

Supplementary Data

1. Methods and Materials

For the analysis of these 21 physicochemical parameters, a range of high-quality instruments was employed, ensuring the precision and reliability of the measurements. A WTW multi-parameter device was used to measure temperature and conductivity in microsiemens per centimeter ($\mu\text{S}/\text{cm}$). Turbidity was assessed using a Hach 2100-type turbidimeter, renowned for its accuracy in determining sample clarity. pH was measured using a JP Selecta pH meter, providing high precision in determining acidity or alkalinity. Additionally, to measure the concentrations of Ca^{2+} , K^+ , and Na^+ , atomic emission spectrophotometry was employed, ensuring precise evaluation of the metals present in the samples. Lastly, optical density was measured using a Cecil Server 2 Gratin Spectrophotometer UV spectrophotometer, guaranteeing reliable results in the analysis of optical components in the samples. These state-of-the-art instruments facilitated the acquisition of high-quality data for assessing the composition of water samples with high accuracy.

1.1. Physicochemical Analysis

1.1.1. Sample Dosage

The sample dosing process involved several important steps. Firstly, about 100 mL of water to be analyzed was carefully collected. Subsequently, a stirrer was gently placed into a beaker to ensure homogeneous mixing. The sample was allowed to stabilize for a period of time, with the stirrer operating at a reduced speed to avoid excessive disruption. Once this stabilization step was completed, valuable measurements were taken, including pH, temperature (T°), dissolved oxygen levels, electrical conductivity, and salinity. These essential data were meticulously recorded. The obtained results were directly converted into percentages (%) and specific units of measurement such as mg/L for dissolved oxygen, $\mu\text{S}/\text{cm}$ for conductivity, and g/L for salinity, thus providing a detailed understanding of the composition of the analyzed sample.

1.1.2. Turbidity

The subsequent step involved preparing the measurement cuvette meticulously. After carefully filling the cuvette with the previously homogenized sample, it was wiped with tissue paper to ensure cleanliness. Special attention was paid to removing any air bubbles, a crucial element for obtaining accurate results. Once these preparations were completed, the measurement was promptly conducted. Turbidity values were directly obtained in Nephelometric Turbidity Units (NTU), providing a quantifiable assessment of the sample's clarity.

1.1.3. Calcium Dosing

The Ca^{2+} dosing protocol was executed following these methodical steps:

Firstly, a 50 mL aliquot of the sample was carefully taken. To initiate the reaction, 2 mL of a 2N sodium hydroxide (NaOH) solution was introduced, along with a small amount of indicator (Murexide). It was imperative for the solution to turn pink, a sign of complex formation. Thorough mixing was performed to ensure even distribution of the reagents. Subsequently, the EDTA solution was used to carry out the titration itself. The EDTA solution was added slowly and in small quantities, whilst we closely observed the color change. The equivalence point was reached when the color changed distinctly to violet, confirming complete formation of the metal complex. A crucial criterion was that the

obtained violet color should not change further with the addition of an additional drop of the EDTA solution. This color consistency indicated the accurate completion of the titration. The detection limit of this method has been reported to be 2 mg/L.

1.1.4. Total Hardness Determination

The process of determining TH followed a series of precise steps:

Firstly, a 50 mL sample of the water to be analyzed was carefully measured and placed in an Erlenmeyer flask. To establish titration conditions, 4 mL of a buffer solution was added, followed by the introduction of 3 drops of Eriochrome black solution, serving as a visual indicator. Titrating commenced by rapidly adding the EDTA solution. The process began with an initial portion and continued by gradually adding the EDTA solution drop by drop until the endpoint was reached, characterized by a color change to blue. This visual endpoint marked the completion of the titration for determining TH. Once titration was accomplished, the equivalent volume (Veq) of the EDTA solution was accurately noted, serving as a reference for subsequent calculations. The detection limit of this method has been reported to be 0.2 °F.

1.1.5. Chloride Dosing

The determination of Cl^- was carried out following a methodical procedure:

Firstly, a volume of 100 mL of the sample was carefully introduced into a flask. To create a reference background, the flask was placed against a white background. Subsequently, 1 mL of potassium chromate indicator (b) was added, creating a tinted solution. Titrating was performed by adding dropwise a silver nitrate solution to the sample solution. The process continued until the solution exhibited a reddish tint, indicating the formation of silver Cl^- precipitates. A crucial step involved adding a drop of sodium chloride solution (NaCl). If the reddish coloration disappeared, it confirmed the endpoint of titration. This reaction was observed as an indicator of excess silver reagent and marked the end of the Cl^- determination process. The detection limit of this method has been reported to be 0.15 mg/L.

1.1.6. Magnesium Determination

A highly informative method for accurately estimating the concentration of Mg^{2+} in the water sample in question relies on the use of the difference between TH and calcium hardness. By adopting this ingenious approach, it is possible to directly and efficiently measure the magnesium hardness specific to the analyzed water. This method is based on the fundamental principle that TH is the result of the sum of divalent ions, primarily Ca^{2+} and Mg^{2+} , present in the water. However, by determining calcium hardness through appropriate methods and subtracting it from TH, the value of magnesium hardness can be easily obtained. The detection limit of this method has been reported at 2 mg/L.

1.1.7. Complete alkalimetric titration and acidity determination

The process of determining the TAC and acidity (HCO_3^-) occurred in several precise steps:

Initially, a 100 mL sample was introduced into a beaker, and the initial pH of the sample was recorded. Subsequently, to adjust the pH to a target value of 4.3, 100 mL of the water to be analyzed was used. The adjustment was carried out by slowly adding hydrochloric acid (HCl) with the help of a precise measuring device called a disimal. The volume of

HCl needed to reach the target pH was carefully noted, and these measurements formed a crucial basis for subsequent calculations.

The TAC was then calculated using the formula:

$$\text{TAC} = V_{\text{HCl}} \times 50 = \text{mg/L} \quad (1)$$

The acidity (HCO_3) was calculated using the formula:

$$\text{HCO}_3 = V_{\text{HCl}} \times 61 = \text{mg/L} \quad (2)$$

In these equations:

- V_{HCl} represents the volume in milliliters (mL) of hydrochloric acid (HCl) used for pH adjustment.
- The numerical values 50 and 61 correspond to specific coefficients required for the calculation.

1.1.8. Determination of Dry Residue

The determination of DR was carried out following a methodical sequence:

To begin, a previously washed capsule was carefully prepared. After ensuring its cleanliness, the capsule was rinsed with distilled water and thoroughly dried. Next, a 100 mL sample of the water to be analyzed was taken and poured into a volumetric flask. From there, the contents of the flask were carefully transferred to the prepared capsule. To continue the process, the capsule containing the sample was placed in an oven set at a temperature of 105°C. This step lasted for 24 hours, ensuring complete evaporation of the water contained in the sample. After the drying period, the capsule was removed from the oven and left to cool for fifteen minutes in a desiccator. This step aimed to stabilize the surrounding temperature and humidity. Finally, the now cooled capsule was promptly weighed to obtain the mass of the DR.

The calculation of DR was performed using the formula:

$$\text{DR} = (V_2 - V_1) \times 2 \times 104 \quad (3)$$

In this equation:

- V_2 represents the mass of the capsule with the DR (after evaporation).
- V_1 is the mass of the empty capsule before sampling.

1.1.9. Ammonium Determination

The determination of NH_4^+ was carried out following a methodical sequence:

Initially, a carefully measured 40 mL water sample was taken. Subsequently, to initiate the reaction, 2 mL of Reagent I, composed of dichloroisocyanuric acid, sodium hydroxide (NaOH), and distilled water, was added to the sample. Following this, 2 mL of Reagent II, containing sodium tricitrate, sodium salicylate, and sodium nitroprusside, was also introduced to the sample. To reach a total volume of 50 mL, distilled water was added, and the prepared sample was left to stand for an hour. After this time, the appearance of a greenish coloration was observed, indicating the presence of NH_4^+ ions in the sample. To

quantify this presence, spectrometric reading was performed at a wavelength of approximately 655 nm. This measurement accurately determined the concentration of NH_3 in the sample. The detection limit of this method has been reported to be 0.0015 mg/L.

1.1.10. Nitrite Determination

The determination of NO_2 was undertaken following a series of methodical steps:

Firstly, a precisely measured 50 mL water sample was taken. Subsequently, to initiate the reaction, 1 mL of a mixed reagent composed of sulfanilamide, phosphoric acid, and N-1-naphthylethylene diamine was added to the sample. Following this, a waiting period of 10 minutes was observed, allowing the reaction to fully develop. At the end of this period, a characteristic pink coloration appeared, indicating the presence of NO_2 ions in the sample. To quantify this presence, spectrometric reading was performed at a wavelength of approximately 543 nm. This measurement accurately determined the concentration of NO_2 in the sample. The detection limit of this method has been reported to be 1 $\mu\text{g/L}$.

1.1.11. Phosphate Determination

The determination of PO_4^{3-} followed a precise methodical approach:

Initially, a volume of 40 mL of the sample was introduced into the process. Subsequently, to initiate the reaction, 1 mL of ascorbic acid and 2 mL of a specific mixed reagent was added to a 50 mL volumetric flask. To reach the desired volume, the flask was carefully filled. To ensure proper reaction development, the flask was placed in an oven set at a temperature of 80°C for 20 minutes. This step promoted the formation of PO_4^{3-} complexes. After the heating process, a spectrometric reading was taken at a wavelength of approximately 825 nm. This measurement accurately evaluated the PO_4^{3-} concentration in the sample based on the absorbance of the formed complexes. In general, spectroscopic methods typically demonstrate high sensitivity, making them capable of detecting concentrations in the micrograms per liter ($\mu\text{g/L}$) range or even lower. The detection limit of this method has been reported to be 1 $\mu\text{g/L}$.

1.1.12. Sulfate Determination

The determination of SO_4^{2-} followed a well-defined methodical sequence:

To start, a carefully measured 40 mL sample was introduced into the process. Subsequently, to initiate the reaction, 5 mL of a specific stabilizing solution and 2 mL of barium chloride solution were added to a 50 mL volumetric flask. To achieve the final desired volume, the flask was filled with caution. To encourage the formation of SO_4^{2-} precipitates, the flask was placed under optimal conditions, allowing the reactions to develop adequately. After the reaction period, a spectrometric reading was performed at a wavelength of 420 nm. This measurement accurately assessed the SO_4^{2-} concentration in the sample based on the absorbance of the formed complexes. The detection limit of this method has been reported at 5 mg/L.

1.1.13. Nitrate Determination

The determination of NO_3 followed a rigorous methodical approach:

To begin, a carefully measured 10 mL water sample was introduced into the process. Subsequently, to initiate the reaction, three drops of 30% sodium hydroxide solution were added. Following this, 1 mL of 0.5% sodium salicylate solution was incorporated into the

sample. To concentrate the samples, a dry evaporation was performed either using a water bath or an oven at a temperature range of 75 to 88°C. This step concentrated the NO_3 in preparation for the subsequent reaction. After evaporation, the obtained residue was treated with 2 mL of concentrated sulfuric acid. A resting period of 10 minutes was observed to allow the desired complexes to form. Subsequently, to complete the reaction, 15 mL of distilled water was added, followed by 15 mL of double sodium and potassium tartrate. Finally, spectrometric reading was conducted using a UV-Visible spectrometer, with a wavelength of 415 nm. This measurement accurately assessed the concentration of NO_3 in the sample based on the absorbance of the formed complexes. In general, Spectroscopic methods typically demonstrate high sensitivity, making them capable of detecting nitrate concentrations in the micrograms per liter ($\mu\text{g/L}$) range or even lower. The detection limit of this method has been reported at 1 $\mu\text{g/L}$.

1.1.14. Iron Determination

The determination of Fe^{3+} concentration followed a precise methodical sequence:

To start, a 50 mL sample was taken as a test portion. This solution was then transferred into a 100 mL flask, where 1 mL of hydroxylamine hydrochloride solution was added and thoroughly mixed. Next, to establish optimal conditions, 2.0 mL of acetate buffer was incorporated to achieve a targeted pH ranging between 3.5 and 5.5, preferably at 4.5. To encourage the formation of necessary complexes, 2.0 mL of phenanthroline solution was added to the solution, followed by a dark incubation period of 15 minutes. After this period, an absorbance measurement was taken using a UV-VIS spectrophotometer, at a wavelength of 510 nm and with a 10 mm² cuvette. This measurement accurately evaluated the Fe^{3+} concentration in the sample based on the absorbance of the formed complexes. This method is suitable for the determination of iron even at very low concentrations, enabling highly precise measurements.

1.1.15. Manganese Determination

The determination of Mn^{2+} concentration followed a systematic and precise methodology:

To begin, a volume of 40 mL of the sample was introduced into the process. Subsequently, to initiate the reaction, 1 mL of ascorbic acid was added, followed by the addition of 2 mL of the mixture reagent into a 50 mL volumetric flask. To achieve the final desired volume, the flask was carefully filled. The formation of the Mn^{2+} complex was evidenced by the appearance of a characteristic reddish-orange coloration. This visual coloration confirmed the development of the desired reaction. To quantify the Mn^{2+} concentration, an absorbance measurement was taken using a UV-VIS spectrophotometer, at a wavelength of 450 nm. This measurement accurately evaluated the Mn^{2+} concentration in the sample based on the absorbance of the formed complex. The detection limit of this method has been reported to be 5 $\mu\text{g/L}$.

1.1.16. Sodium and Potassium Determination

The use of the Dr. LANGE (JENWAY) instrument for analytical measurements was conducted following a methodical approach with specific steps:

To begin, the instrument was powered on by pressing the green button (power). The gas bottle tap was opened to prepare the required gas supply. Next, the flame was ignited using the "IGNITION" black button, holding it down until the display turned red with the message "FLM." A cuvette was prepared by pipetting distilled water, and the flame was optimized if necessary using the "fuel" button to transition from a yellow hue to a more

optimal bluish-violet color. Subsequently, zero calibration was performed using the "Blank" button. Flame stabilization was observed for 5 to 10 minutes, ensuring consistent conditions. Once stabilization was achieved, the cuvette with distilled water was activated and replaced with a cuvette containing a standard Na⁺ or K⁺ solution at 10 mg/L. The reading was optimized at 10 mg/L using the "FINE" button. A check was performed by replacing the standard cuvette with a cuvette filled with distilled water to verify if the display shows zero (0.000). Then, this cuvette was replaced with another containing a standard Na⁺ or K⁺ solution at 10 mg/L, and the display was checked. The process was repeated by replacing the cuvette with another filled with distilled water. Unknown samples were then tested, ensuring that the displayed value remained stable after three trials for each sample. In conclusion, for safety reasons, the propane gas bottle was closed first, followed by the instrument and pump. This methodical approach ensured accurate and consistent measurements while maintaining safety when using the LANGE (JENWAY) instrument. The detection limit of this method has been reported to be 5 µg/L.

1.1.17. Organic Matter Determination (Potassium Permanganate Oxidation)

To carry out this analytical method, the following steps were meticulously followed:

Firstly, a wide-necked Erlenmeyer flask was used to contain 100 mL of the water sample to be analyzed. Subsequently, 10 mL of half-normal sulfuric acid (½ N) along with a few grains of Potter were added to the solution. The solution was brought to a boil until the first bubbles appeared. After this, 10 mL of half-normal potassium permanganate (N/80) was added to the boiling solution, and the mixture was kept boiling for a period of 10 minutes (2nd boiling). Following the boiling, the mixture was cooled, and then, 10 mL of half-normal ammoniacal ferrous sulfate solution (N/80) was incorporated. Titration was performed using a solution of potassium permanganate (KMnO₄) until a change in solution color occurred, indicating a shift from colorless to light pink. Additionally, a control was conducted using distilled water for reference.

The amount of consumed oxygen was calculated using the formula:

$$O = V - V_0 \text{ mg/L} \quad (4)$$

Where V represents the volume of the potassium permanganate solution used in titration and V₀ corresponds to the equivalent volume inferred from the control with distilled water. This method is suitable for the determination of organic matter even at very-low concentrations, enabling highly precise measurements.

1.1.18. Aluminum Determination

To implement this analytical method, the following steps were executed methodically: Firstly, a 50 mL volumetric flask was carefully prepared. Using a pipette, a precise volume of 10 mL of the sample was transferred into the flask. Subsequently, 0.5 mL of 0.028 N sodium thiosulfate solution was added to the sample, ensuring proper mixing. Next, 1 mL of 1% (c) ascorbic acid solution was introduced into the flask, followed by the addition of 1 mL of 0.04 N sulfuric acid (b). To maintain the desired pH range, 10 mL of pH 5.9 buffer solution was carefully added to the mixture. To reveal the presence of Al³⁺, 5 mL of eriochrome cyanine coloration solution was incorporated. The total volume was then adjusted to 50 mL using distilled water, and the mixture was left to stand for a period of 10 minutes. During this waiting period, a reddish-orange coloration formed in the presence of Al³⁺ in the sample. Finally, to quantify the result, the absorbance of the mixture was measured at a wavelength of approximately 540 nm using a spectrophotometer. The detection limit of this method has been reported to be 1 µg/L.

Table S1. Water Quality Analysis Throughout the Year: A Comprehensive Overview of Physicochemical Parameters in Raw and Treated Water.

	January		February		March		April	
	Raw wa- ter	Treated water	Raw wa- ter	Treated water	Raw wa- ter	Treated water	Raw wa- ter	Treated water
pH	7.78	4.83	7.79	4.95	7.65	5.55	7.75	4.80
Conductivity($\mu\text{S cm}^{-1}$)	3410.00	875.00	2900.00	520.00	3076.00	563.00	2870.00	565.00
Turbidity (NTU)	8.68	0.2170	4.31	0.39	5.38	1.58	4.94	1.60
Organic matter (mg/L)	20.50	0.10	25.40	0.50	29.20	0.20	28.30	0.20
NH₄⁺ (mg/L)	0.88	Negligible	0.83	Negligible	0.71	Negligible	0.64	Negligible
PO₄³⁻ (mg/L)	0.98	Negligible	0.66	Negligible	0.70	Negligible	0.86	Negligible
NO₃⁻ (mg/L)	96.97	Negligible	60.00	Negligible	66.11	Negligible	66.83	Negligible
NO₂⁻ (mg/L)	0.38	Negligible	0.24	Negligible	0.29	Negligible	0.33	Negligible
Ca²⁺ (mg/L)	248.29	100.20	264.32	102.20	240.28	96.17	248.28	96.19
Mg²⁺ (mg/L)	180.19	36.45	189.91	37.05	179.35	24.30	197.20	17.01
TH (°F)	137.15	40.23	145.20	40.98	134.79	34.16	144.23	31.13
Cl⁻ (mg/L)	554.40	35.5000	525.7000	45.4400	541.4000	44.0200	553.0700	45.0100
HCO₃⁻ (mg/L)	487.27	266.57	400.00	318.42	490.32	195.81	431.50	201.30
SO₄²⁻ (mg/L)	583.00	188.00	612.00	133.00	704.00	147.00	540.00	130.75
Fe³⁺ (mg/L)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Mn²⁺ (mg/L)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Al⁺ (mg/L)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
K⁺ (mg/L)	25.20	2.60	22.00	3.40	23.30	0.60	22.20	1.40
Na⁺ (mg/L)	320.00	30.00	240.00	28.00	215.00	17.00	340.00	25.00
TAC (mg/L of CaCO₃)	415.35	21.85	313.54	26.10	415.60	16.05	417.50	16.50
RS (mg/L)	2897.00	617.00	2400.00	486.00	2427.00	350.00	2700.00	320.00
	May		June		July		August	
	Raw wa- ter	Treated water	Raw wa- ter	Treated water	Raw wa- ter	Treated water	Raw wa- ter	Treated water
pH	7.68	5.15	8.19	4.71	7.70	5.72	7.87	4.41
Conductivity($\mu\text{S cm}^{-1}$)	3360.00	644.00	3060.00	751.00	2990.00	951	3390.00	1005.00
Turbidity (NTU)	4.59	1.59	3.87	0.78	3.01	0.4730	4.97	0.55
Organic matter (mg/L)	27.50	0.60	25.20	0.50	26.01	0.50	26.90	0.10
NH₄⁺ (mg/L)	0.78	Negligible	0.69	Negligible	0.65	Negligible	0.74	Negligible
PO₄³⁻ (mg/L)	0.62	Negligible	0.53	Negligible	0.59	Negligible	0.730	Negligible
NO₃⁻ (mg/L)	66.19	Negligible	65.99	Negligible	66.98	Negligible	58.00	Negligible

N0 ₂ ⁻ (mg/L)	0.36	Negligible	0.30	Negligible	0.29	Negligible	0.33	Negligible
Ca ²⁺ (mg/L)	240.30	56.07	248.28	100.20	248.29	103.20	260.32	116.23
Mg ²⁺ (mg/L)	202.10	43.74	197.20	26.73	199.63	36.46	197.20	46.17
TH (°F)	144.28	32.24	144.23	36.18	145.25	40.99	147.24	48.29
Cl ⁻ (mg/L)	556.61	31.90	510.00	24.80	561.11	68.89	575.10	85.00
HCO ₃ ⁻ (mg/L)	493.98	245.83	450.75	270.00	496.42	268.00	436.03	383.69
SO ₄ ²⁻ (mg/L)	640.00	143.00	635.00	163.00	635.00	147.00	664.00	84.00
Fe ³⁺ (mg/L)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Mn ²⁺ (mg/L)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Al ⁺ (mg/L)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
K ⁺ (mg/L)	21.50	1.00	24.60	0.90	23.10	1.20	24.50	1.30
Na ⁺ (mg/L)	240.00	29.00	260.00	32.00	240.00	33.00	220.00	20.00
TAC (mg/L of CaCO ₃)	415.90	20.15	428.75	22.15	416.10	21.97	411.15	31.40
RS (mg/L)	2450.00	380.00	2854.00	520.00	2311.00	687.00	2100.00	873.00
	September		October		November		December	
	Raw water	Treated water	Raw water	Treated water	Raw water	Treated water	Raw water	Treated water
pH	7.85	4.90	7.93	4.90	7.95	5.01	7.80	4.87
Conductivity(μS cm ⁻¹)	3370.00	1094.00	3320.00	478.00	3310.00	850.00	3390.00	786.00
Turbidity (NTU)	4.40	0.78	8.34	1.58	4.94	0.41	9.26	0.18
Organic matter (mg/L)	24.10	1.10	24.50	0.70	24.10	0.80	21.70	3.20
NH ₄ ⁺ (mg/L)	0.81	Negligible	0.84	Negligible	0.86	Negligible	0.87	Negligible
PO ₄ ³⁻ (mg/L)	0.77	Negligible	0.81	Negligible	0.83	Negligible	0.91	Negligible
N0 ₃ ⁻ (mg/L)	55.00	Negligible	55.81	Negligible	66.68	Negligible	65.71	1.33
N0 ₂ ⁻ (mg/L)	0.32	Negligible	0.30	Negligible	0.34	Negligible	0.37	Negligible
Ca ²⁺ (mg/L)	260.32	92.18	260.32	88.17	260.32	96.19	276.35	76.15
Mg ²⁺ (mg/L)	197.20	41.31	194.77	21.87	197.20	34.02	168.04	31.59
TH (°F)	147.24	40.25	146.23	31.15	147.24	38.22	139.10	32.20
Cl ⁻ (mg/L)	555.00	71.00	562.00	124.00	562.52	49.70	518.08	53.96
HCO ₃ ⁻ (mg/L)	434.81	234.85	443.55	245.83	445.79	230.00	495.20	213.50
SO ₄ ²⁻ (mg/L)	865.00	207.00	866.00	75.85	744.00	208.00	900.00	138.00
Fe ³⁺ (mg/L)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Mn ²⁺ (mg/L)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Al ⁺ (mg/L)	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
K ⁺ (mg/L)	25.10	2.60	22.10	2.40	24.40	1.20	21.50	5.30

Na⁺ (mg/L)	320.00	50.00	340.00	60.00	280.00	31.00	380.00	40.00
TAC (mg/L of CaCO₃)	411.0500	19.2500	411.7500	20.2500	411.9500	18.9000	416	17.5000
RS (mg/L)	2945	692	2980	424	2538	604	2240	532

Table S2. WHO standards of water quality parameters.

Parameter	Unit	WHO Standards
pH	-	6.5-8.5
conductivity	$\mu\text{S cm}^{-1}$	2800
Turbidity	NTU	5
Organic matter	mg /L	18
NH₄⁺	mg /L	0.5
PO₄³⁻	mg /L	0.5
NO₃⁻	mg /L	50
NO₂⁻	mg /L	0.1
Ca²⁺	mg /L	200
Mg²⁺	mg /L	150
TH	°F	77
Cl⁻	mg /L	250
HCO₃⁻	mg /L	-
SO₄²⁻	mg /L	250
Fe³⁺	mg /L	0.3
Mn²⁺	mg /L	0.1
Al⁺	mg /L	0.2
K⁺	mg /L	20
Na⁺	mg /L	200
TAC	mg /L of CaCO ₃	-
RS	mg /L	1500