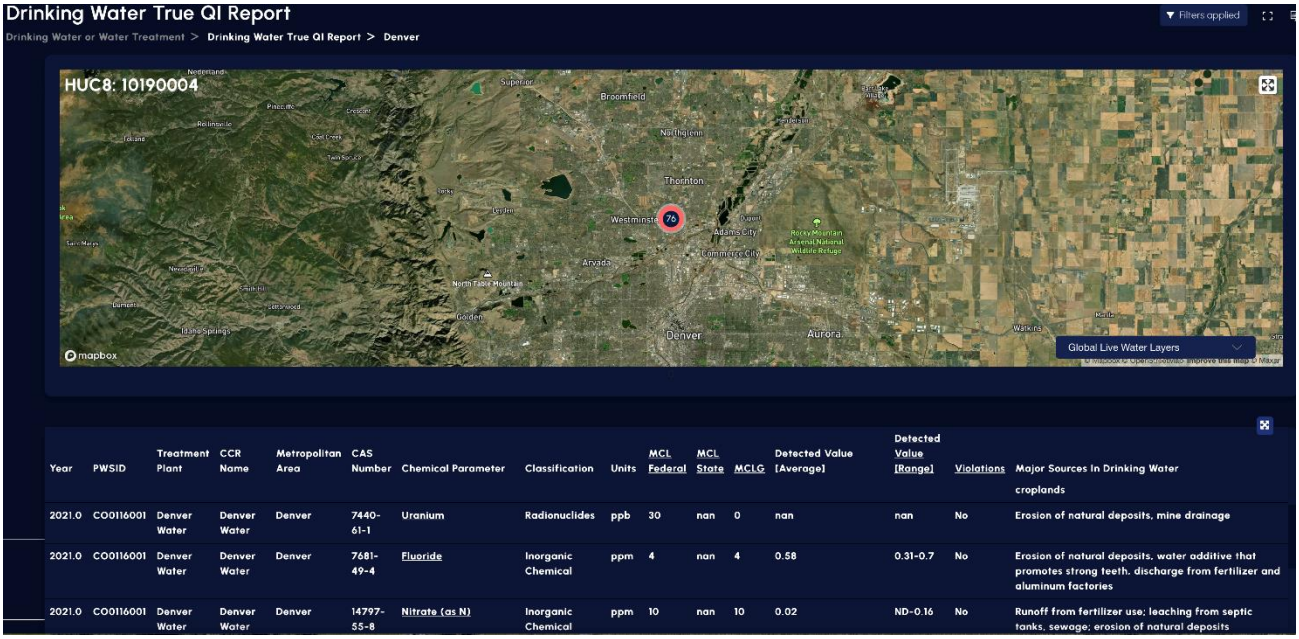
What You Should Know About Drinking Water Quality

Water Quality Data Reporting

1. What is a Consumer Confidence Report?
    a. A Consumer confidence Report (CCR) (or drinking water quality report) is a report the EPA requires community drinking water providers to issue to its customers once a year. The CCR provides valuable information about drinking water quality. More information about CCR reports can be found here.
2. I do not have a CCR for my drinking water. Where can I get one?
    a. Drinking water utilities are required to provide a CCR to their customers once a year. However, if you are a renter, live in a condominium, are new to an area, or primarily access your water from a non-community system such as an office building, you may not receive a CCR. You can still access a CCR for your specific location here.
    b. If you rely on well (ground) water, you will not have a CCR. For more information about how to determine water quality in this situation, please click here.
3. What should I do if I have concerns about my drinking water?
    a. If you are concerned about the quality of your drinking water, contact your water provider. If you do not know your water provider, you may be able to find it here. You may also contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791.
4. The CCR is complicated. How can I understand it more clearly?
    a. CCRs are complicated because water is complex. However, the EPA and CDC have developed information here that can help you better understand the information in the CCR and what to do if you are concerned about water quality in your area.

Your Drinking Water Quality Data - Clearly Explained

True Elements' drinking water scores are based on CCR data. True Elements make portions of the CCR data available on our platform to support understanding of how our color-coded True Qi drinking water scores are calculated. The screenshot below is an example of CCR data available on True Elements' platform. Explanation provided below.



Year	PWSID	Treatment Plant	CCR Name	Metropolitan Area	CAS Number	Chemical Parameter	Classification	Units	MCL Federal	MCL State	MCLG	Detected Value [Average]	Detected Value [Range]	Violations	Major Sources in Drinking Water
2021.0	CO0116001	Denver Water	Denver Water	Denver	7440-61-1	Uranium	Radionuclides	ppb	30	nan	0	nan	nan	No	Erosion of natural deposits, mine drainage croplands
2021.0	CO0116001	Denver Water	Denver Water	Denver	7681-49-4	Fluoride	Inorganic Chemical	ppm	4	nan	4	0.58	0.31-0.7	No	Erosion of natural deposits, water additive that promotes strong teeth, discharge from fertilizer and aluminum factories
2021.0	CO0116001	Denver Water	Denver Water	Denver	14797-55-8	Nitrate (as N)	Inorganic Chemical	ppm	10	nan	10	0.02	ND-0.16	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Year: The year the CCR was published.

PWSID: Identifies a unique water system within a specific state.

Location: Location of sample collection, if available through CCR.

CCR name: Name of the specific CCR issued by a water provider.

Metropolitan Area: Greater metropolitan area a drinking water provider serves.

CAS number: Chemical Abstract Service Number. A unique identification number assigned by the Chemical Abstracts Service to specific chemical substances. *(Note that this designation is not in CCR reports. True Elements includes this to properly identify each chemical compound. Not all chemicals in the CCR have a CAS number, e.g., Trihalomethanes.)*

Contaminant: Substance identified in water samples that could include chemicals, bacteria, or sediments. At low levels, most contaminants are not harmful to human health.

Classification: Identifies contaminant category. Classifications include inorganic and organic compounds, disinfectants, microorganisms**, disinfection byproducts, and radionuclides. More information on classifications can be found here.

Units: How the contaminant level is measured. Types of units include:

- Ppm: parts per million or milligrams per liter (mg/L). Milligrams per liter are equivalent to parts per million. Example: One drop of water from an eyedropper into 10 gallons of water = 1 ppm.
- Ppb: parts per billion or micrograms per liter (ug/L). Micrograms per liter are equivalent to parts per billion. Example: One drop of water from an eyedropper into a 10,000 gallon swimming pool = 1 ppb.

- NTU: Nephelometric Turbidity Unit. The concentration of suspended solids in water.
- pCi/L: Picocuries per liter. A measure of the concentration of radiation in air.
- %: Percentage of samples where contaminant is detected

MCL Federal: Maximum Contaminant Level. The highest level of a contaminant allowed in drinking water. On the federal level, MCLs are set as close to MCLGs as possible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.

MCL State: States may set their own Maximum Contaminant Level in addition to the level set by the EPA, however state MCLs cannot be higher than those set by the EPA.

MCLG: Maximum Contaminant Level Goal. The level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLGs allow a margin of safety and are considered non-enforceable public health goals.

Detected Value: The level of contaminant reported in the CCR or periodic report.

Detected Value (Range): The range of contaminant levels reported in the CCR or periodic report.

Violations: Denotes whether a water provider has violated EPA standards (or reported non-compliance) for drinking water quality.

Major Sources in Drinking Water: The primary sources of contaminants in drinking water. These include sources such as: naturally present in the environment, soil erosion, additives used to control microbes, by-product of drinking water disinfection, and runoff from fertilizer use, among other sources. It is important to note that water providers use a variety of treatment processes to remove undesirable contaminants from drinking water. While there may be by-products because of these treatment processes, the overall effect of the treatment process helps make the water safe to drink. More information on drinking water standards and sources of contaminants can be found **here.**

Please note that there is additional information in CCR reports to what is shown in True Elements' platform. Be sure to find your CCR report for more information here.

To learn more about how the EPA regulates drinking water contaminants, including more information about Federal and State MCLs as well as MCLGs, please click here.

Note that "nan" used throughout True Elements' data reports indicates that data is not available.

True Elements' True Qi Scoring Methodology

True Qi drinking water scores are based on publicly available water quality data from Consumer Confidence Reports (CCRs) and, where available in Pennsylvania and Florida, more frequent periodic state collected water quality data. We aggregate this data, then

translate the data into easy-to-understand scores and visualizations, which are displayed at the zip code level.

Please note that the CCR drinking water data used to calculate True Qi drinking water scores indicates water is within safe drinking water standards according to the EPA.

Methodology

1) True Elements captures publicly available water quality data from CCRs and, where possible, state water quality data (Pennsylvania and Florida) that is published periodically as interim test data becomes available.
    a. True Elements captures over 900 CCRs that represent water providers serving populations of 75,000 customers or more
    b. Each CCR may include a single or multiple public water systems
2) True Qi drinking water scores are based on levels of 78 contaminants** identified in the National Primary Drinking Water Regulations. Scores are calculated by deducting points from 100 points for each contaminant. For any contaminant detected, points are deducted based on the contaminant's potential severity of impact on human health*** (more points are deducted as the potential health impact increases), and the contaminant's detected level weighted against the differential between the detected level and the EPA and state maximum contaminant level (more points are deducted as a contaminants' detected value approaches regulatory limits).

Frequently Asked Questions

1. Are unregulated contaminants factored into True Qi drinking water scores?
    a. Unregulated contaminants such as per- and polyfluoroalkyl substances (PFAS), cyanotoxins, and some disinfection byproducts (DBPs), are not currently regulated by the EPA and are therefore not factored into True Qi scores. Read here for more information about these contaminants.
2. Does True Elements produce its own water quality data?
    a. No. True Elements aggregates and normalizes copious amounts of complex, publicly available water quality data, then applies a patent pending algorithm to translate that data into clear, easy to understand True Qi drinking water scores.
3. Is lead included in True Qi score calculations?
    a. Yes. Lead is a contaminant the EPA regulates and is therefore included in True Qi score calculations. While lead levels may be safe according to a CCR report, lead could be present inside of homes, businesses, schools, and offices with lead pipes that connect the home to the water main, also known as lead services lines - these pipes are typically the most

significant source of lead in the water which is known to have negative health impacts, particularly in children. Lead pipes are more likely to be found in structures built before 1986. More information on lead in drinking water may be found here. Lead testing is addressed in the Lead and Copper Rule requires drinking water providers to treat water to minimize its corrosive nature.

4. Do True Qi drinking water scores change as new data becomes available each year?
    a. Yes. True Qi scores are updated as new CCRs or periodically published state data becomes available.
5. Why do True Qi drinking water scores range only between 70 and 100?
    a. True Qi drinking water scores range within acceptable limits because they are intended to provide greater clarity into water quality for non-water professionals, not to suggest that water is unsafe to drink.

*Disclaimer: True Elements' drinking water scoring model is intended for informational purposes only and should not be relied upon as a substitute for professional advice, judgment, or analysis. The model is based on data and necessary assumptions that are believed to be accurate, but the accuracy of the model and the results it generates cannot be guaranteed. As with all modeling, the scores generated are subject to a range of uncertainties, including those arising from changes in water quality conditions after water testing, data errors, and other factors. The model results should be used with other relevant information and professional judgment. True Elements and its data sources cannot be held liable for any decisions made or actions taken based on the information provided by the model.

**Although Acrylamide, Cryptosporidium, Epichlorohydrin, Fecal Coliform and E. coli, Giardia lamblia, Heterotrophic plate count (HPC), Legionella, Total Coliforms, Turbidity, and Viruses (enteric) are included in CCRs (and shown on True Elements' platform), they are not factored into True Qi drinking water scores due to reporting and normalizing complexities.

*** More information on health impacts as specified by the EPA National Primary Drinking Water Regulations can be found here