

2019

Annual Water Quality Report

Western Municipal Water District

Issued in July 2020



A LETTER FROM THE GENERAL MANAGER

Dear valued Western customer,

Western Municipal Water District (Western) is presenting to you its annual water quality report for 2019. This annual report, also known as the Consumer Confidence Report, shows how Western continued to provide safe, reliable drinking water throughout 2019. The California State Water Resources Control Board (State Water Board) requires that Western delivers to its customers an annual copy of this report, which summarizes the results of water quality tests and provides specific details about the sources and quality of the water served to our community.

As in past years, Western continues to meet and exceed all stringent drinking water quality standards set by the United States Environmental Protection Agency (EPA) and the State Water Board, Division of Drinking Water (DDW).

Western employs a highly skilled and qualified workforce, and invests in critical infrastructure to ensure we continuously and consistently provide an exceptional customer experience as it relates to water quality and customer care. Conducting rigorous monitoring and testing of the water we serve is a top priority.

In 2019, Western sampled from more than 175 locations within its distribution system, performing more than 30,000 tests to monitor contaminants and impurities to ensure the safety and quality of the drinking water delivered to the homes, businesses, and schools in Western's service area.

While the majority of Western's water supply is imported from Northern California through more than 500 miles of open aqueducts and pipeline, Western also invests in local water supply sources through interconnections with Riverside Public Utilities and the Chino Basin Desalter Authority, as well as groundwater wells in the Murrieta service area.

Customers are encouraged to read this report and reach out to our water quality team with any questions. For more information related to Western's water quality, please contact Albert Magallon, Operations Field Manager – Water Quality, at [951.789.5119](tel:951.789.5119) or via email to amagallon@wmwd.com.

Western is committed to providing you safe, reliable drinking water every day. Here to serve, you can count on us to keep your system flowing today, and always.

THANK YOU FOR BEING A PART OF THE WESTERN FAMILY.



Craig Miller
GENERAL MANAGER



Guidelines set by the State Water Board for distributing this report allow for electronic delivery of the report instead of a paper copy delivered through the United States Postal Service. By providing these reports electronically, Western can reduce costs and eliminate paper waste associated with printing and mailing the full report to our more than 25,000 accounts.

Please note that you may change your delivery preference at any time. Western is happy to mail you a paper copy of this report upon request.

To request a paper copy of this report you can do so by calling us at [951.571.7119](tel:951.571.7119) or via email to outreach@wmwd.com.

OUR MISSION

Western Municipal Water District provides water supply, wastewater disposal and water resource management to the public in a safe, reliable, environmentally sensitive and financially responsible manner.

OUR VISION

To enhance Western Municipal Water District's leadership role by integrating the best in business processes and business systems while developing a leading-edge workforce that continuously creates greater efficiency and value for our customers.

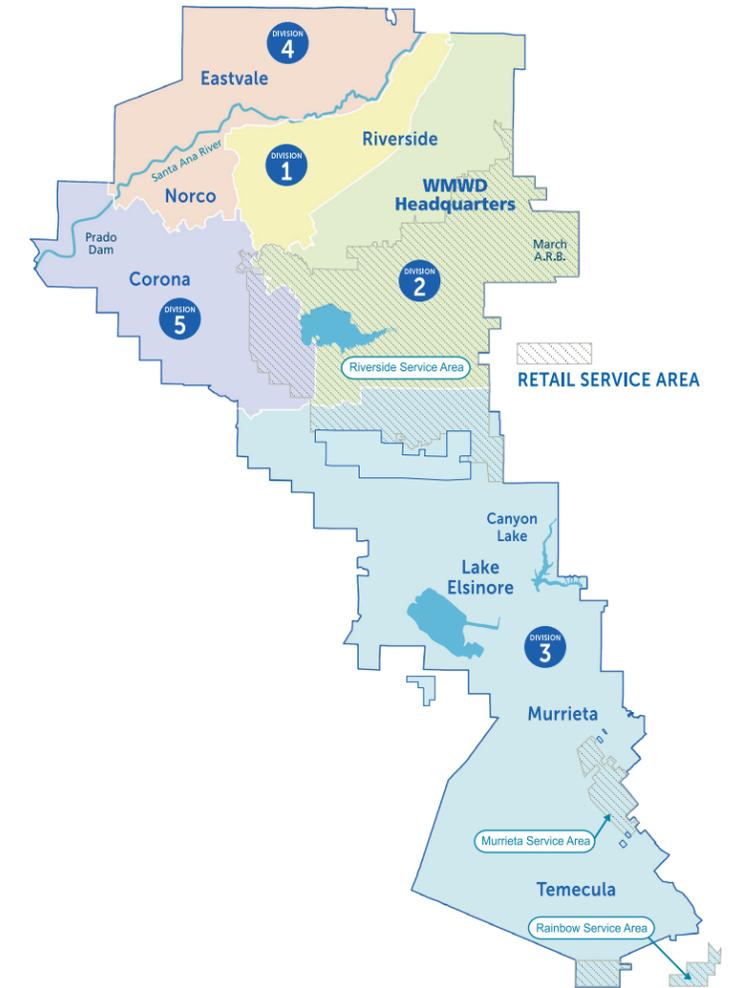
ENSURING THE QUALITY OF YOUR DRINKING WATER

Western is committed to providing safe, reliable drinking water to nearly one million people, both retail and wholesale customers who live, work, and play across a 527-square mile service area in western Riverside County.

The drinking water that Western provides to homes, businesses, and schools meets and exceeds all state and federal water quality standards. The State Water Board, DDW, and the EPA are the agencies responsible for establishing and enforcing drinking water quality standards.

In addition to performing more than 30,000 tests for more than 65 contaminants and impurities, Western also tests for unregulated chemicals that may have health risks, but do not have drinking water standards. Unregulated chemical monitoring helps the EPA and DDW determine where certain chemicals occur and whether new standards need to be established for those chemicals.

Western is a member of the Santa Ana Watershed Project Authority's (SAWPA) Emerging Constituents Task Force. The Task Force was organized by SAWPA in 2008 to work with the Regional Water Quality Control Board to help improve water quality along the Santa Ana River Watershed. The Task Force identifies emerging constituents of concern, which can include, chemicals of emerging concern, micropollutants, trace organics and other elements. The voluntary testing conducted by the Task Force investigates pharmaceuticals, pesticides, food additives and chemicals that may not yet have established water quality standards. By testing for emerging constituents, the Task Force is able to evaluate water quality in the Santa Ana River Watershed, in imported water, as well as in recycled water.





YOUR DRINKING WATER IS CONSTANTLY MONITORED AND REGULATED, FROM SOURCE TO TAP.

WESTERN'S TAP WATER IS TESTED ANNUALLY:

- At more than 175 sample locations
- Using more than 30,000 tests
- For more than 65 contaminants and impurities

SPECIAL HEALTH INFORMATION

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, and some elderly individuals and infants can be particularly at risk of infections.

Water quality monitoring indicates no Cryptosporidium organisms in the Mills or Skinner sources and finished water. Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness.

Western encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may spread through means other than drinking water.

Nitrate in drinking water at levels above 10mg/L is a health risk for infants less than 6 months old. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask advice from your health care provider. At 3.1 mg/L in our Riverside service area, Western's nitrate level is well below 10 mg/L level set by state and federal standards.

Individuals with special health concerns should seek advice about drinking water from their healthcare provider. Both the EPA and the Centers for Disease Control and Prevention have guidelines on ways to reduce the risk of infection from Cryptosporidium and other microbial contaminants and are available from the Safe Drinking Water Hotline, [800.426.4791](tel:800.426.4791) or online at epa.gov/safewater.



LEAD TESTING IN OUR SCHOOLS

Did you know that all public schools in California are eligible for lead sampling? In early 2017, the DDW issued amendments to the domestic water supply permits of approximately 1,200 community water systems so that schools served by a public water system could request assistance from their water provider to conduct water sampling for lead and receive technical assistance if an elevated lead sample is found.

Though lead is rarely found naturally in California drinking water, older pipes and infrastructure can sometimes leach into drinking water. As lead continues to be a public health concern, community water systems, such as Western, are testing the water of our local schools to ensure the safety of their drinking water. To schedule lead testing for your school, contact Western's Water Quality team at [951.789.5119](tel:951.789.5119).



KIDNEY DIALYSIS/AQUARIUMS

Western uses chloramines to disinfect its drinking water. Customers who have unique water quality needs and who use specialized home treatments, such as kidney dialysis machines, should make the necessary adjustments to remove chloramines. Like chlorine, chloramines are toxic to dialysis water. Customers who have fish tanks in their homes or businesses should also take precautions to remove chloramines prior to adding water to tanks. Effective treatments include using granular activated carbon filters or chemicals specifically designed to remove chloramines.

JUST THE FACTS ON PFAS

PFAS, short for per- and polyfluoroalkyl substances, are a group of more than 4,700 synthetic chemicals created to repel water, oil, grease and stains. The chemicals, dating to the 1940s and nearly indestructible over time, appear in a range of industrial and everyday consumer products, including makeup, food wrappers, nonstick cookware, carpets, stain repellents, and firefighting foams.

Because PFAS have been so widely used, most Americans have been exposed to them through sources other than their drinking water. People ingest PFAS by eating, drinking, or breathing the chemicals when they are present in food, water, fire retardants, and consumer and industrial products. Based on research cited by the DDW, most people are exposed to PFAS through food—via food packaging, farming processes, or bioaccumulation (gradual chemical buildup).

Over time, PFAS also have accumulated in land near airports, industrial sites, military bases, and landfills. Once PFAS leach into the land, the chemicals can, in some cases, seep into the local groundwater.

Testing has confirmed that Western's drinking water, most of which is imported from Northern California snowmelt, is safe and does not contain PFAS above state mandated notification levels.

Western continues to adhere to DDW's guidelines for the monitoring of PFAS. The State Water Board has established reporting levels for PFAS below the threshold set by the EPA.





2019 WATER QUALITY TABLE



Primary Drinking Water Standards — Mandatory Health Related Standards

	Units of Measure	State/Fed MCL [MRDL]	PHG (MCLG) [MRDLG]	Riverside (a)		Murrieta (a)		Rainbow (a)		Primary Sources
				Average	Range	Average	Range	Average	Range	
Inorganic Chemicals										
Aluminum	ug/L	1000 (200 secondary)	600	ND	ND-94	ND	ND-94	51	ND-94	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic	ug/L	10	0.004	ND	ND-2.6	ND	ND-8.2	ND	ND	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride	mg/L	2	1	0.6	0.4-0.8	0.55	0.4-0.7	0.7	0.3-0.8	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (N)	mg/L	10	10	3.1	0.6-7	ND	ND	ND	ND	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radiologicals										
Gross Alpha	pCi/L	15	(0)	ND	ND-4.6	ND	ND-4	ND	ND-4	Erosion of natural deposits
Gross Beta	pCi/L	50	(0)	ND	ND	ND	ND-5	ND	ND-5	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	3.8	ND-11	ND	ND-3	ND	ND-3	Erosion of natural deposits

Secondary Standards – Aesthetic Standards

Chloride	mg/L	500	NA	38	32-44	76	68-94	73	68-78	Runoff/leaching from natural deposits
Sulfate	mg/L	500	NA	51	24-78	92	58-108	99	90-108	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	mg/L	1000	NA	279	163-440	349	300-379	354	330-379	Runoff/leaching from natural deposits
Manganese	ug/L	50	NL=500	1.8	ND-6.6	12.1	5.6-23	ND	ND	Leaching from natural deposits
Color	Units	15	NA	ND	ND-5	ND	ND-5	ND	ND-5	Naturally-occurring organic materials
Odor	TON	3	NA	ND	ND	ND	ND-1	ND	ND-1	Naturally-occurring organic materials
Specific Conductance	umhos	1600	NA	461	299-620	607	531-644	610	576-644	Substances that form ions in water
pH	pH units	NA	NA	8.0	6.8-9.6	8.30	7.7-9.1	8.1	8-8.2	Physical Property
Turbidity (b)	NTU	5	NA	0.1	ND-1.5	ND	ND-0.47	0.24	0.1-0.68	Soil runoff

Unregulated Contaminant Monitoring

Chlorate	ug/L	NA	NL=800	45	28-66	35	35	35	35	Byproduct of drinking water chlorination; industrial processes
Chromium VI	ug/L	NA	0.02	1.1	ND-2.4	ND	ND	ND	ND	Runoff/leaching from natural deposits; discharge from industrial wastes
N-Nitrosodimethylamine (NDMA)	ng/L	NA	3; NL=10	ND	ND-3.9	3.9	3.9	3.9	3.9	Byproduct of drinking water chlorination; industrial processes
Haloacetic Acids (HAA6Br)	ug/L	NA	NA	5.6	ND-14.7	7.9	3.9-14.1	No data	No data	Byproduct of drinking water chlorination
Haloacetic Acids (HAA9)	ug/L	NA	NA	9.7	ND-29.9	13.4	5.9-25.7	No data	No data	Byproduct of drinking water chlorination
Germanium	ug/L	NA	NA	0.23	ND-0.44	ND	ND	No data	No data	Naturally-occurring element; byproduct of zinc ore processing; used in solar, electronics and optic systems
Perfluorooctanoic Acid (PFOA)	ng/L	NA	NL = 5.1	ND	ND-3.8	ND	ND	ND	ND	Industrial chemical factory discharges; runoff/leaching from landfills; used in fire-retarding foams and various industrial processes
Perfluorooctanesulfonic Acid (PFOS)	ng/L	NA	NL = 6.5	2.9	ND-6.2	ND	ND	ND	ND	
Perfluorohexanesulfonic Acid (PFHxS)	ng/L	NA	NA	ND	ND-5	ND	ND	ND	ND	
Perfluorobutanesulfonic Acid (PFBS)	ng/L	NA	NA	ND	ND-2.7	ND	ND	ND	ND	
Perfluorohexanoic Acid (PFHxA)	ng/L	NA	NA	3.0	2.7-3.6	ND	ND-2.4	2.3	2.2-2.4	
4,8-dioxo-3H-perfluorooxononanoate (ADONA)	ng/L	NA	NA	ND	ND-6	ND	ND	ND	ND	
4,8-dioxo-3H-perfluorooxononanoate (ADONA)	ng/L	NA	NA	ND	ND-6	ND	ND	ND	ND	

Other Parameters Tested

Alkalinity	mg/L	NA	NA	116	54-190	86	77-98	86	84-87	Runoff/leaching of natural deposits
Boron	ug/L	NA	NL=1000	132	120-150	120	120	120	120	Runoff/leaching from natural deposits; industrial wastes
Calcium	mg/L	NA	NA	42	14-73	33	12-39	36	33-39	Runoff/leaching from natural deposits
Hardness	mg/L	NA	NA	141	66-230	122	31-164	152	139-164	Runoff/leaching from natural deposits
Magnesium	mg/L	NA	NA	9	8-11	12	ND-16	15	14-16	Runoff/leaching from natural deposits
Potassium	mg/L	NA	NA	2.6	1.8-3.5	3.0	ND-3.6	3.4	3.3-3.6	Salt present in the water; naturally-occurring
Sodium	mg/L	NA	NA	40	33-45	73	62-110	66	62-69	Salt present in the water; naturally-occurring

Regulated in the Distribution System

Disinfection By-Products (c)										
Total Trihalomethanes (TTHMs)	ug/L	80	NA	30.5	2.2-45	22.5	10-27	26.3	16-23	Byproduct of drinking water disinfection via chlorination
Haloacetic Acids (HAA5)	ug/L	60	NA	5.1	ND-10	9.7	ND-17	9.6	2-17	Byproduct of drinking water disinfection via chlorination
Bromate	ug/L	10	0.1	3.6	ND-7.3	2.8	ND-10	2.8	ND-10	Byproduct of drinking water disinfection via ozonation

Microbiological

Total Coliform (d)	%	5	(0)	0%	0-3%	0	0	0	0	Naturally present in the environment
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Disinfectant

Chloramines	mg/L	[4]	[4]	1.3	0-2.7	1.5	0.1-2.8	1.30	0.3-2.8	Drinking water disinfectant added for treatment
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ABBREVIATIONS

MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum Residual Disinfectant Level Goal
N/A	Not Applicable; no State or Federal Standards are established
ND	Non-Detect; sample was taken and chemical was not detected
NL	Notification Level
NTU	Nephelometric Turbidity Units; a measure of the suspended material in water
PHG	Public Health Goal
ppm	parts per million
ppb	parts per billion
ppt	parts per trillion
pCi/L	picoCuries per Liter
Units	A measure of the relative color or odor in the water
µS/cm	microSiemens per centimeter
<	Less than
[]	Brackets refer to MRDL or MRDLG
mg/L	milligrams per liter (equivalent to ppm)
ug/L	micrograms per liter (equivalent to ppb)
ng/L	nanograms per liter (equivalent to ppt)

MEASUREMENT TERMS

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in safe drinking water. Primary MCLs are set as close to the (PHGs)-(or MCLGs)-as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water. There are several secondary standards set by the state. The standards listed in our water quality table are the most conservative set by the state. Individual measurements above the secondary MCL listed in the table do not indicate an exceedance of the regulatory standard.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below for which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. Adding a disinfectant is necessary to control microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below for which there is no known or expected risk to health. MRDLGs do not reflect the benefits of using disinfectants to control microbial contaminants.

Notification Level (NL): Notification levels are health-based advisory levels established by DDW for chemicals in drinking water that lack MCLs.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Public Health Goal (PHG): The level of a contaminant in drinking water below for which there is no known or expected health risk. PHGs are set by the California Environmental Protection Agency.

Regulatory Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

FOOTNOTES

- Groundwater from the Bunker Hill Basin was obtained from the city of Riverside to supplement imported water from the Metropolitan Water District's Henry J. Mills Treatment Plant. The data presented for Murrieta reflects the characteristics of groundwater distributed to the service area. Water was also imported from Metropolitan Water District's Robert F. Skinner Treatment Plant to supplement groundwater. The information for the Rainbow system reflects the quality of water obtained from Metropolitan's Skinner Plant.
- Turbidity is a measure of the cloudiness of the water. High turbidity can hinder the effectiveness of disinfectants. We monitor it because it's a good indicator of water quality and the effectiveness of filtration systems, where used.
- Compliance to the MCL is based on running annual average only, not the range of parameters. Individual measurements, shown in the range, that are above the MCL do not indicate an exceedance of the regulatory standard.
- The Murrieta and Rainbow system collect less than 40 samples per month, thus an exceedance of the Total Coliform MCL occurs when two or more samples in a month are total coliform positive.

THE LEAD AND COPPER RULE

The Lead and Copper Rule (LCR) was developed to protect public health by minimizing lead and copper levels in drinking water. The most common source of lead and copper in drinking water is corrosion of plumbing materials. Plumbing materials that can be made with lead and copper include pipes, solder, fixtures and faucets. The LCR established an action level of 15 ppb (parts per billion) for lead and 1.3 ppm (parts per million) for copper based on the 90th percentile level of tap water samples. If more than 10 percent of the samples are above either action level, further actions are required. The Maximum Contaminant Level Goal (MCLG) for copper is 1.3 ppm; there's no MCLG for lead. Lead and copper are sampled on a state mandated 3-year testing cycle with sampling conducted at selected customer taps.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Western is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components beyond the meter. 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 two minutes before using water for drinking or cooking. 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 [800.426.4791](tel:800.426.4791) or at epa.gov/safewater/lead.

Lead Sampling in Schools: No schools requested sampling for lead in 2019.

Lead and Copper Rule: The LCR requires Western to sample at locations that may be particularly susceptible to high lead or copper concentrations. With a tiered system for prioritizing sampling sites, federal regulations prioritize sampling for single-family structures with copper pipes that have lead solder installed after 1982. Western's sample locations remain the same for each sampling event unless voluntary participation from its customers is not sufficient to meet the minimum required samples per the LCR. Thirty-six homes were tested in the Riverside service area within the last 3-year testing cycle, completed in July 2019. Thirty-three homes were tested in the Murrieta service area within the last 3-year testing cycle, completed in June 2019. Ten homes were tested in the Rainbow service area within the last 3-year testing cycle completed in June 2018.

Lead and Copper Testing (Inorganic) Regulated at Customers's Tap	Lead (ppb)	Copper (ppm)
Action Level @ 90th Percentile	15	1.3
California Public Health Goal (PHG)	0.2	0.3
Riverside		
90th percentile value	ND	0.24
# of homes over action level	1 of 36	0 of 36
Murrieta		
90th percentile value	ND	0.18
# of homes over action level	0 of 33	0 of 33
Rainbow		
90th percentile value	ND	0.48
# of homes over action level	0 of 10	0 of 10

YOUR 2019 WATER QUALITY REPORT IS NOW AVAILABLE!

VIEW THIS REPORT AT WMWD.COM/2019CCR

To protect the health and safety of staff and customers, Western's lobby is closed to public access, except by appointment or on days when a Board or Committee Meeting is in session. Learn more at wmwd.com/Coronavirus.

To request a printed copy of the report:

- Email us at outreach@wmwd.com
- Call us at [951.571.7104](tel:951.571.7104)



As required by the Environmental Protection Agency and State Water Resources Control Board Division of Drinking Water, Western is pleased to make this important report available to all customers.



Western Municipal Water District
14205 Meridian Parkway
Riverside, CA 92518

SOLICITE LA VERSIÓN EN ESPAÑOL

Si desea solicitar esta información en español, visite wmwd.com/waterquality seleccione español o llame al [951.571.7104](tel:951.571.7104) para solicitar una copia en español por correo.



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