Kharameh - Darian Plains Underground Water Quality

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Abstract: Kharameh plains in the northeastern city of Shiraz, Fars Province geography lengths to '45 ° 52 '00 ° 53 east and latitude to '30 ° 29 '45 ° 29 North is located. The regional aquifer is composed of two stratigraphic unit: the unit consists of karst formations and units Sarvak Tarbur and alluvial or alluvial plains Kharameh - Darian. In order to assess the quality of groundwater in the area, according to standard methods EPA 2001, Water resources of the area where the biopsy was taken. Tytrsnjy analysis of major elements in the water and light the flame polls show that the dominant facies in the study area faces, calcium sulfate and is Klrvrh. In plain type, Darian 50% carbonate, sulfate, 25%, and 25% is Klrvrh. Kharameh plain sediments in the lower part of the South Shore of Lake Bakhtegan and in other sections of sulfate water type, water type is Klrvrh. Despite their proximity to Lake Bakhtegan Klrvrh types and effects of saline sediments of the lake.

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Key words: Groundwater, Water Stratigraphic Units, Formations, Facies Type Water

General

One of the main characteristics of the chemical quality of surface water and groundwater. The first condition for the use of water for various uses such as agriculture, industry, and chemical quality of water is good. Studies conducted in various parts of Iran, especially the south, southeast and southwest of the country shows that the quantity of groundwater to provide suitable areas are often, but the main limiting factor, poor quality water. For this reason, studies on the chemical quality of ground water in the plains of groundwater quality characteristics specified for national and provincial development plans is important. The need to provide quality water for all construction activities, such as industrial, agricultural, or service may be required to perform such studies. One of the most important activities of corporations across regional water sampling and chemical analysis of groundwater and surface water basin and a study area. Groundwater Studies selected for a number of water sources including wells, springs and canals periodically sampling and chemical analysis will be performed. In studies of surface water samples from the river hydrometric stations at various times during the year is done.

Studies show that in recent years due to severe depletion of groundwater resources and decreasing precipitation in many areas, groundwater levels drop, many studies have and In some areas, the salinity has also been established that the subject of many problems for water supply for various uses in this area has been created. The main cause of falling groundwater levels and salinity in the deep layer of salt water intrusion and effect of Bakhtegan lake.

Description of Work

The quality of the maps and diagrams should be used information from the last sampling period. In these studies, various maps, including maps of curves qualitatively identical electrical conductivity, dry residue Mirrors, Mirrors chloride, water type and facies, alluvial aquifers in agricultural use zoning and zoning alluvial aquifer for drinking purposes of this report have been prepared they are mentioned.

Also, the quality of charts including Collins, Schuler and Vylkvks representative samples of each study area has been prepared. The overall study was carried out in these studies indicate that in some areas due to excessive withdrawal from aquifers and reduced precipitation, the chemical quality of the plain destroyed and Major limitations for various uses such as agriculture has been established.

The amount of chloride

Darian studies ranged between 23 to 886 ppm chlorine ions vary. Minimum margin highlands chloride in northwest Limestone Plains (south of the town of Aliabad) and the local maximum in the vicinity of the northern highlands and plains called Trbvr Labyshh observed. Potassium chloride is such that mirrors extending from the south to the northern plains, a small amount has increased.

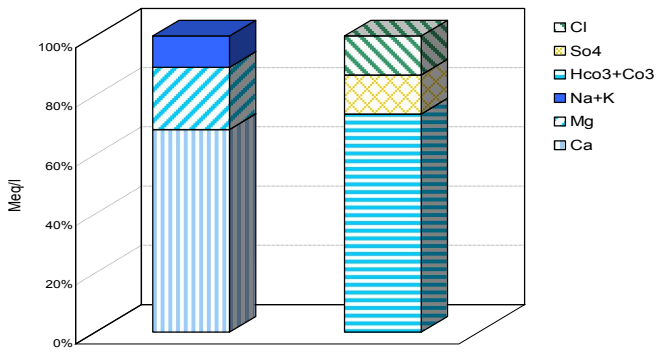
Kharameh only two areas in the study area, groundwater quality data are available. Located in the southeastern plains Kharameh Bakhtegan This area is located at the edge of the lake, Generally, the amount of chloride is high and only a few of the resources of limestone mountains along southern plains (south Kharameh) is about 100 mg. In areas close to the lake chloride to about 4000 mg to about 5800 mg Kharameh in West Town is also measured. The

amount of chloride in the general direction of the lake has increased Bakhtegan.

Water type maps

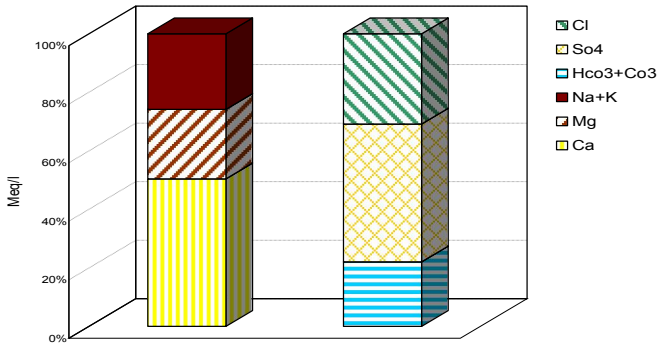
The study area MARVDASHT - Kharameh qualitative information is available at two locations. Kharameh Plains (southeastern study area) only in a limited area in the south of salt lake sediments due to less influence in other sections of sulfate water type, water type Bakhtegan is Klrvrh. Despite the area's proximity to Lake Bakhtegan Klrvrh types and effects of salty sediments of the lake.

50 percent of groundwater sampled in the study area with Darian Bykrbnath type, 25% and 25% of the sulfate type are Klrvrh. Southern plains of the sulfate type, and only a limited part of the northern margin of the northwestern Klrvrh type of plan because of the Asmari limestone formation - Bykrbnath is arranged water type. Evaporation and formation of colloidal such Gadvan, hops and Sachvn Heights area of research is important and sulfate Klrvrh types.



Ca(HCO3)2 =210.8	
Mg(HCO3)2 =14.6	
MgSO4 =30.1	EC =385
MgCl =4.8	TEMP.H =130
NaCl =22.2	PERM.H =40
KCl =1.5	TH =170
Na+K =10.5	Cl =13.2
Mg=21.1	SO4 =13.2
Ca=68.4	HCO3 =73.7

Figure 1 - Diagram Collins Kharameh sample study area (type Bykrbnath)



Ca(HCO3)2 =283.7	
CaSO4 =326.8	
MgSO4 = 162.5	EC =1436
MgCl =57.1	TEMP.H =415
NaCl =216.2	PERM.H =435
	TH =610
Na+K =25.8	Cl =30.8
Mg=23.7	SO4 =47.2
Ca=50.5	HCO3 =22.0

Figure 2 - Diagram Collins Kharameh sample study area (type sulfate)

Figure 1 - Diagram Collins Kharameh sample study area (type Bykrbnath)

Figure 2 - Diagram Collins Kharameh sample study area (type sulfate)

Figure 3 - Diagram Collins Kharameh sample study area (type Klrvrh)

Figure 4 - Diagram Collins Darian sample study area (type Bykrbnath)

Figure 5 - Diagram Collins Darian sample study area (type sulfate)

Figure 6 - Chart Collins Darian sample study area (type Klrvrh)

Segmentation of potable water consumption

Kharameh Plain hydrogeologic conditions in the study area due to the chemical quality of ground water not suitable for drinking water are often available only in emergency situations. Mkhrvtafknhhay area adjacent to the south Kharameh Trbvr calcareous groundwater quality has been found acceptable for drinking.

West Plains groundwater in the study area in terms of significance only in group 1 are drinking well. The southern strip of lowland groundwater for drinking purposes is acceptable but because of geological formations in the northern plains and Gadvan GURPI, the groundwater unsuitable for drinking (Group 3) or bad (Group 4) are. Based on the information in the fields of drinking water, 25% good, 50% acceptable and inappropriate or poor (Groups 3 and 4) 5/12 percent water drawn form.

Figure 7 - Chart Schuler - Brkalf alluvial wells for drinking water stratification (study area Kharameh - Darian)

The results of the present study

1 - Type of surface and ground water withdrawals from the study area, calcium sulfate and Klrvrh the main types of geological formations in the area and that there is saltwater lake Bakhtegan

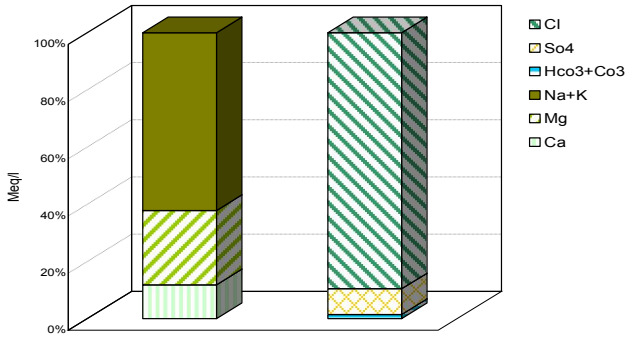
2 - ground water in karst aquifers with water Sarvak Karst formations are Trbvr interact so that this interaction increases calcium sulfate and chloride in water is Sarvak. The evolution of the karst water in the tank can be seen that the process of evolution Sarvak cations and anions is increased.

3 - During the recent years due to the severe depletion of groundwater resources and decreasing precipitation in many areas, groundwater levels drop, many studies have and In some areas, increasing salinity has been established.

4 - the main cause of falling groundwater levels and salinity in the deep layer of salt water intrusion and effect of Bakhtegan lake.

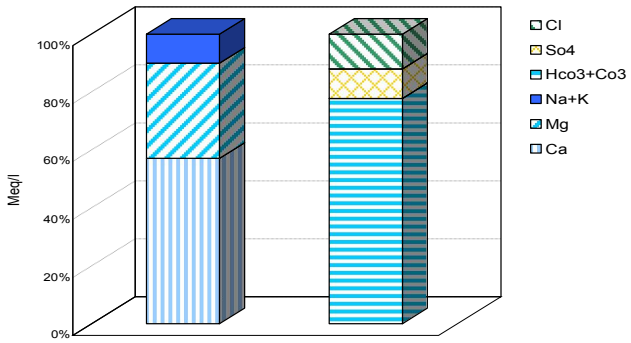
5 - The study area Kharameh, near the lake, near the chloride content of about 4000 mg to about 5800 mg Kharameh in West Town is generally measured by the amount of chloride in order to increase the flow of the lake Bakhtegan results.

6 - Check the quality of groundwater and surface drinking area from the standpoint that the hydrogeological conditions in the study area Kharameh Plain chemical quality of groundwater is not suitable for drinking and Drinking are often only in emergencies, but as we move towards the plain Darian water quality due to the remoteness of the lake Bakhtegan drinking is more appropriate.



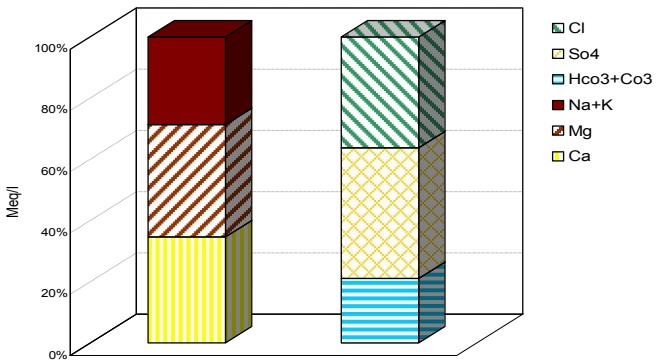
Ca(HCO3)2 =210.8	
CaSO4=1116.4	
NaCl =183.1	EC =16409
MgCl =2333.1	TEMP.H =130
NaCl =6428.5	PERM.H =3435
	TH =3565
Na+K =62.2	Cl =90.0
Mg=26	SO4 =8.6
Ca=11.8	HCO3 =1.4

Figure 3 - Diagram Collins Kharameh sample study area (type Klrvrh)



Ca(HCO3)2 =26.75	
Mg(HCO3)2 =66.9	
MgSO4 = 33.1	EC =579
MgCl =21.4	TEMP.H =165
NaCl =12.0	PERM.H =95
	TH =260
Na+K =10.3	Cl =12.0
Mg=32.9	SO4 =10.2
Ca=57.1	HCO3 =77.8

Figure 4 - Diagram Collins Darian sample study area (type Bykrbnath)



[illegible]	[illegible]
Ca(HCO3)2 =340.5	[illegible]
CaSO4 =183.8	[illegible]
MgSO4 =349.1	EC =1892
MgCl =71.4	TEMP.H =210
NaCl =327.3	PERM.H =500
KCl =7.5	TH =710
[illegible]	
Na+K =28.7	Cl =36.2
Mg=36.7	SO4 =42.7
Ca=34.6	HCO3 =21.1

Figure 5 - Diagram Collins Darian sample study area (type sulfate)

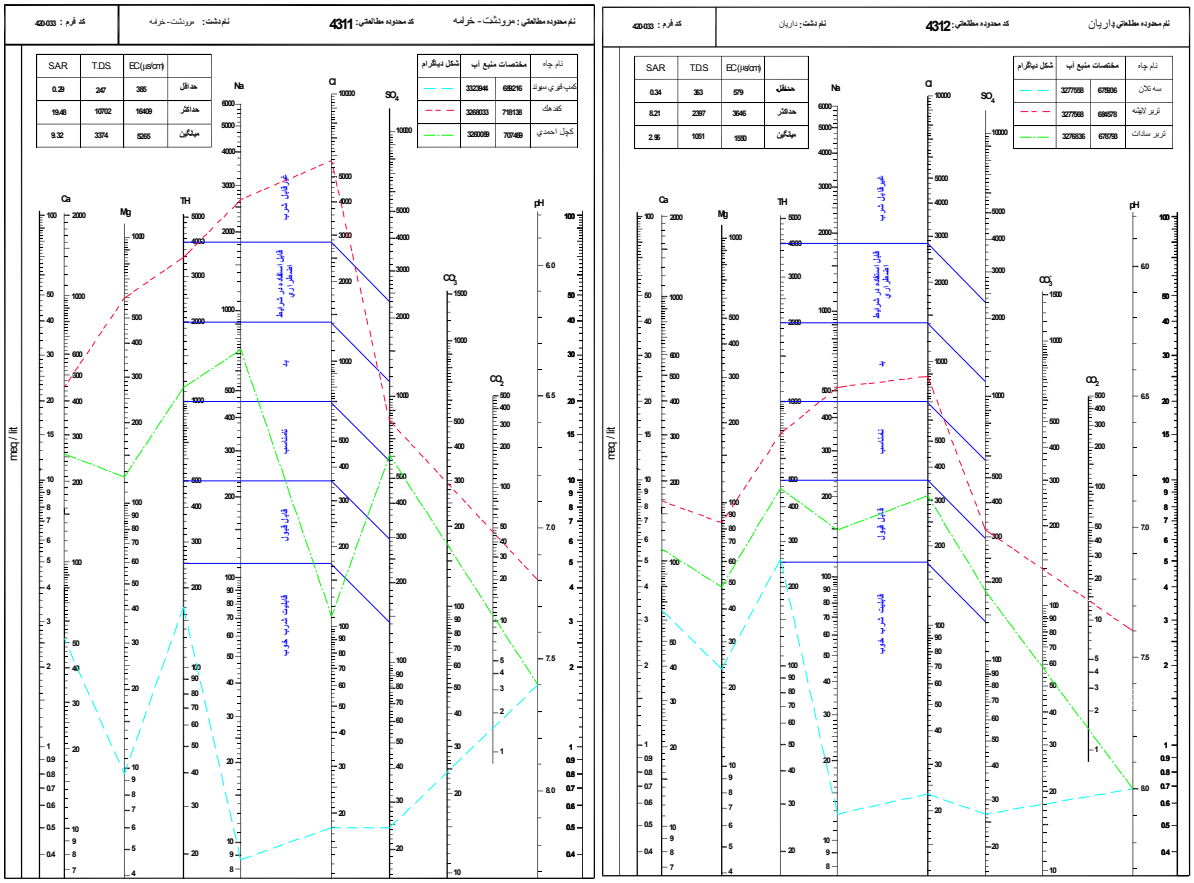
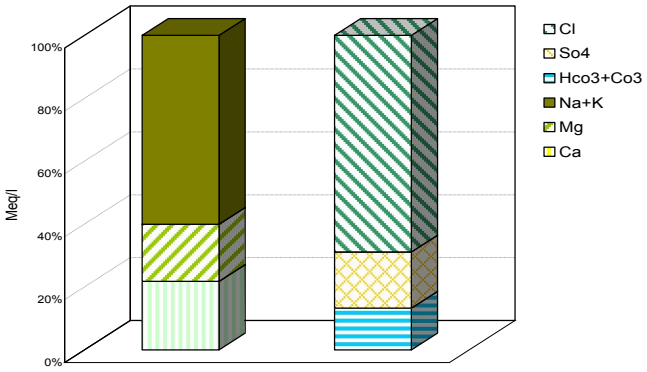


Figure 7 - Chart Schuler - Brkalf alluvial wells for drinking water stratification (study area Kharameh - Darian)



Ca(HCO3)2 =389.1	
CaSO4 =238.3	
MgSO4 = 180.6	EC =3648
MgCl =185.7	TEMP.H =240
NaCl =1233.1	PERM.H =520
	TH =760
Na+K =60.1	Cl =68.9
Mg=18.1	SO4 =17.9
Ca=21.8	HCO3 =13.2

Figure 6 - Chart Collins Darian sample study area (type Klrvrh)

Resources

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