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## Report about the quality of drinking water in Al Teneyh village camp

### • Al Teneyh village camp

- The camp is located in the Maaret Tamsrin sub-district in the north of Idlib city, 20 km away from the city between Kafr Yahmoul and Maaret Tamsrin communities ([Location](#)). This camp was established in 2016 from tents, then the tents have replaced with mud shelters, and recently, concrete blocks were established.
- The number of camp residents is approximately 1,400 IDPs who came from various governorates.

Governorate	District	Sub-district	Community
Idlib	Maaret Tamsrin	Maaret Tamsrin	Maaret Elekhwane



Al Teneyh village camp location

### • WASH services in the camp

- Water Services
  - In 2017, a well of 250 meters in depth was drilled in the camp, also a submersible pump was installed at a depth of 200 meters and operated in the same period through a generator. In June 2021, Syria Relief Organization has started preparing the station to be operated through a solar power system where the implementation of the new system has been completed in November 2021 thus the station started working on the hybrid system (Generator and Solar power).
  - Additional information about the well: The station was coded previously by ACU (Its code is B040401130). The water flow of the station is 20 m<sup>3</sup>/h where the water is pumped from the well to a high reservoir firstly then from the reservoir to the water network.
- Sanitation services
  - The camp was equipped with a sewage network which was installed by Ihsan for relief and development in 2017, the diameter of the main pipes is 30 cm, while it is 20 cm for sub pipes. In 2021, Syria Relief Organization carried out maintenance for 200 m of the network.
- Solid Waste Management
  - Ihsan for relief and development is currently removing solid waste and garbage from the camp, as it started working in January 2022.

### • Water pollution Warning

#### 1. A Warning notification from the camp administration (March 27, 2022).

- The WASH team at ACU was informed by the camp administration of the presence of impurities in the drinking water that has an odor as well, thus there is a possibility of wastewater leakage into the

source of the drinking water that feeds the village as a result of the formation of a sump of wastewater, as shown in the picture below



## 2. Water pollution check (March 28, 2022).

- ACU WASH team was directed to visit the camp and take samples of the water from the well and one of the houses to ensure water quality.

## 3. Results of Water quality test (March 29, 2022).

- ACU WASH team analyzed the samples physically, chemically, and bacteriologically and prepared the required reports.

- The results were as follows:

- [For the sample that was taken from the well](#)

Physical Test الخواص الفيزيائية للمياه		
The Result النتيجة	Standard الحد المسموح به	Test التحليل
Colorless	Colorless عديم اللون	Color اللون
Odorless	Odorless عديم الرائحة	Odor الرائحة
7.5	6.5 - 8.5	pH الرقم الهيدروجيني
	C°	Temperature حرارة المياه
1.61	5 NTU	Turbidity العكارة
404	1200 ppm	TDS الأملاح الكلية المنحلة
780	1500 µs/cm	Conductivity الناقلية الكهربائية
Bacteriological Test التحليل الجرثومي للمياه		
The Result النتيجة	Unite الواحدة	Test التحليل
	PPM	FRC الكلور الحر المتبقي
0	Cfu/100 ml مستعمرة/100 مل	Coliforms Total تعداد الكولونيات
4	Cfu/100 ml مستعمرة/100 مل	E.Coli (°C 44) تعداد الإشريشيا كولاي
Chemical Test التحليل الكيميائي للمياه		
The Result PPM النتيجة	Standard PPM الحد المسموح به	Test التحليل
	50	Nitrate-NO3 النترات

0.01	0.2	Nitrite-NO 2 النتريت
0.08	0.5	Ammonia-NH3 الأمونيا
Test Result النتيجة الإجمالية		
Result The النتيجة	Test التحليل	
Safe to Drink صالح للشرب	Physical Test Result of التحليل الفيزيائي للمياه للمياه	
Safe to Drink صالح للشرب	Chemical Test Result of التحليل الكيميائي للمياه للمياه	
Not Safe to Drink غير صالح للشرب	Biological Test Result of التحليل الجرثومي للمياه للمياه	

**The results show that the water sample taken is not potable due to the presence of Escherichia coli.**

- For the sample that was taken from a house

Physical Test الخواص الفيزيائية للمياه		
The Result النتيجة	Standard الحد المسموح به	Test التحليل
Colorless	Colorless عديم اللون	Color اللون
Odor	Odorless عديم الرائحة	Odor الرائحة
7.8	6.5 - 8.5	pH الرقم الهيدروجيني
	C°	Temperature حرارة المياه
2.67	5 NTU	Turbidity العكارة
395	1200 ppm	TDS الأملاح الكلية المنحلة
764	1500 µs/cm	Conductivity الناقلية الكهربائية
Bacteriological Test التحليل الجرثومي للمياه		
The Result النتيجة	Unite الواحدة	Test التحليل
	PPM	FRC الكلور الحر المتبقي
	Cfu/100 ml مستعمرة/100 مل	Coliforms Total تعداد الكولونيات
100	Cfu/100 ml مستعمرة/100 مل	E.Coli (°C 44) تعداد الأشيرشيا كولاي
Chemical Test التحليل الكيميائي للمياه		
The Result PPM النتيجة	Standard PPM الحد المسموح به	Test التحليل
	50	Nitrate-NO 3 النترات
0.02	0.2	Nitrite-NO 2 النتريت
0.07	0.5	Ammonia-NH3 الأمونيا
Test Result النتيجة الإجمالية		
Result The النتيجة	Test التحليل	
Not Safe To Drink غير صالح للشرب	Physical Test Result of التحليل الفيزيائي للمياه للمياه	
Safe To Drink صالح للشرب	Chemical Test Result of التحليل الكيميائي للمياه للمياه	
Not Safe To Drink غير صالح للشرب	Biological Test Result of التحليل الجرثومي للمياه للمياه	

**The results show that the water sample taken is not potable physically and bacteriologically due to the presence of Escherichia coli and water odor as well.**

#### 4. Response (March 29, 2022).

- ACU WASH team has taken several steps to reduce the risk of spreading diseases and solve the problem as follows:
  - o Inform the responsible authorities in the camp to stop pumping water from the polluted well immediately and find an alternative drinking water source.
  - o Carrying out a technical study and preparing the report (details below).
  - o Sharing the technical study results with the WASH Cluster to advocate and encourage cluster members for rapid intervention.

#### 5. The technical study (April 1, 2022).

- We visited the camp for a second time to check the reality again and to meet the station officer, the camp manager, and some camp residents to study the reasons for the pollution and check if any health problems occurred among the camp residents recently. All those who were interviewed confirmed a recent change in the specifications and taste of the water, in addition to the registration of some cases of diarrhea among the residents.
- By re-inspecting the well site and surroundings, we have noticed the following:
  1. There is a low land (semi-hollow) close to the well where rainwater collects plus some people used to throw garbage in it and this led to the creation of a garbage and wastewater pool.
  2. There are inspection rooms close to the well which are built of a normal block without any plastering, reinforced or normal concrete, and are linked to the main pipe through a concrete pipe of 200 m. They are designed for serving four houses through a joint PVC pipe of 4 inches which is damaged due to being close to the earth's surface.
  3. We found that about 50 m of the main drainage pipe in the camp is with a reverse slope and this impairs and impacts the drainage of wastewater clearly, where the problem is that the slope of the main pipe is incorrect, in addition to the low number of manholes/inspection rooms along the main drainage pipe, thus, this problem can be solved by replacing the main drainage pipe of 350 meters using a concrete pipe of 300 mm instead of the old one with the same length and correct slop and installing 7 manholes/inspection rooms along the pipe considering that the depth of the last manhole ground is about 185 cm.
  4. Also, the 22 sub-manholes/inspection rooms and the sub pipis that link these sub-manholes with the main pipe must be replaced, considering that the length of the sub-pipe is about 22 m, therefore the total length to be replaced is 660 meters.
  5. Opening and cleaning the other lines in the network by a pulsator and pumping the water inside the pipes

