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HYROLOGICAL RELATIONSHIP BETWEEN SURFACE AND GROUNDWATER IN BADRA - JASSAN BASIN

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Abstract

    Surface and Groundwater's has an associated hydrological relationship affected by deferent factors related to Geological, Hydrological and Climatic conditions where these factors control the circumstances of groundwater movement in shallow aquifers as well as the quantity of water can be gained or lost from the aquifer and river. In Badra - Jassan basin, the main River is Galal Badra which flows from inside Iranian territory with two tributaries and discharge water in Al- Shuacha marshes to the south , most of river water depends on water gained from inside Iranian territory. Part of the groundwater discharge to the river basin in specific areas according to the topography of

the river valley as well as height of groundwater level in the shallow aquifer above the surface water in the river. At the same time the shallow aquifer which consist of layers and deposits of gravel, sand and silt gained water from river in certain locations, where groundwater quality has changed according to levels of Natural Nutrition to be similar to chemical quality of surface water in those sites. Recharge and discharge levels of groundwater within the river has determined by drawing a hydrogeological section along the river and study of the hydrochemical characteristics of groundwater and surface water in the basin.

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[1] (Bank Storage)

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. [1]

. [3]

[2]   (Dilution and Mixing)

. [4]

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(46º15′)

(45º50′)

(32º55′–33º20′)

(Influent)   (1)

.   –

(1020)   . [5]

(Effluent)

.

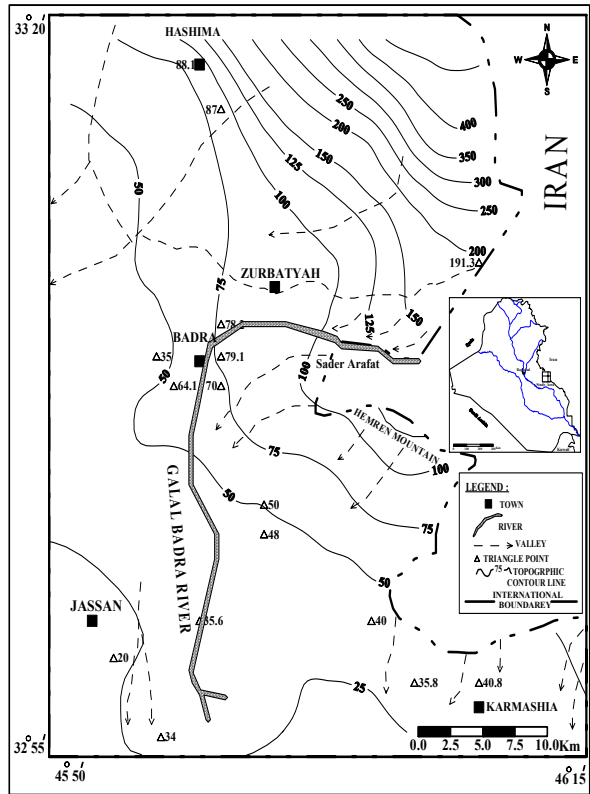(Catchment Area)

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1 :   [5] .

[7]

(20-4)

(Ground Water Flow Net)

[5]   (8)   . (17)   (0.4)
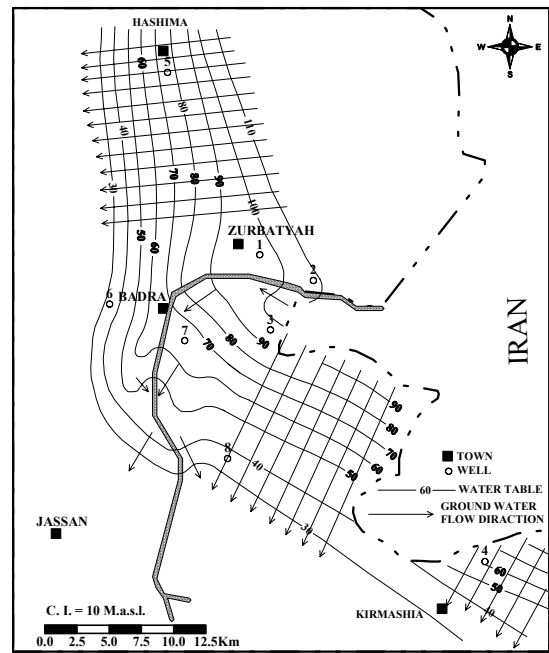
(1)

(2)

. [6]

.

(1650)

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(Gorge)

(300)

: 1

	Wells	Elevation (m.a.s.l.)	Water depth (m.)	Water Table (m.a.s.l.)
1		103.5	5.5	98
2	14/	117.8	9.2	108.6
3		103.7	6	97.7
4		81.1	20.6	60.5
5		88.1	13	75.1
6		35	4	31
7	15/	70	5	65
8	8/	48	9.5	38.5

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(Pleistocene)

. [6]

(3)
(Effluent)

(3.5)
(Influent)
(5)

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(3)

: 2

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(8)   (2)   (4)   (5)

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2 :

– (5).

<table>
<thead>
<tr><th rowspan="3">ت</th><th rowspan="3">اسم الموقع</th><th colspan="2">TDS</th></tr>
<tr><th>فترة الزيادة المائية
(٢٠٠٢/٤/١)</th><th>فترة النقصان
المائي
(٢٠٠١/١٠/١)</th></tr>
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<tr><td>1</td><td>/</td><td>2435</td><td>2025</td></tr>
<tr><td>2</td><td>/</td><td>2830</td><td>2465</td></tr>
<tr><td>3</td><td>/</td><td>3480</td><td>3630</td></tr>
<tr><td>4</td><td>( )</td><td>3515</td><td>3720</td></tr>
<tr><td>5</td><td>( )</td><td>3680</td><td>4365</td></tr>
<tr><td>6</td><td></td><td>3420</td><td>3475</td></tr>
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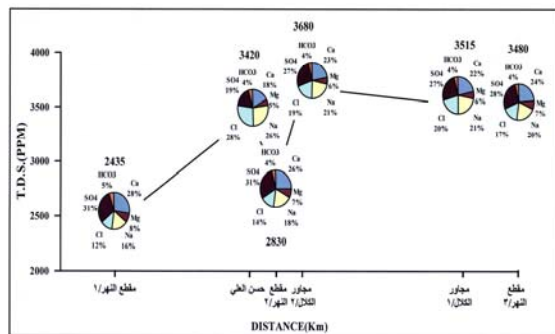   (

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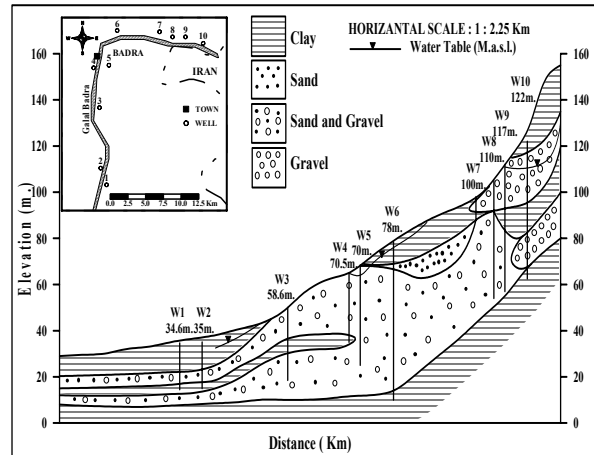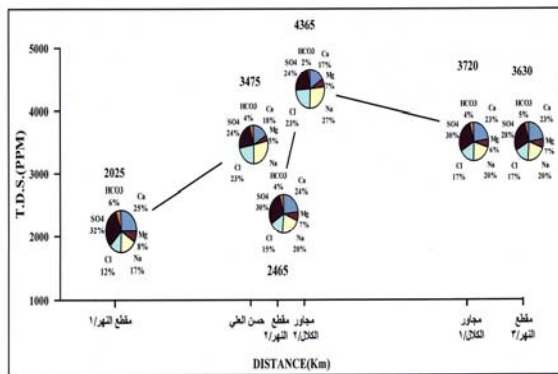
(Pie Diagram)

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(3.5)

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