Annual Drinking Water Quality Report

Monitoring Performed January – December 2023

Central Elmore Water & Sewer Authority

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It is an honor to once again present to you this Annual Water Quality Report. This year's report is an overview of 2023's water quality. We are committed to providing you with this information because informed customers are our best allies. We believe that transparency creates trust between our customers and CEW&SA. The report has been prepared to meet the requirements of the 1996 Safe Drinking Water Act (SDWA) adopted by Congress and to provide our customers with information about their water system.

As part of the new EPA regulations on lead and copper, staff continues to build the database that includes all water service material on both sides of the meter within our service territory. There have been no lead service lines discovered during this process. We are on track to finish well before the October 2024 deadline.

The EPA released the new PFAS regulations in April 2024. We are proud to say that our quarterly sample results continue to be below those limits. The water provided to you by Central Elmore Water & Sewer Authority (CEW&SA) continues to meet or exceed all state and federal water quality regulations. CEW&SA has never violated a contaminant level in the water we supply you, our valued customers. Go to our website and Facebook page for our latest news release on the EPA's PFAS regulations.

Management continues to pursue federal monies for various system projects. We submitted grant requests through FEMA for generator replacements at the filter plant and new generator installations at four other system locations. We continued to request funding through ADEM's SRF for other system projects. We were not chosen for funding through ADEM in the first two years but will continue to pursue all funding possibilities.

During 2023, CEW&SA and customers once again saw some record-breaking, freezing temperatures that tested the operations of the plant and distribution system. CEW&SA employees worked tirelessly during this time to ensure our customers were not out of water due to a lack of supply.

I encourage you to take the time to review this report. If you have any questions concerning this report or CEW&SA, please contact me, Chad Shaw, General Manager, at 334-567-6814, Monday - Friday, 7:30 a.m. to 4:30 p.m. and I will be glad to address any concerns you may have.

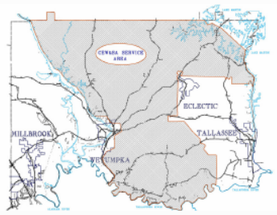
Chadwick E. Shaw, P.E.
General Manager

We want our valued customers to be informed about their water utility. Regularly scheduled Board Meetings are held the third Tuesday of each month at the main office located at 716 US Highway 231.

Board of Directors
Conrad White - Chairman
Fred Braswell, III - Vice Chairman
Bill Newton - Director
Chad Shaw - General Manager
Tina Stanley - Office Manager

Central Elmore Water & Sewer Authority maintains and operates a 12 million gallon per day surface water treatment plant at our primary water source on Lake Martin.

Here at CEW&SA, we serve approximately 13,238 customers of our own; along with Rockford Utilities (1,371 customers), Eclectic Water Works & Sewer Department (1,736 customers), Friendship Water Works (1,370 customers), and Wetumpka Water Works & Sewer Board (3,366 customers).



Each customer refers to a meter served, which translates into approximately 63,243 persons CEW&SA serves.

Our territory covers approximately 350 square miles out of the 657 square miles contained in Elmore County. We currently maintain over 790 miles of water mains in our territory along with 12 water storage facilities holding a total of almost 7.7 million gallons.

Monitoring Schedule

Our water sources are routinely monitored for contaminants, according to a schedule determined by Federal and State regulations. Every water system has individually assigned monitoring requirements. ADEM allows monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. The following table shows the most recent year and the next monitoring requirement for the contaminant groups.

Contaminant Monitored	Date Monitored / Next Monitoring
Inorganic Contaminants	2023 / 2024
Lead/Copper	2022 / 2025
Microbiological Contaminants	Monthly
Nitrates	2023 / 2024
Radioactive Contaminants	2022 / 2027 - 2035
Synthetic Organic Contaminants (including pesticides and herbicides)	2022 / 2025
Volatile Organic Contaminants	2024 / 2025
Disinfection By-products	Quarterly

Variances and Exemptions

ADEM or the EPA can give permission not to meet an MCL or a treatment technique under certain conditions.

Based on a study conducted by ADEM with the approval of the EPA, a statewide waiver for the monitoring of asbestos and dioxin was issued. Thus, monitoring for these contaminants was not required.

Lead & Copper Monitoring

Central Elmore Water & Sewer Authority completed monitoring requirements for lead and copper in 2022. Thirty-two sites were sampled without exceeding the Action Level Limits for lead or copper. The system will continue to monitor for lead and copper every three years. The next monitoring period for the system will be the period of June – September 2025.

Our monitoring results in 2022 were as follows:

2022 Results	MCL	90th Percentile Sample	Range of Levels
Lead	AL = 15	0.44 ppb	ND - 1.4
Copper	AL = 1.3	0.0732 ppm	0.0082 - 0.0867

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Central Elmore Water & Sewer Authority is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. These recommended actions are very important to the health of your family:

- Use only water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead.
- When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.

Additinal Information Regarding Lead & Copper

Lead levels in your drinking water are likely to be higher if:

- Your home or water system has lead pipes, or
- Your home has faucets or fittings made of brass which contains some lead, or
- Your home has copper pipes with lead solder and you have naturally soft water, and
- Water often sits in the pipes for several hours

If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water hotline or at www.epa.gov/safewater/lead

General Information Regarding Drinking Water Contaminants

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. MCLs, defined in a List of Definitions in this report, are set at very stringent levels.

To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, can be naturally occurring or result from urban stormwater run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides may come from a variety of sources such as agriculture, stormwater run-off, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers.

Water systems also test your source water for pathogens, such as Cryptosporidium and Giardia. These pathogens can enter the water from animal or human waste. All test results were well within state and federal standards. For people who may be immuno-compromised, a guidance document developed jointly by the Environmental Protection Agency and the Center for Disease Control is available online at www.epa.gov/safewater or from the Safe Drinking Water Hotline at 800-426-4791. This language does not indicate the presence of cryptosporidium in our drinking water. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

CEW&SA
QUALITY • INTEGRITY • SERVICE

The tables below contain detected results from the most recent monitoring of primary, secondary, and unregulated contaminants. Unless otherwise noted, the data presented in this table is from the calendar year of this report.

We are pleased to report that our drinking water meets or exceeds Federal and State requirements.

Table of Detected Primary Contaminants

Primary Standards - Mandatory standards set by the Safe Drinking Water Act used to protect public health. These apply to all public water systems.

Contaminant & Unit of MSMT	MCL, TT, or MRDL (What's Allowed?)	MCLG (What's the Goal?)	Max Detected	Range of Detected Low - High (MD)	Violation	Major Sources
BACTERIOLOGICAL CONTAMINANTS						
Total Organic Carbon TOC (ppm) †	TT	NA	1.16	0.80 - 1.16	No	Naturally present in the environment
INORGANIC CONTAMINANTS						
Antimony (ppb)	6	6	0.22	0.22	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb) φ	0.010	0	0.3	0.3	No	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.0121	0.0121	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	0.49	0.49	No	Discharge from steel and pulp mills; Erosion of natural deposits
Copper - action level at consumer taps (ppm)	AL=1.3	1.3	0.0732 î	0.0082 - 0.0867 (2022)	No	Corrosion of household plumbing systems; Erosion of natural deposits
Fluoride (ppm)	4	4	0.401	0.401	No	Water additive which promotes strong teeth; erosion of natural deposits; Discharge from fertilizer and aluminum factories
Lead - action level at consumer taps (ppb)	AL=15	0	0.44 î	ND - 1.4 (2022)	No	Corrosion of household plumbing systems; Erosion of natural deposits
DISINFECTANTS & DISINFECTION BYPRODUCTS »						
Total Haloacetic Acids HAA (ppb)	60	NA	36.4	LRAA Range 10.3 - 23.1	No	By-product of drinking water disinfection
Total Trihalomethanes TTHM (ppb)	80	NA	57.1	LRAA Range 14.5 - 32.8	No	By-product of drinking water disinfection

† The percentage of **Total Organic Carbon (TOC)** removal was measured each month and the system met all TOC removal requirements set.
φ While your drinking water meets EPA's standard for **Arsenic**, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.
î Figure shown is **90th percentile result** from 2022 sampling.
» There is convincing evidence that the addition of a **disinfectant** is necessary for the control of microbial contaminants.

Secondary Standards - Non Mandatory standards established as a guideline to assure good aesthetic qualities such as taste, color, and odor.

Contaminant & Unit of MSMT	MCL	Max Detected	Range of Detected	Contaminant & Unit of MSMT	MCL	Max Detected	Range of Detected
Chloride (ppm)	250	12.5	12.5	Calcium, as Ca (ppm)	NA	2.79	2.79
Copper (ppm)	1	0.0236	0.0236	Conductivity (umhos)	NA	179	179
Manganese (ppm)	0.05	0.0012	0.0012	Hardness (ppm)	NA	12.2	12.2
Sulfate (ppm)	250	13.1	13.1	Magnesium (ppm)	NA	1.28	1.28
Total Dissolved Solids (ppm)	500	44	44	Nickel (ppm)	NA	0.00098	0.00098
Zinc (ppm)	5	0.00088	0.00088	pH (std units)	6.5 - 8.5	6.9	6.9
				Sodium (ppm)	NA	16.6	16.6

Filter Plant Daily Testing ‡	Range Low - High (MD)
BACTERIOLOGICAL CONTAMINANTS	
Turbidity (NTU) £	0.01 - 0.09
INORGANIC CONTAMINANTS	
Fluoride (ppm)	0.4 - 0.8
DISINFECTANTS & DISINFECTION BYPRODUCTS	
Chlorine (ppm)	1.3 - 2.0
Chlorine Dioxide (ppb)	0.06 - 0.29
Chlorite (ppm)	0.47 - 0.77
SECONDARY & ADDITIONAL CONTAMINANTS	
Alkalinity	16 - 31
Hardness	9 - 25
Iron	ND - 0.08
Manganese	ND - 0.01
pH	7.5 - 8.3
UNREGULATED CONTAMINANTS	
Corrosion Inhibitor Phosphate	0.70 - 1.40

‡ Tested Daily - result shown is Max Detected during calendar year 2023.
£ **Turbidity** is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

UNREGULATED CONTAMINANTS

Contaminant & Unit of MSMT	Average Detected	Range of Detected
Bromodichloromethane (ppb)	3.99	ND - 7.0
Chloroform (ppb)	20.1	2.9 - 50.1
Dibromochloromethane (ppb)	0.48	ND - 2.0

In 2023 CEW&SA participated in the Fifth Unregulated Contaminant Monitoring Rule (UCMR5). UCMR allows the EPA to require water systems across the US to collect samples of concern so that the EPA can determine their prevalence and whether any of the contaminants need to be regulated. UCMR5 required water systems to sample finished water quarterly for 29 PFAS Ç compounds and lithium. CEW&SA's results from all four quarters showed none of these contaminants were detected in our finished water. A full data set of the results can be viewed on our website at https://cewsa.com/documents/UCMR5Results.pdf

Ç Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that have properties useful in the manufacture of nonstick cookware, stain-resistant carpet and textiles, firefighting foams, food wrappers, and many more industrial and consumer applications. These chemicals, which have been produced in the United States since the early 1940s, are very persistent in the environment.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of contaminants in water provided by public water systems. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful to our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection for public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels.

Table of Primary Contaminants

Contaminant & Unit of MSMT	MCL, TT, or MRDL (What's Allowed?)	Max Detected
BACTERIOLOGICAL CONTAMINANTS		
Total Coliform Bacteria	< 5% present/absent	Absent
Fecal Coliform & E. coli	present/absent	Absent
Total Organic Carbon (TOC)	TT	1.16
Turbidity (NTU)	TT	0.09
RADIOLOGICAL CONTAMINANTS		
Beta/photon emitters (mrem/yr)	4	ND
Alpha emitters (pCi/L)	15	ND
Combined radium (pCi/L)	5	ND
INORGANIC CONTAMINANTS		
Antimony (ppb)	6	0.22
Arsenic (ppb)	10	0.3
Asbestos (MFL)	7	NA
Barium (ppm)	2	0.0121
Beryllium (ppb)	4	ND
Cadmium (ppb)	5	ND
Chromium (ppb)	100	0.49
Copper - action level at consumer taps (ppm)	AL=1.3	0.0867
Cyanide (ppb)	200	ND
Fluoride (ppm)	4	0.401
Lead - action level at consumer taps (ppb)	AL=15	1.4
Mercury (ppb)	2	ND
Nitrate [measured as Nitrogen] NO3 (ppm)	10	ND
Nitrite [measured as Nitrogen] NO2 (ppm)	1	ND
Selenium (ppm)	0.05	ND
Thallium (ppb)	2	ND

Contaminant	MCL, TT, or MRDL (What's Allowed?)	Max Detected	Contaminant	MCL, TT, or MRDL (What's Allowed?)	Max Detected	Contaminant	MCL, TT, or MRDL (What's Allowed?)	Max Detected
ORGANIC CONTAMINANTS								
1,1,1-Trichloroethane (ppb)	200	ND	Dalapon (ppb)	200	ND	Lindane (ppt)	200	ND
1,1,2-Trichloroethane (ppb)	5	ND	Dibromochloropropane (ppt)	200	ND	Methoxychlor (ppb)	40	ND
1,1-Dichloroethylene (ppb)	7	ND	Di (2-ethylhexyl)adipate (ppb)	400	ND	o-Dichlorobenzene (ppb)	600	ND
1,2,4-Trichlorobenzene (ppb)	0.07	ND	Di (2-ethylhexyl)phthalate (ppb)	6	ND	Oxamyl [Vydate] (ppb)	200	ND
1,2-Dichloroethane (ppb)	5	ND	Dinoseb (ppb)	7	ND	p-Dichlorobenzene (ppb)	75	ND
1,2-Dichloropropane (ppb)	5	ND	Dioxin [2,3,7,8-TCDD] (ppq)	30	ND	Pentachlorophenol (ppb)	1	ND
2,4,5-TP [Silvex] (ppb)	50	ND	Diquat (ppb)	20	ND	Picloram (ppb)	500	ND
2,4-D (ppb)	70	ND	Endothall (ppb)	100	ND	Polychlorinated biphenyls (ppt)	0.5	ND
Acrylamide (ppb)	TT	ND	Endrin (ppb)	2	ND	Simazine (ppb)	4	ND
Alachlor (ppb)	2	ND	Epichlorohydrin (ppb)	TT	ND	Styrene (ppb)	100	ND
Atrazine (ppb)	3	ND	Ethylbenzene (ppb)	700	ND	Tetrachloroethylene (ppb)	5	ND
Benzene (ppb)	5	ND	Ethylene Dibromide (ppt)	50	ND	Toluene (ppm)	1	ND
Benzo(a)pyrene [PAHs] nanograms/L)	200	ND	Glyphosate (ppb)	700	ND	Toxaphene (ppb)	3	ND
Carbofuran (ppb)	40	ND	Heptachlor (ppt)	400	ND	trans-1,2-Dichloroethylene (ppb)	100	ND
Carbon Tetrachloride (ppb)	5	ND	Heptachlor Epoxide (ppt)	200	ND	Trichloroethylene (ppb)	5	ND
Chlordane (ppb)	2	ND	Hexachlorobenzene (ppb)	1	ND	Vinyl Chloride (ppb)	2	ND
Chlorobenzene (ppb)	100	ND	Hexachlorocyclopentadiene (ppb)	50	ND	Xylenes (ppm)	10	ND
cis-1,2-Dichloroethylene (ppb)	70	ND						
DISINFECTANTS & DISINFECTION BYPRODUCTS								
Bromate (ppb)	10	ND	Chlorine Dioxide (ppb)	800	0.29	Total Haloacetic Acids HAA (ppb)	60	36.4
Chloramines (ppm)	4	ND	Chlorite (ppm)	1	0.77	Total Trihalomethanes TTHM (ppb)	80	57.1
Chlorine (ppm)	4	2.0						

Abbreviations & Definitions

Action Level (AL): The concentration of a contaminant that triggers treatment or other requirements that a water system must follow.
Lowest Running Annual Average (LRAA): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.
Maximum Contaminant Level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Maximum Detected (MD)
Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbial contaminants in drinking water.
Maximum Residual Disinfection Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
Not Applicable (NA)
Nephelometric Turbidity Unit (NTU): A measure of the clarity of the water. Turbidity in excess of 5 NTU is just noticeable to the average person.
Not Detected (ND): Laboratory analysis indicates that the contaminant is not present above the detection limits of lab equipment.
pCi/L (picocuries per liter): a measure of Radioactivity
ppb (parts per billion): micrograms per liter (µg/L)
ppm (parts per million): milligrams per liter (mg/L)
Threshold Odor Number (T.O.N.): The greatest dilution of a sample with odor-free water that still yields a just detectable odor.
Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Table of Secondary & Additional Contaminants

Contaminant & Unit of MSMT	Max Detected
Aluminum (ppm)	ND
Chloride (ppm)	12.5
Color (color units)	ND
Copper (ppm)	0.0236
Foaming agents MBAS (ppm)	ND
Iron (ppm)	ND
Manganese (ppm)	0.0012
Odor (threshold odor number)	ND
Silver (ppm)	ND
Sulfate (ppm)	13.1
Total Dissolved Solids (ppm)	44
Zinc (ppm)	0.00088

Contaminant & Unit of MSMT	Max Detected
Alkalinity, Total (as CA, Co3) (ppm)	ND
Calcium, as Ca (ppm)	2.79
Carbon Dioxide (ppm)	ND
Conductivity (umhos)	179
Corrosivity (non corrosive)	ND
Hardness (ppm)	12.2
Magnesium (ppm)	1.28
Nickel (ppm)	0.00098
pH (std units)	6.9
Sodium (ppm)	16.6

Table of Unregulated Contaminants

Contaminant	Average Detected
1,1 – Dichloropropene	ND
1,1,1,2-Tetrachloroethane	ND
1,1,2,2-Tetrachloroethane	ND
1,1-Dichloroethane	ND
1,2,3 - Trichlorobenzene	ND
1,2,3 - Trichloropropane	ND
1,2,4 - Trimethylbenzene	ND
1,3 – Dichloropropane	ND
1,3 – Dichloropropene	ND
1,3,5 - Trimethylbenzene	ND
2,2 – Dichloropropane	ND
3-Hydroxycarbofuran	ND
Aldicarb	ND
Aldicarb Sulfone	ND
Aldicarb Sulfoxide	ND
Aldrin	ND
Bromobenzene	ND
Bromochloromethane	3.99
Bromodichloromethane	ND
Bromoform	ND
Bromomethane	ND
Butachlor	ND
Carbaryl	ND
Chloroethane	ND
Chloroform	20.1
Chloromethane	ND

Contaminant	Average Detected
Dibromochloromethane	0.48
Dibromomethane	ND
Dicamba	ND
Dichlorodifluoromethane	ND
Dieldrin	ND
Hexachlorobutadiene	ND
Isopropylbenzene	ND
M-Dichlorobenzene	ND
Methomyl	ND
Metolachlor	ND
Metribuzin	ND
MTBE	ND
N - Butylbenzene	ND
Naphthalene	ND
N-Propylbenzene	ND
O-Chlorotoluene	ND
P-Chlorotoluene	ND
P-Isopropyltoluene	ND
Propachlor	ND
Sec - Butylbenzene	ND
Tert - Butylbenzene	ND
Trichlorfluoromethane	ND

PFAS Contaminants	2016 Advisory	2022 Advisory	2023 Proposed MCL	Mar-23	May-23	Aug-23	Nov-23
PFOA	70 ppt (combined)	.004 ppt (Interim)	4.0 ppt	1.5	No Detect	No Detect	No Detect
PFOS		.02 ppt (Interim)	4.0 ppt	1.7	1.4	No Detect	No Detect
GEN X	NA	10 ppt (Final)	1.0 Hazard Index –	No Detect	No Detect	No Detect	No Detect
PFBS	NA	2,000 ppt (Final)		No Detect	No Detect	No Detect	No Detect
PFNA	NA	NA		No Detect	No Detect	No Detect	No Detect
PFHxS	NA	NA		No Detect	No Detect	No Detect	No Detect

– A Hazard Index helps to account for the increased risk from mixtures of PFAS that may be found in contaminated drinking water. The Hazard Index is a long-established tool that the EPA regularly uses, for example, to inform risks of chemical mixtures. A Hazard Index considers how toxic each of the four PFAS is and allows a site-specific determination based on the specific drinking water concentrations.