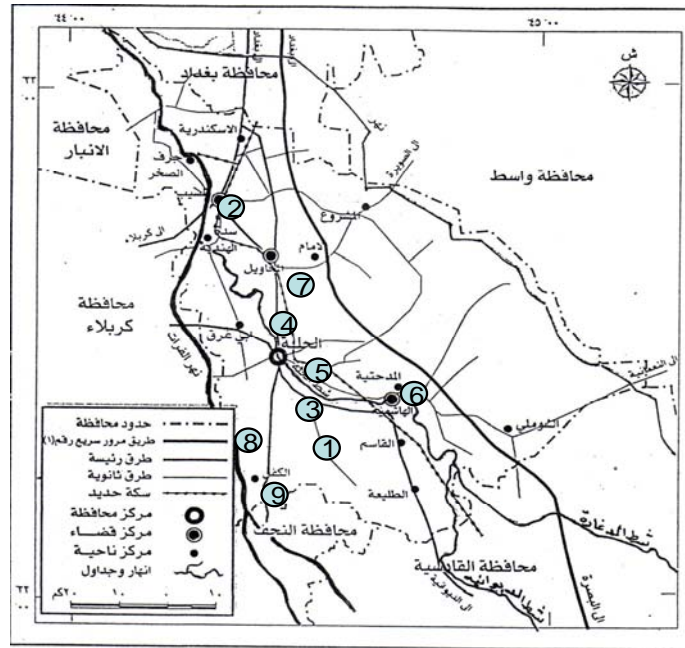


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(ground

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المصدر : الهيئة العامة للطرق، والجسور، خارطة طرق محافظة بابل، مقياس 1: ٢٥٠٠٠٠، ٢٠٠١.

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(mg/L)

ت	اسم المنطقة	درجة الحرارة (م°)	PH	التوصيلية الكهربائية (μs)	Zn	Cu	Mn	Co	Fe	Pb	Ni	Na	K
١	الصفرة	٢٢	٧,٥٤	٢,٣٦	٠,١٨	٠,٤٠	٠,٠٨	١,٤	١,٧٥	٠,٠٠٧	٠,٠٠٨	١٩٠	١٢٦
٢	السدة	٢٠	٧,٥٢	٢,١٨	٠,١٩	٠,١٠	٠,١٠	٠,٤	١,٩	٠,٠٠٥	٠,٠٠٧	١٨٠	٢٣,٥
٣	الدبلة	٢٢	٧,٨٠	١,٨٢	٠,١٠	٠,٦٠	٠,١٢	٠,٣٥	١,٦٥	٠,٠٠٤	٠,٠٠٦	١٢٠	٢٦
٤	الجزائر	٢٥	٧,٥٠	٤,٢٣	٠,١١	٠,٠٠	٠,١٥	٠,٣٠	١,٢	٠,٠٠٥	٠,٠٠٩	٢٥٠	٤٨
٥	الدولاب	٢٠	٧,٦٦	٣,٦٥	٠,١٠	٠,٤٠	٠,١٥	٠,٢٥	٠,٥	٠,٠٠٤	٠,٠٠٨	٢١٠	٢٥
٦	المهاشمية	٢٢	٧,٩	٢,٢٥	٠,١٠	٠,١٠	٠,١٠	٠,١	٠,٦	٠,٠٠٦	٠,٠٠٧	١٣٠	١٣

(mg/L)

WHO

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مدى التراكيز في مياه الآبار المدروسة	منظمة الصحة العالمية (WHO)	المواصفة العراقية لسنة ١٩٩٦	المكونات	
120-250	200	200	Na	1
9-126	12	-	K	2
77.52-397.5	250	250	SO ₄ ⁻²	3
2.5-18	50	50	NO ₃ ⁻	4
0-7	3	3	NO ₂ ⁻	5
0.7-3.25	0.4	-	PO ₄ -3	6
0.009-0.005	0.02	0.02	Ni	7
0.1-0.7	2	1	Cu	8
0.007-0.004	0.01	0.01	Pb	9
0.1-0.196	3	3	Zn	10
0.5-1.9	0.3	-	Fe	11
0.18-1.4	-	-	Co	12
0.08-0.22	0.5	-	Mn	13
7.5-7.92	6.5-8.5	6.8-8.5	PH	14

(mg/L)

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NO ₂ ⁻	NO ₃ ⁻	SO ₄ ⁻²	PO ₄ ⁻³	اسم المنطقة	ت
1	11.5	277.76	0.7	الصفرة	١
2	4.9	252.45	2.2	السدة	٢
2	18	289.49	2.6	الدبلة	٣
7	2.5	351.62	2.4	الجزائر	٤
0.0	5.2	77.52	2.5	الدولاب	٥
3.5	12.5	144.62	2.7	الهاشمية	٦
4	23	395.65	2.3	النيل	٧
3	13.5	172.41	1.9	كفل/حسينة	٨
3.9	4.8	397.5	3.25	الكفل	٩

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