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**(NJC)****(2010/ 11 / 29 )****(2008/ 9 / 24 )**

35

**Abstract**

This research shall study the type and origin of ground water which is located to near from western edge from SHARI lake in Salahiddin Governorate at about 35 Km Samara city. This study has explained the chemical type of wells water of sodium sulphate is meteoric origin and other water of magnesium chloride is marine origin and it can be used in irrigation and human activity.

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(100) [2]

Low ) (Old Alluvium) (Catchment Area)

(Actual Shore Line) Rech ) (Area

(Cliff

(Discharge Area)

[2] (Bakhtiar Aquifer) [3]

[7]

(300)  $Na^{+1}, Mg^{+2}, Ca^{+2}$   $K^{+1}$

[8]  $Cl^{-1}, SO_4^{-2}, NO_3^{-1}, HCO_3^{-1}$

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Sand ) (Blukle)

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(Duns) (Tepee Structure)

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[9 7] (Conglomerate) (Desiccation Stage)

Upper )  
(NE) (Miocen  
(SW) (Middle Miocene) ( )

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Mesopotamian )

Unstable )

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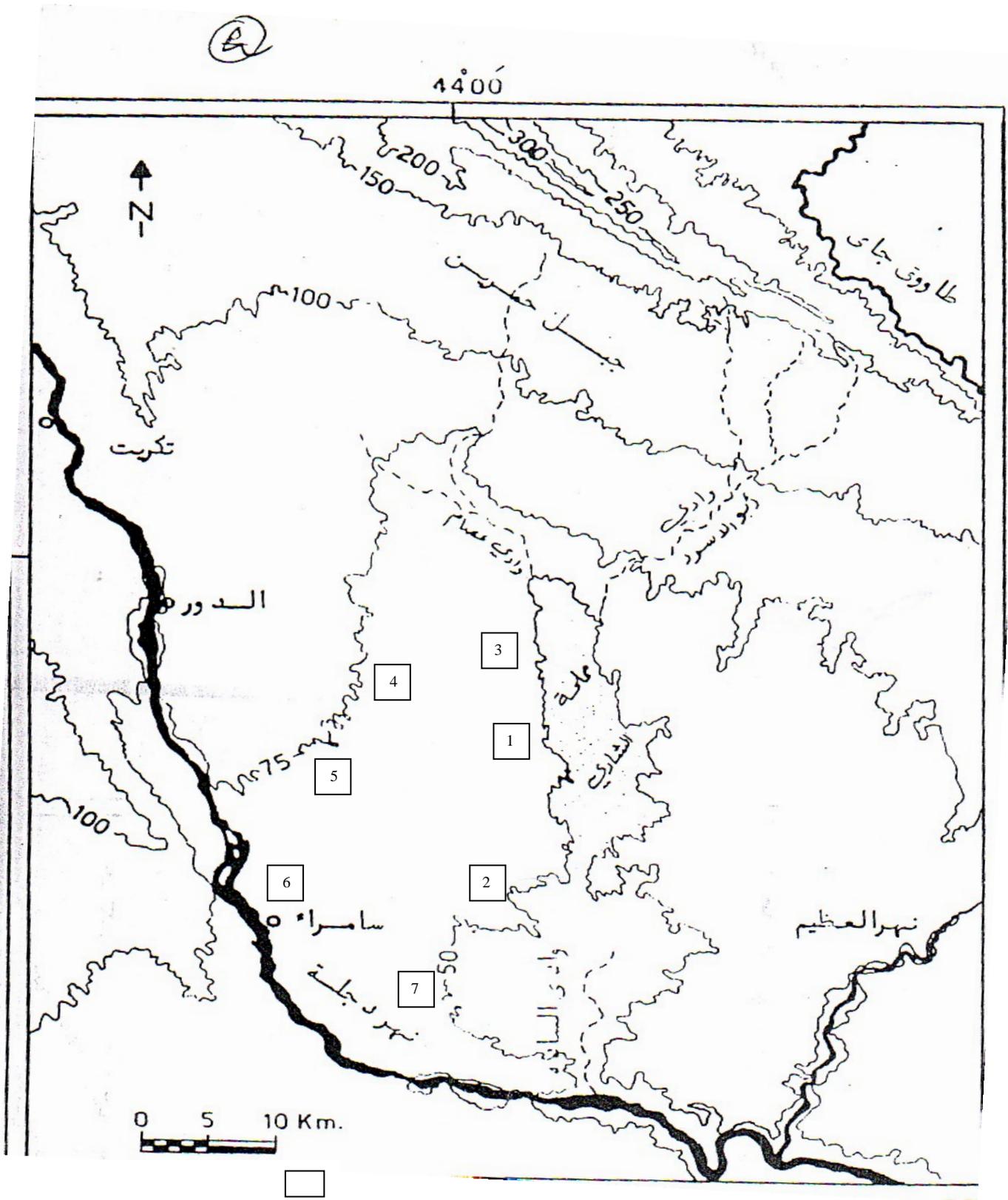
[11]

(Zone

(Shelf

(WSW- ENE)

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(FDTA)

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(12,

AptlA AwwA, AphA, AwwA, Apcf, 1985)

PPm

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(Flame

Photometers)

ppm

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PH	T.S.mg/ L	NO <sup>-1</sup> <sub>3</sub>	HCO <sup>-1</sup> <sub>3</sub>	SO <sup>-2</sup> <sub>4</sub>	Cl <sup>-</sup>	Mg <sup>+2</sup>	Ca <sup>+2</sup>	K <sup>+</sup>	Na <sup>+</sup>	
7.30	4.8	125.50	71.98	1356.40	1413.50	152.67	312.64	6.63	992.91	1
7.25	5.6	153.14	79.3	1348.56	1420	160.5	307.6	5.85	973.82	2
7.36	5.8	126.48	89.06	1482.24	1233.07	154.56	307.6	3.12	892.4	3
7.26	5.3	128.34	73.2	1363.2	1417.51	153	304.3	5.85	1010.16	4
7.31	5.3	125.86	67.1	1428	1317.05	126.66	352.7	6.24	999.58	5
7.3	5.2	26.66	149.54	1919.71	608.11	133.56	311.7	10.14	1065.13	6
7.22	5.4	1357.78	128.1	1250.88	1547.44	172.32	349.11	3.2	833.06	7

epm

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NO <sub>3</sub>	HCO <sub>3</sub>	SO <sup>-2</sup> <sub>4</sub>	Cl <sup>-</sup>	Mg <sup>++</sup>	Ca <sup>++</sup>	K <sup>+</sup>	Na <sup>+</sup>	
2.04	1.18	56.51	39.84	25.36	31.64	0.17	43.17	1
2.47	1.3	56.19	40	26.75	31.26	0.17	42.34	2
2.14	1.46	61.76	34.74	25.76	31.26	0.08	42.77	3
2.04	1.2	56.8	39.92	25.5	30.43	0.15	43.92	4
2.07	1.1	59.5	37.1	21.11	35.27	0.16	43.46	5
0.43	2.45	79.99	17.12	22.26	31.17	0.26	46.31	6
2.19	2.1	52.12	43.58	28.72	34.98	0.08	36.22	7

.epm

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NO <sub>3</sub>	HCO <sub>3</sub>	SO <sup>-2</sup> <sub>4</sub>	Cl <sup>-</sup>	Mg <sup>++</sup>	Ca <sup>+2</sup>	K <sup>+</sup>	Na <sup>+</sup>	
2.03	1.18	56.51	39.84	25.36	41.24	0.17	43.17	1
2.47	1.2	56.19	40.14	26.75	30.76	0.15	42.34	2
2.04	1.46	61.76	34.74	25.76	35.36	0.08	38.08	3
2.07	1.2	56.8	39.93	25.5	30.43	0.15	43.92	4
2.03	1.1	59.5	37.1	21.11	35.27	0.16	43.46	5
0.43	2.45	79.99	17.12	22.26	31.17	0.26	46.31	6
2.19	2.1	52.12	43.58	28.72	34.98	0.08	36.22	7

(Interstitial Water)

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(Sulin,1946)

(epm%)

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(Collins,1975) (Sulin)

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Cl- Na/Mg	Na- Cl/SO <sub>4</sub>	Na/Cl			
-0.13	0.13	1.08		SO <sub>4</sub>	1
-1.5	0.03	1.05		SO <sub>4</sub>	2
-0.15	0.06	1.11		SO <sub>4</sub>	3
-0.18	0.07	1.09		SO <sub>4</sub>	4
-0.30	0.10	1.17		SO <sub>4</sub>	5
-1.31	0.30	2.7		SO <sub>4</sub>	6
0.25	-0.14	0.83		Cl- Mg	7

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[17] Carrol

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[16] Todd

$$SAR = \frac{Na}{\sqrt{Ca+Mg/2}}$$

(SAR)

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**Todd,1960****-5-**

	<b>SAR</b>	
	8.14	1
	7.8	2
	8.22	3
	8.41	4
	8.2	5
	9.08	6
	6.49	7

**(Carrol,1962)****-6-**

<b>Water Type</b>	<b>Total Dissolved Solids (T.D.S)mg</b>
Fresh Water	0- 1000
Brackish Water	1000- 10000
Saline Water	10000- 100000
Brine	>100000

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[16] Todd

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(SAR)

(Sulin,1946)

[16] Todd

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[17] Carrol

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