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# LABORATORY TEST REPORT – WATER TESTING REPORT FOR ORGANIQ

July, 2025

## OBJECTIVES

This water testing aimed to understand the physical, chemical and biological indicators as well as the basic elements of the water in the properties of Organiq

## SAMPLING DETAILS

Sampling by : Urban Biologist Bali
Sampling date : 17/6/2025
Sample tested : 18/6/2025
Lab test result obtained : 30/6/2025
Sample description :

4 samples were collected to be tested. Each samples represented either different sources, lines or utilities. Each sample can be described as follow:

- Sample 1: rain water collected from the central reservoir – this act as the main water source for the whole house system of Organiq
- Sample 2: rain water collected from the logistic kitchen tap. The water has been through several pipe lines in which is was assumed that the pipe materials affected the water quality.
- Sample 3: natural spring water of the Gesing community, located near the Organiq property.
- Sample 4: a water from an artificial pond that used for farming and livestock activity

Water samples were collected using a brand new sterilized 500ml plastic bottle. Each sample was represented by 3 different bottles because it went to 3 different lab unit for different analysis. All samples were kept and transferred to the lab in cooler box 5'C.

## TEST RESULT

**TABLE 1. LABORATORY TEST RESULT – RELEASED BY LABORATORIUM ANALITIK AND LABORATORIUM MASYARAKAT UDAYANA**

| No | Category | Parameters | Max. Acc. Value | S1 | S2 | S3 | S4 |
|---|---|---|---|---|---|---|---|
| 1 | Physical | Smell | No Smell | No Smell | No Smell | No Smell | No Smell |
| 2 | Physical | TDS (mg/L) | 500 | 31,2 | 30,3 | 53,3 | 13 |
| 3 | Physical | Turbidity (NTU) | 5 | 2,84 | 1,6 | 1,5 | 1,2 |
| 4 | Physical | Temp. (°C) | 30 | 25,8 | 25,6 | 25,6 | 25,7 |
| 5 | Physical | Color (TCU) | 15 | 9 | 8 | 8 | 8 |
| 6 | Chemical - Heavy Metals | Chromium (Cr) (mg/L) | 0,05 | n/d | n/d | n/d | n/d |
| 7 | Chemical - Heavy Metals | Manganese (Mn)(mg/L) | 0,4 | 0,0028 | n/d | n/d | 0,0028 |
| 8 | Chemical - Heavy Metals | Lead (Pb) (mg/L) | 0,01 | n/d | n/d | n/d | n/d |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | Chemical - Heavy Metals | Mercury (mg/L) | 0,001 | <0,005 | <0,005 | <0,005 | <0,005 |
| 10 | Chemical - Heavy Metals | Cadmium (mg/L) | 0,010 | n/d | n/d | n/d | n/d |
| 11 | Chemical - Heavy Metals | Arsenic (As) mg/L) | 0,01 | n/d | n/d | n/d | n/d |
| 12 | Chemical - Heavy Metals | Silver (Ag) (mg/L) | 0,1 | n/d | n/d | n/d | n/d |
| 13 | Chemical - Heavy Metals | Copper (Cu) (mg/L) | 0,02 | n/d | n/d | n/d | n/d |
| 14 | Chemical - Heavy Metals | Aluminum (mg/L) | 0,2 | 1,248 | 1,351 | 1,403 | 1,093 |
| 15 | Chemical - Hardiness | Iron (Fe)(mg/L) | 0,3 | 0,237 | 0,179 | 0,038 | 0,092 |
| 16 | Chemical - Hardiness | Fluoride (mg/L) | 1,5 | 0,29 | 0,29 | 0,29 | 0,28 |
| 17 | Chemical - Hardiness | Calcium (CaCO3) (mg/L) | 500 | 14,02 | 11,68 | 21,3 | 7,1 |
| 18 | Chemical - Hardiness | Zinc (Zn) (mg/L) | 3 | n/d | n/d | n/d | n/d |
| 19 | Chemical - Hardiness | Silicon (Si) (mg/L) | 100 | n/d | n/d | 51,593 | n/d |
| 20 | Chemical - Gas | Nitrate (mg/L) | 50 | 0,026 | 0,03 | 0,036 | 0,023 |
| 21 | Chemical - Gas | Nitrite (mg/L) | 3 | 0,016 | 0,012 | 0,014 | 0,02 |
| 22 | Chemical - Gas | Cyanide (mg/L) | 0,07 | 0,05 | 0,05 | 0,05 | 0,05 |
| 23 | Chemical - Gas | Sulphate (mg/L) | 250 | 4,4 | 4,1 | 5,6 | 1,1 |
| 24 | Chemical | pH | 6,5 - 8,5 | 5,6 | 5,6 | 5,9 | 5 |
| 25 | Biological | Organic Substance (mg/L) | 10 | 12,4 | 11,8 | 12 | 14,8 |
| 26 | Biological | Total Coliform (MPN/100ml) | 0 | 38 | 240 | 27 | 240 |
| 27 | Biological | Escherichia coli (MPN/100ml) | 0 | 0 | 2,2 | 0 | 4 |

Note: n/d = not detected

## SOURCES


- Reference 1: Permenkes RI No. 2 Tahun 2023 Tentang Baku Mutu Kesehatan Lingkungan Untuk Media Air Untuk Keperluan Air Minum dan Higiene Sanitasi (https://peraturan.bpk.go.id/Details/245563/permenkes-no-2-tahun-2023)
- Reference 2: National Primary Water Regulation by US EPA, 2024 (https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations)
- Referrence 3: Australian Drinking Water Guidelines 6 2011, updated version 2025 (https://www.nhmrc.gov.au/about-us/publications/australian-drinking-water-guidelines)

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## SUMMARY

The letters in red indicated that the value was excess of the maximum value stated, thus not accepted for the certain purposes. In this case, the value that Is excessed were

- Aluminum, at all samples
- pH, at all samples (lower of the range stated)
- Organic Substance, at all samples
- Total Coliform, at all samples
- Escherichia coli, at sample S2 and S4

## IMPLICATION

### Physical

None of all physical indicators (No. 1 – 5) were excess the limit – the water looks clear and clean.

### Hardiness

None of all hardiness indicator (No. 15 – 19) were excess the limit. But, the iron level of S1 and S2 were close to the limit, indicated the high content of iron – the water tends to leave reddish-yellowish stain on the floor or kitchen appliances. Silica was only seen in the S3 (the natural spring water). It was probably sourced from natural derivates of rock or sand of where the water emerges on to the surface.

### Heavy metals

Heavy metals (Chromium, Manganese, Mercury, Cadmium, Arsenic, Aluminum, Copper, Lead and Silver): only 1 of all heavy metal indicators were excess the limit at the sample, namely Aluminum. Aluminum (and all other element considered as heavy metals), can be found in water through natural and human-related process. Since we understand that 3 of the water sources from rain water, we could presume that the aluminum presented through the leaching of material, probably from the cemented wall of the reservoir tank or the pipes.

### Gas

Gas (Nitrate, Nitrite, Cyanide and Sulphate): none of all chemical gas indicator were excess the limit at the sample – it was indicated very little biochemical activity in the water. However, the pH level was 5 – indicated as acid. The water with pH lower than 6,5 can easily corrode pipes and leach the element like Aluminum, Lead and Copper.

### Biological

The biological indicator included Organic Substance (the decomposed trace of living things such as leaves and moss), Total coliform and E. coli. Since we understand it is a rain water, that capture by the rainwater capture pipes of the roof, the crumbs of the fallen leaves, and other of the rest of living things may be mixed in the runoff and end up in the collector – resulting the excess number of the Organic Substance indicator. The excessive level of the Total Coliform certainly indicated if there is a contamination from the faces of warm-blood animal (and sewage) into the system – it can be natural too, thus it presented in the S3 (the natural spring water). And the *E. coli* (*Escherichia coli* is the most common bacteria that inhabit human and other warm-blood animal's intestine) particularly indicated the fresh input of those animal faces. Those animals, such as birds, squirrel, and animal stock in the farm must be responsible to the present of the coliform bacteria in the water system

Based on these biological indicators, the water of all samples was not accepted for consumption purposes.

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## RECOMMENDATION

Using water filter is really required in order to safely use the water for the daily use such as cleaning, bathing, and even consumption (direct or indirect).

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