Water and soil quality unit

Report May 2008

The unit activities during May 2008 were the following:

1. **the head of city council visited the center and meted with Dr :Mohamed Abdulraheem who discussed him about different notifications on the center and his different activities.**
2. **a complete water analysis is done for a water sample collected from the well which is used to irrigate the medicinal plants in the green houses in saint Katherine area to determine its availability for use.**
3. **a field visitation to announce about the services introduced by the unit (soil and water analysis) in some Bedouin areas at different parts of Saint Katherine.**
4. **Preparation of a pamphlet, printed and published in many regions of the city to announce about the different water and soil analysis available in the center and the cheap prices for these analysis to help Bedouins of saint Katherine and surrounding areas.**
5. **Dr: Mohamed Abdulraheem met with head of the trip gabalyia sheikh: Mohamed Odaa and head of Altarfa village sheikh Hassan abo Matar to inform them about the services available in the unit and to know the most common problem related to water and soil in their areas(sheikh: Hassan discussed the problem of fresh water contamination by sewage water coming from irrigation of some trees by this contaminated water which will contaminate their wells in Altarfa and Feran) some pictures are included .**
6. **the team work gave his word to sheikh: hassan in order to visit his village (Altarfa) to collect some water samples from their wells if a mean of transportation is available <the car of the center >.**

7. **the monthly check and water analysis on the water produced from Al zaitona well is done (only done after treatment) the result report is included.**
8. **a meeting with to discuss the matter of the letter received from the head of the city council including his apologize for not coming in the higher consult first meeting also for his quit from the consult he was discussed and his letter is received.**
9. **the unit manager replied on the letter received from the manager of health and environment management center in saint Katherine to inform him about the techniques applied in Al zaitona station like chlorine addition and other substances. (a copy of the letter is included).**

Attached files

First: Result report for medicinal plants well :

day: wednesday date : ٢٠٠٨/٥/٧ report no:___

Max limit (M. of health 2007)	Result	General characters
		Physical characters :
accepted	accepted	color .١
Nil	Nil	taste .٢
nil	nil	Odor .٣
٨,٥-٦,٥	٧,٨٩	PH .٤
NTU ١,٠	NTU٠,٣	turbidity .5
Milligram/Liter		Chemical characters:
١٠٠٠,٠	١٠٠٤,٠	TDS .١
٢٥٠,٠	١٥١,١	(Cl^-) chloride .٢
٣٠٠,٠	١٧٦,٩	(HCO_3^-) bi carbonate .٣
٢٥٠,٠	١٧٢,٩	(SO_4^{--}) sulphate.٤
٣٥٠,٠	٨٩,٨	(Ca^{++}) calcium .٥
١٥٠,٠	٣٤,٢	(Mg^{++}) magnesium .٦
٣,٣ - ٠,٧	ds/m٠,٩٨	(EC) Electric conductivity .٧
%١,٣ – ٠,٣	% ١,٩	NaCl % .٨

Cell\ 1cm 3		Micro biological agents
50 cell / cm ^{3}	nil	total bacterial count ١
2 cells/ 1cm^3	nil	total colon bacterial count .٢

This water is available for irrigation from the point of view of PH value (tends to be alkaline but, watering salt sensitive plants should be avoided because of the high value of Electric conductivity (٠,٩٨ds/m) also the relatively high value of total dissolved salt(TDS: 1004.0) so, a continuous check and evaluation of the well water is required especially if the dropping technique is used in irrigation . also there is a relative high value of NaCl % in the water so plantation of salt sensitive plants should be avoided .

Second: the pamphlet published in saint Katherine city:

A copy is present in the center files

Al zaitona monthly check

report no:_____ date :10-5-2008 Day: Saturday

Max. limits (M. of health ,2007)	results	General characters
		Physical characters:
accepted	accepted	color
Nil	Nil	taste
Nil	Nil	odor
٨,٥-٦,٥	٧,٨٩	PH
NTU ١,٠	NTU٠,٢	turbidity
Milligram/Liter		Chemical characters:
١٠٠٠,٠	٨٦٨,٠	TDS
٢٥٠,٠	٥٨,١	Cl chloride
٣٠٠,٠	----	Co3 carbonate
٣٢٠,٠	٧٩,٣	HCo 3 bicarbonate
٢٥٠,٠	٥٧,٦	So4 sulphate
٣٥٠,٠	٥١,٥	٦. calcium (Ca^{++})
١٥٠,٠	٢٣,١	٧. magnesium (Mg^{++})
٢٠٠,٠	٢٢,٨	٨. sodium (Na^{+})
١٥٠,٠	١,٣	٩ potasium (K^{+})
%١,٣ – ٠,٣	% ٠,٩٨	١٠. (NaCl)%
٣,٣ - ٠,٧	ds/m٠,٩٧٤	١١. (EC) Electric conductivity
Cell / Cm ^{3}		Microbiological agents:

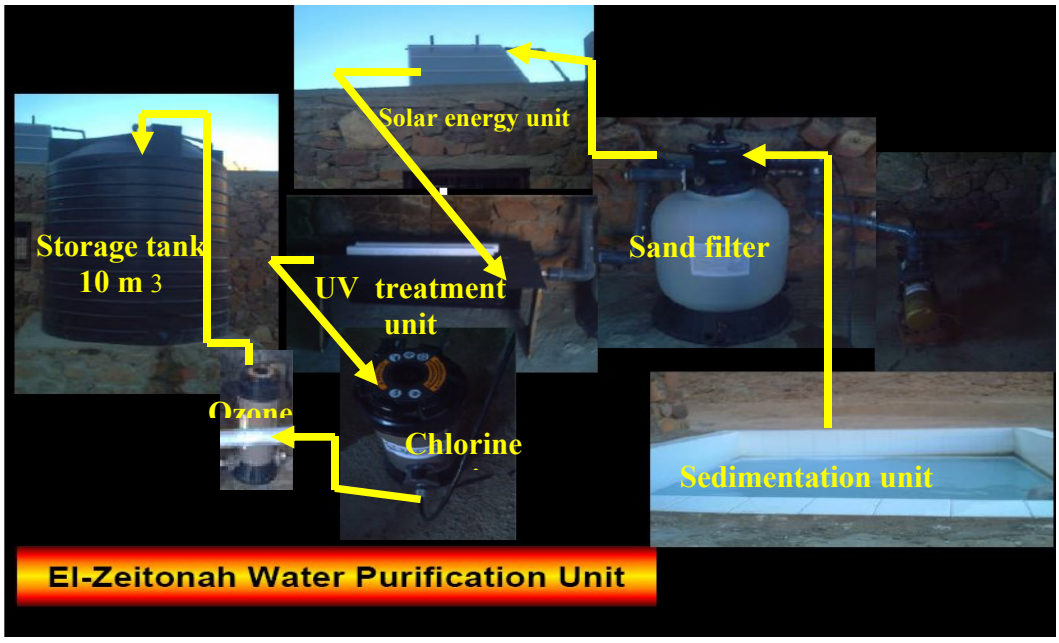
50 cell / Cm ^{3}	Nil	Total bacterial count
2 Cell /Cm ^{3}	Nil	Total colon bacterial count

The reply result on the manager of health and environment management center in saint Katherine :

Mr:

According to the letter received from manager of health and environment management center (13, May ,2008) requesting for some data about the treatment and purification water station on Al zaitona well to send it to higher authorities we can say that:

This is a representative diagram for the station components:



Steps of purification

1. **Water is pumped from the well into the sedimentation unit then treated with ammonium sulfite.**
2. **Ammonium sulphite is added and the water left for 8 hours.**

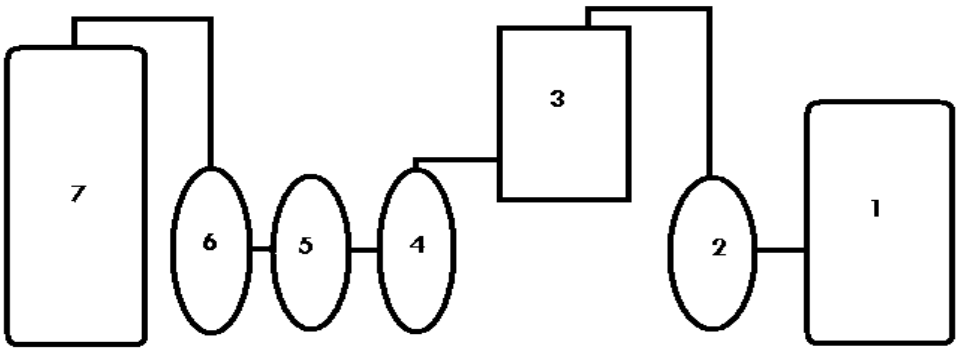
3. **then it passes in a sand filter to remove any impurities escaped from precipitation unit.**
4. **continues to the UV purification unit then to the chlorine treatment unit which in the form of local manufactured disks (60%).**
5. **and the last step is the Ozone unit to make sure that purification step is completed befor storage .**
6. **the purified water is stored in 10 m^3 capacity tank.**

<u>Second :the capacity of pure water production :</u>

10 m^3 pure water every day

---

representative diagram for the station components:



1. **sedimentation unit**
2. **sand filter**
3. **solar energy unit**
4. **UV treatment unit**
5. **chlorine addition unit**
6. **Ozone treatment unit**
7. **Storage tank**

Sincerely ,

Manager of Water quality unit **.**