



2023 CONSUMER CONFIDENCE REPORT

Report Covers Calendar Year: January 1, 2023 - December 31, 2023

REPORTE ANUAL SOBRE LA CALIDAD DEL AGUA DEL 2023*

El reporte abarca del día 1 de Enero al 31 de Diciembre del 2023

Public Water System (PWS) Information

PWS Name:	City of Nogales	PWS ID #	AZ04-12004	Owner/Operator Name:	City of Nogales
Utilities Director:	Alejandro Barcenas	Contact Person and Title:		Ruben Artana Utilities	
Telephone #	(520) 287-6571	Fax #	(520) 287-8352	E-mail	rartana@nogalesaz.gov
<p>The sources of drinking water (both tap 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. In order to ensure that tap water is safe to drink, EPA prescribes regulations which 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.</p>					
Our water source(s):	Ground Water / Upper Santa Cruz River / Potrero Creek				

* [Este reporte contiene información muy importante sobre la calidad del agua. Es muy importante que busque a una persona que pueda ayudarlo a traducirlo al español o se puede comunicar al \(520\) 285-5754 para obtener ayuda sobre este reporte en español.](#)

Drinking Water Contaminants

Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides that may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

Vulnerable Population

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. 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 of infections. These people should seek advice about drinking water from their health care providers.

For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbiological contaminants call the EPA *Safe Drinking Water Hotline* at 1-800-426-4791.

Source Water Assessment

Based on the information currently available on the hydrogeologic settings and the adjacent land uses that are in the specified proximity of the drinking water source(s) of this public water system, the Arizona Department of Environmental Quality (ADEQ) has given a high risk designation for the degree to which this public water system drinking water source(s) are protected. A designation of high risk indicates there may be additional source water protection measures which can be implemented on the local level. This does not imply that the source water is contaminated nor does it mean that contamination is imminent. Rather, it simply states that land use activities or hydrogeologic conditions exist that make the source water susceptible to possible future contamination.

Definitions

AL = Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements.
MCL = Maximum Contaminant Level - The “Maximum Allowed” is the highest level of a contaminant that is allowed in drinking water.
MCLG = Maximum Contaminant Level Goal - The “Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to health.
MFL = Million fibers per liter.
MRDL = Maximum Residual Disinfectant Level.
MRDLG = Maximum Residual Disinfectant Level Goal.
MREM = Millirems per year – a measure of radiation absorbed by the body.
NA = Not Applicable, sampling was not completed by regulation or was not required. ND = Not Detectable, results are below the laboratory sample detection limit.
NTU = Nephelometric Turbidity Units, a measure of water clarity.
PCi/L = Picocuries per liter - picocuries per liter is a measure of the radioactivity in water.
PPM = Parts per million or Milligrams per liter (mg/L).
PPB = Parts per billion or Micrograms per liter (µg/L).
PPT = Parts per trillion or Nanograms per liter.
PPQ = Parts per quadrillion or Picograms per liter.
TT = Treatment Technique - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

ppm x 1000 = ppb
ppb x 1000 = ppt
ppt x 1000 = ppq

Health Effects Language

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. “High nitrate levels in drinking water can cause blue baby syndrome”. Nitrate levels may rise quickly for short periods-of-time because of rainfall or agricultural activity. If you are caring for an infant, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider.

If **arsenic** is less than or equal to the MCL, your drinking water meets ADEQ (Arizona Department of Environmental Quality) and EPA’s standards. ADEQ and EPA’s standard balances the current understanding of arsenic’s possible health effects against the costs of removing arsenic from drinking water. ADEQ and 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.

Lead Information Statement:

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. **City of Nogales** is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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. 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.

Water Quality Data

Microbiological (RTCR)	Violatory or N	Number of Positive Samples	Positive Sample(s) Month & Year	MCL	MCLG	Samples per Month or Year	Likely Source of Contamination
Total Coliform	N	0	0	0	0	25/month 300/year	Human and animal fecal waste
Fecal Indicator (coliphage, enterococci and/or E. coli)	N	0	0	0	0	25/month 300/year	Human and animal fecal waste

Disinfectants	Violatic Y or N	Running Annual Average (RAA)	Range of All Samples (L-H)	MRDL	MRDLG	Samples per Month or Year	Likely Source of Contamination
Chlorine/Chloramine (ppm)	N	0.58ppm	0.48 – 0.64ppm	MRDL = 4	MRDLG = 0	25/month 300/year	Water additive used to control microbes
Disinfection By-Products	Violatic Y or N	Running Annual Average (RAA)	Range of All Samples (L-H)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Haloacetic Acids (HAA5) (ppb)	N	21	0-21	60ppb	N/A	11/2023	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	N	1.1	0 – 1.1	80ppb	N/A	11/2023	Byproduct of drinking water disinfection
Lead & Copper	Violatic Y or N	90 th Percentile AND Number of Samples Over the AL	Number of Samples Exceeds AL	AL	ALG	Year Sample Dates	Likely Source of Contamination
Copper (ppm)	N	0.149		1.3	1.3	9/2021	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	N	<1ppb 0 samples	ND	15	0	9/2021	Corrosion of household plumbing systems; erosion of natural deposits
Radionuclides	Violatic Y or N	Running Annual Average (RAA)	Range of All Samples (L-H)	MCL	MCLG	Year Sample Dates	Likely Source of Contamination
Alpha emitters (pCi/L)	N	4.7	4.7 – 4.7	15	0	2/2022	Erosion of natural deposits
Combined Radium 226 & 228 (pCi/L)	N	7.2	7.2 -7.2	5	0	5/2020	Erosion of natural deposits

All contaminants listed below were tested for and were NOT found in our water. These contaminants are considered NonDetect or not present:

Inorganic Compounds (Last tested 2021): Antimony, Asbestos, Beryllium, Cadmium, Cyanide, Mercury and Thallium.

Synthetic Organic Compounds (Last tested 2022): 2,4-D, 2,4,5-TP (a.k.a. Silvex), Acrylamide, Alachlor, Atrazine, Benzo (a) pyrene (PAH), Carbofuran, Chlordane, Dalapon, Di (2-ethylhexyl) adipate, Di (2-ethylhexyl) phthalate, Dibromochloropropane, Dinoseb, Diquat, Dioxin [a.k.a. 2,3,7,8-TCDD], Endothall, Endrin, Epichlorohydrin, Ethylene dibromide, Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Oxamyl (a.k.a. Vydate), PCBs [Polychlorinated biphenyls], Pentachlorophenol, Picloram, Simazine, Toxaphene

Volatile Organic Compounds (Last tested 2/2022): Benzene, Carbon tetrachloride, Chlorobenzene, o-Dichlorobenzene, p-Dichlorobenzene, 1,2-Dichloroethane, 1,1-Dichloroethylene, cis-1,2 Dichloroethylene, trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, Styrene, Tetrachloroethylene, 1,2,4-Trichlorobenzene, 1,1,1Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Toluene, Vinyl Chloride, Xylenes.

Your drinking water was also sampled for the presence and concentration of 29 different per- and polyfluoroalkyl substances, some known by the acronyms PFAS, PFOA, PFNA, PFHxS, PFBS, and GenX, a group of contaminants in the final stages of becoming regulated by the EPA. PFAS are man-made chemicals that are resistant to heat, water, and oil. They have been used since the 1940s to manufacture various consumer products, including fire-fighting foam and stain resistant, water-resistant, and nonstick items. Many PFAS do not break down easily and can build up in people, animals, and the environment over time. Scientific studies have shown that exposure to certain PFAS can be harmful to people and animals, depending on the level and duration of exposure.

To learn more about this group of chemicals, we encourage you to read the ADEQ’s “PFAS 101 Fact Sheet” and to visit the ADEQ website at <https://www.azdeq.gov/pfas-resources>

* EPA is proposing a Hazard Index MCL to limit any mixture containing one or more of PFNA, PFHxS, PFBS, and/or GenX Chemicals. The Hazard Index considers the different toxicities of PFNA, GenX Chemicals, PFHxS, and PFBS. For these PFAS, water systems would use a hazard index calculation to determine if the combined levels of these PFAS in the drinking water at that system pose a potential risk and require action (Source: EPA Fact Sheet: Understanding the PFAS National Primary Drinking Water Proposal Hazard Index). The following contaminants were tested for in September and October, 2023 and were not detected in the water:

11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS), 1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS), 1H, 1H, 2H, 2H-perfluorohexane sulfonic acid (4:2 FTS), 1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS), 4,8-dioxa-3H-perfluorononanoic acid (ADONA), 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS), hexafluoropropylene oxide dimer acid (HFPO-DA) (GenX), nonafluoro-3,6-dioxaheptanoic acid (NFDHA), Perfluoro-3-methoxypropanoic acid (PFMPA), Perfluoro-4-methoxybutanoic acid (PFMBA), Perfluorobutanesulfonic acid (PFBS), Perfluorobutanoic acid (PFBA), Perfluorodecanoic acid (PFDA), Perfluorododecanoic acid (PFDoA), Perfluoroheptanesulfonic acid (PFHpS), Perfluoroheptanoic acid (PFHpA), Perfluorohexanesulfonic acid (PFHxS), Perfluorohexanoic acid (PFHxA), Perfluorononanoic acid (PFNA), Perfluorooctanesulfonic acid (PFOS), Perfluorooctanoic acid (PFOA), Perfluoropentanesulfonic acid (PFPeS), Perfluoropentanoic acid (PFPeA), Perfluoroundecanoic acid (PFUnA), n-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA), n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA), Perfluorotetradecanoic acid (PFTA) and Perfluorotridecanoic acid (PFTrDA).

One Metal	Detected (Y/N)	Average	Range of All Samples (Low-High)	MRL (ppb)	Analytical Methods
Lithium (ppb)	Y	52.6	9.3 – 52.6	9 µg/L	EPA 200.7, SM 3120 B, ASTM D1976–20

TIER 3 PUBLIC NOTICE

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for City of Nogales

Our water system violated drinking water standards in 2023. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct these situations.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2023 we did not monitor for Disinfection Byproducts in the correct month, Arsenic and Nitrate and therefore cannot be sure of the quality of our drinking water during that time.

What should I do?

There is nothing you need to do at this time.

Contaminant	Required sampling frequency	Number of Samples Required	When samples should have been taken	When samples were taken
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Disinfection By-Products – We are required to monitor for Haloacetic Acids (HAA5) and Total trihalomethanes. These are considered chronic contaminants and can cause health effects if in excess over many years.

Disinfection Byproducts	4 samples/quarter	16/year	Samples were not taken in accordance with our approved monitoring plan for the 4th Quarter 2023	Samples were taken correctly in 1st Quarter 2024
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Arsenic – We are required to monitor Arsenic every quarter. These are considered chronic contaminants and can cause health effects if in excess over many years.

Arsenic at EPDS002	1 sample/quarter	4/year	Samples were not taken in accordance with our approved monitoring plan for the 1st Quarter 2023	Samples were taken in February 2024 with results being below 1.5 mg/L.
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Nitrate – We are required to monitor Nitrate every quarter. These are considered acute contaminants and can cause serious illness for infants less than 6 months of age.

Nitrates	3 samples/year	3/year	Samples were not taken in accordance with our approved monitoring plan for 2023	Samples were taken in February 2024 with results being below 1.5 mg/L
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Please share this information with other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Violation Summary (for MCL, MRDL, AL, TT, or Monitoring & Reporting Requirement)

Violation Type	Explanation	Time Period	Corrective Action
Missed monitoring	Nitrate /Nitrite Did not collected	2023	Were Collected in Early 2024
Missed monitoring	Arsenic EPDS 002	3 rd Qtr 2023	Were Collected 1 st week 4 th Qtr 2023
Missed monitoring	TTHM / HAA5	4 th Qtr 2023 First Month of each quarter	We Collected 2 nd Month of 4 th Qtr