2024 Annual Drinking Water Quality Report

"Knights Landing"

Public Water System ID Number **30-41-101**

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information because informed customers are our best allies. **If you have any questions about this report or concerning your water, please contact ONSWC at 1-877-511-2911 or info@onswc.com. We want our valued customers to be informed about their water utility.**

What EPA Wants You to Know

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, 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; and radioactive contaminants, which 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 which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn on Your Tap, Consider the Source

The water that is used by Knights Landing is ground water or "well water " provided by wells 2 and 3 located within Knights Landing.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for Knights Landing was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Well #2	Moderate	September 2020
Well #3	Moderate	September 2020

The complete SWAP Assessment report for Knights Landing may be viewed on the Web at: https://www.ncwater.org/?page=600 Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

Help Protect Your Source Water

Protection of drinking water is everyone's responsibility. We have implemented the following source water protection actions: ONSWC maintains a 100 foot radius around the well and treatment facility free of contamination, debris and encumbrances. You can help protect your community's drinking water source(s) in several ways: (examples: dispose of chemicals properly; take used motor oil to a recycling center, volunteer in your community to participate in group efforts to protect your source, etc.).

Violations that Your Water System Received for the Report Year

During 2024, or during any compliance period that ended in 2024, ONSWC received NO violations at Knights Landing!

Important Drinking Water Definitions:

- ***Not-Applicable (N/A)*** – Information not applicable/not required for that particular water system or for that particular rule.
- ***Non-Detects (ND)*** - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.
- ***Parts per million (ppm) or Milligrams per liter (mg/L)*** - One part per million corresponds to one minute in two years or a single penny in $10,000.
- ***Parts per billion (ppb) or Micrograms per liter (ug/L)*** - One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
- ***Parts per trillion (ppt) or Nanograms per liter (nanograms/L)*** - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

- ***Parts per quadrillion (ppq) or Picograms per liter (picograms/L)*** - One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

- ***Picocuries per liter (pCi/L)*** - Picocuries per liter is a measure of the radioactivity in water.

- ***Million Fibers per Liter (MFL)*** - Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

- ***Nephelometric Turbidity Unit (NTU)*** - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

- ***Variances and Exceptions*** – State or EPA permission not to meet an MCL or Treatment Technique under certain conditions.

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

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

- ***Maximum Residual Disinfection Level (MRDL)*** – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

- ***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.

- ***Locational Running Annual Average (LRAA)*** – The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.

- ***Running Annual Average (RAA)*** – The average of sample analytical results for samples taken during the previous four calendar quarters.

- ***Level 1 Assessment -*** *A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.*

- ***Level 2 Assessment -*** *A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.*

- ***Maximum Contaminant Level (MCL)*** - The highest level of a 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.

Water Quality Data Tables of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we <u>detected</u> in the last round of sampling for each particular contaminant group. The presence of contaminants does <u>not</u> necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2024.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water (90th Percentile)	Number of sites found above the AL	Range Low High	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90th percentile)	2024	.3795	0	.056-.469	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90th percentile)	2024	15.45	1	0-30.9	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

The table above summarizes our most recent lead and copper tap sampling data. If you would like to review the complete lead tap sampling data, please email us at info@onswc.com.

We have been working to identify service line materials throughout the water system and prepared an inventory of all service lines in our water system. To access this inventory, please use the following link and select the neighborhood you live in.
https://onswc.com/lead-and-copper/

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. ONSWC is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact ONSWC at 1-877-511-2911 of info@onswc.com Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at *http://www.epa.gov/safewater/lead*.

Total Trihalomethanes (TTHM) and Haloacetic Acids (five) (HAA5)

Disinfection Byproduct	Year Sampled	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)	2022	N	0	NA	N/A	80	Byproduct of drinking water disinfection
HAA5 (ppb)	2022	N	0	NA	N/A	60	Byproduct of drinking water disinfection

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Disinfectant Residuals Summary

	MRDL Violation Y/N	Your Water (RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	N	1.03	.51 - 1.44	4	4.0	Water additive used to control microbes

Asbestos Contaminant

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Total Asbestos (MFL)	2019	N	0	NA	7	7	Decay of asbestos cement water mains; erosion of natural deposits

Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Antimony (ppb)	2021	N	0	NA	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb)	2021	N	0	NA	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	2021	N	0	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	2021	N	0	NA	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium (ppb)	2021	N	0	NA	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium (ppb)	2021	N	0	NA	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide (ppb)	2021	N	0	NA	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	2021	N	.17	NA	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (inorganic) (ppb)	2021	N	0	NA	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Selenium (ppb)	2021	N	0	NA	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium (ppb)	2021	N	0	NA	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

Nitrate/Nitrite Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Nitrate (as Nitrogen) (ppm)	2024	N	1.56	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	2020	N	0	NA	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Radiological Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water (RAA)	Range Low High	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L) (Gross Alpha Excluding Radon and Uranium)	2019	N	0	NA	0	15	Erosion of natural deposits
Beta/photon emitters (pCi/L)	2019	NA	0	NA	0	50 *	Decay of natural and man-made deposits
Combined radium (pCi/L)	2022	N	0	NA	0	5	Erosion of natural deposits
Uranium (pCi/L)	2022	N	0	NA	0	20.1	Erosion of natural deposits

* Note: The MCL for beta/photon emitters is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

Synthetic Organic Chemical (SOC) Contaminants Including Pesticides and Herbicides

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
2,4-D (ppb)	2021	N	0	NA		70	70	Runoff from herbicide used on row crops
2,4,5-TP (Silvex) (ppb)	2021	N	0	NA		50	50	Residue of banned herbicide
Alachlor (ppb)	2021	N	0	NA		0	2	Runoff from herbicide used on row crops
Atrazine (ppb)	2021	N	0	NA		3	3	Runoff from herbicide used on row crops
Benzo(a)pyrene (PAH) (ppt)	2021	N	0	NA		0	200	Leaching from linings of water storage tanks and distribution lines
Carbofuran (ppb)	2021	N	0	NA		40	40	Leaching of soil fumigant used on rice and alfalfa
Chlordane (ppb)	2021	N	0	NA		0	2	Residue of banned termiticide
Dalapon (ppb)	2021	N	0	NA		200	200	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) adipate (ppb)	2021	N	0	NA		400	400	Discharge from chemical factories
Di(2-ethylhexyl) phthalate (ppb)	2021	N	0	NA		0	6	Discharge from rubber and chemical factories
DBCP [Dibromochloropropane] (ppt)	2021	N	0	NA		0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb (ppb)	2021	N	0	NA		7	7	Runoff from herbicide used on soybeans and vegetables
Endrin (ppb)	2021	N	0	NA		2	2	Residue of banned insecticide
EDB [Ethylene dibromide] (ppt)	2021	N	0	NA		0	50	Discharge from petroleum refineries
Heptachlor (ppt)	2021	N	0	NA		0	400	Residue of banned pesticide
Heptachlor epoxide (ppt)	2021	N	0	NA		0	200	Breakdown of heptachlor
Hexachlorobenzene (ppb)	2021	N	0	NA		0	1	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclo-pentadiene (ppb)	2021	N	0	NA		50	50	Discharge from chemical factories
Lindane (ppt)	2021	N	0	NA		200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor (ppb)	2021	N	0	NA		40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate] (ppb)	2021	N	0	NA		200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCBs [Polychlorinated biphenyls] (ppt)	2021	N	0	NA		0	500	Runoff from landfills; discharge of waste chemicals
Pentachlorophenol (ppb)	2021	N	0	NA		0	1	Discharge from wood preserving factories
Picloram (ppb)	2021	N	0	NA		500	500	Herbicide runoff
Simazine (ppb)	2021	N	0	NA		4	4	Herbicide runoff
Toxaphene (ppb)	2021	N	0	NA		0	3	Runoff/leaching from insecticide used on cotton and cattle

Volatile Organic Chemical (VOC) Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low	Range High	MCLG	MCL	Likely Source of Contamination
Benzene (ppb)	2023	N	0	NA		0	5	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)	2023	N	0	NA		0	5	Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	2023	N	0	NA		100	100	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (ppb)	2023	N	0	NA		600	600	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	2023	N	0	NA		75	75	Discharge from industrial chemical factories
1,2 – Dichloroethane (ppb)	2023	N	0	NA		0	5	Discharge from industrial chemical factories
1,1 – Dichloroethylene (ppb)	2023	N	0	NA		7	7	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	2023	N	0	NA		70	70	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)	2023	N	0	NA		100	100	Discharge from industrial chemical factories
Dichloromethane (ppb)	2023	N	0	NA		0	5	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane (ppb)	2023	N	0	NA		0	5	Discharge from industrial chemical factories
Ethylbenzene (ppb)	2023	N	0	NA		700	700	Discharge from petroleum refineries
Styrene (ppb)	2023	N	0	NA		100	100	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (ppb)	2023	N	0	NA		0	5	Discharge from factories and dry cleaners
1,2,4 –Trichlorobenzene (ppb)	2023	N	0	NA		70	70	Discharge from textile-finishing factories
1,1,1 – Trichloroethane (ppb)	2023	N	0	NA		200	200	Discharge from metal degreasing sites and other factories
1,1,2 –Trichloroethane (ppb)	2023	N	0	NA		3	5	Discharge from industrial chemical factories
Trichloroethylene (ppb)	2023	N	0	NA		0	5	Discharge from metal degreasing sites and other factories
Toluene (ppm)	2023	N	0	NA		1	1	Discharge from petroleum factories
Vinyl Chloride (ppb)	2023	N	0	NA		0	2	Leaching from PVC piping; discharge from plastics factories
Xylenes (Total) (ppm)	2023	N	0	NA		10	10	Discharge from petroleum factories; discharge from chemical factories

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Number of Positive/Present Samples	MCLG	MCL	Likely Source of Contamination
E. coli (presence or absence)	N	0	0	Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli* Note: If either an original routine sample and/or its repeat samples(s) are *E. coli* positive, a Tier 1 violation exists.	Human and animal fecal waste

Microbiological Contaminants in the Source Water

Fecal Indicator	Number of "Positive/Present" Samples	Date(s) of fecal indicator-positive source water samples	Source of fecal contamination, if known	Significant Deficiency Cited by the State? Y/N (If "Y", see explanation below)	MCLG	MCL	Likely Source of Contamination
E. coli, (presence or absence)	0	NA	NA	NA	0	0	Human and animal fecal waste
enterococci or coliphage (presence or absence)	0	NA	NA	NA	N/A	TT	Human and animal fecal waste

The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water. The contaminants with SMCLs normally do not have any health effects and normally do not affect the safety of your water**.**

Other Miscellaneous Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low	Range High	SMCL
Iron (ppm)	10/2021	.01	NA		0.3
Manganese (ppm)	10/2021	.01	NA		0.05
Nickel (ppm)	10/2021	0	NA		N/A
Sodium (ppm)	10/2021	8.509	NA		N/A
Sulfate (ppm)	10/2021	0	NA		250
pH	10/2021	6.7	NA		6.5 to 8.5

For Additional information about Knights Landing water quality please visit the North Carolina State Drinking Water Database using the following link.

https://www.pwss.enr.state.nc.us/NCDWW/JSP/WaterSystemDetail.jsp?tinwsys_is_number=23604&tinwsys_st_code=NC&wsnumber=NC3041101