



2015 Annual Drinking Water Quality Report
TONYVILLE SYSTEM
LINDSAY-STRATHMORE IRRIGATION DISTRICT

We test the drinking water quality for many constituents as required by State and Federal Regulations.
This report shows the results of our monitoring for the period of January 1 – December 31, 2015.

**Este informe contiene información muy importante sobre su agua de beber.
Tradúzcalo ó hable con alguien que lo entienda bien.**

We are pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the water and services we have delivered to you over the past year. Our goal is and always has been, to provide you with a safe and dependable supply of drinking water. Our water source comes from surface water and one groundwater well. Our surface water comes from the Friant Kern Canal. The well water is chlorinated. Surface water treatment is by conventional filtration with chlorination.

A source water assessment was conducted for the water supply wells and surface water source of the Lindsay Strathmore Irrigation District water system in February 2003. Typically, the District uses groundwater as a source of supply to augment the surface water supply during the summer months with high demand and to meet systems needs when the Friant-Kern Canal (Canal) is shut down for maintenance and repair. The period of time that the system relies only on groundwater, during maintenance of the Canal, is short and, therefore, the customer's exposure to the contaminants is for a short period. In 2015, the water supply consisted of approximately equal amounts of groundwater and surface water throughout the year. The water source is considered most vulnerable to the following activities associated with contaminants detected in the water supply: fertilizer, pesticide and/or herbicide applications. The water source is considered most vulnerable to the following activities not associated with any detected contaminants: automobile gas stations; septic systems – low density; sewer collection systems; agricultural/irrigation wells; and wastewater treatment plants and disposal facilities. A copy of the complete assessment may be viewed at: Lindsay Strathmore Irrigation District, 23260 Round Valley Road, Lindsay, CA 93247. If you would like a summary of the assessment sent to you or if you have any questions about this report or concerning your water utility, please contact Mr. Scott A. Edwards, General Manager, at 559/562-2581.

We want our customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held the 2nd Tuesday of each month at 1:30 p.m., at the District office located at 23260 Round Valley Road, Lindsay, California.

The following are definitions of some of the TERMS USED IN THIS REPORT:

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

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in 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.

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 are set by the U.S. Environmental Protection Agency (USEPA).

Primary Drinking Water Standards (PDWS): MCLs or 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 which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of drinking water. Supplies with elevated SDWS do not affect the health at the MCL levels.

Maximum Residual Disinfectant 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 Disinfectant 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.

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

Variations and Exemptions: State Water Resources Control Board – Division of Drinking Water (DDW) permission to exceed an MCL or not comply with a treatment technique under certain conditions.

NA: not applicable.

ppm: parts per million or milligrams per liter (mg/l).

ppt: parts per trillion or nanograms per liter (ng/l).

ND: not detectable at testing limit.

ppb: parts per billion or micrograms per liter (ug/l).

pCi/l: picocuries per liter (a measure of radiation).

In general, sources of drinking water (both tap water and bottled water) may 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.

Constituents that may be present in source water to contamination levels include:

- *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, that 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, 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, that are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.*
- *Radioactive contaminants, that can be naturally occurring or the result of oil and gas production and mining activities.*

In order to ensure that tap water is safe to drink, the U. S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board – Division of Drinking Water (DDW) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DDW regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

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. Lindsay-Strathmore Irrigation District 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. 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 <http://www.epa.gov/safewater/lead>.

The tables below and on the following page lists all the drinking water constituents that were detected during the most recent samplings for the constituent. The presence of these constituents in the water does not necessarily indicate that the water poses a health risk. The DDW requires us to monitor for certain constituents less than once per year because the concentrations of these constituents are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, are therefore more than one year old.

SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES

Treatment Technique	Turbidity Performance Standards (TPS)	Lowest monthly percentage of samples that met TPS	Number of Months in Violation	Highest single turbidity measurement during the year
Conventional Filtration Treatment with Chlorination	Turbidity of the filtered water must: Be less than or equal to 0.3 NTU in 95% of measurements in a month.	100%	0	0.259

Turbidity (measured in NTU) is a measurement of the cloudiness of water and is an indicator of filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

TEST RESULTS (A)

Lead and Copper Rule	No. of samples collected	MCLG	Action Level	90 th percentile level detected	No. Sites Exceeding Action Level	Typical Source of Contamination
Lead (ppb) 2015	5	2	15	ND	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) 2015	5	0.3	1.3	ND	0	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

RADIOACTIVE CONTAMINANTS (B)

Chemical or Constituent (and reporting units)	MCL	PHG (MCLG)	Sample Date	Weighted Average Level Detected (C)	Range	Likely Source of Contamination
Gross Alpha Activity (pCi/L)	15	N/A	2011 & 2014	< 3	None	Erosion of natural deposits
Radium 228 (pCi/L)			2005	< 1	None	Erosion of natural deposits

SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	MCL	PHG (MCLG)	Sample Date	Weighted Average Level Detected (C)	Range	Likely Source of Contamination
Hardness (ppm)	None	None	2013 & 2015	122	23 to 220	Generally found in ground and surface water
Sodium (ppm)	None	None	2013 & 2014	58	5.1 to 110	Generally found in ground and surface water

DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	MCL	PHG [MCLG]	Sample Date	Weighted Average Level Detected (C)	Range	Likely Source of Contamination
Arsenic (ppb) (D)	10	0.004	2013 & 2015	4.75 (D)	2.2 to 7.5 (D)	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	1	2	2013 & 2015	0.12	ND to 0.14	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits

DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD (continued)

Chemical or Constituent (and reporting units)	MCL	PHG [MCLG]	Sample Date	Weighted Average Level Detected (C)	Range	Likely Source of Contamination
Fluoride (ppm)	2	1	2013 & 2015	0.13	ND to 0.25	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Chromium-6 (hexavalent) (ppb)	10	0.02	2014 & 2015	1.93	ND to 8.7	Much of the low level hexavalent chromium found in drinking water is naturally occurring, reflecting its presence in geological formations throughout the State. However, there are areas of contamination in California from historic industrial use such as the manufacturing of textile dyes, wood preservation, leather tanning and anti-corrosion coatings, where hexavalent chromium contaminated waste has migrated into the underlying groundwater.
Nitrate as N (ppm)	10(E)	10	2014 & 2015	7	ND to 14.7(E)	Runoff and leaching from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Perchlorate (ppb)	6	6	2015	4.5 (F)	ND to 10 (F)	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of Perchlorate and its salts.

DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD (G)

Chemical or Constituent (and reporting units)	MCL	Sample Date	Weighted Average Level Detected (C)	Range	Likely Source of Contamination
Chloride (ppm)	500	2013 & 2015	61.8	3.6 to 120	Runoff/leaching from natural deposits; seawater influence
Color (Units)	15	2013 & 2015	20 (G)	N/A	Naturally-occurring organic materials
Iron (ppb)	300	2013 & 2015	820 (G)	140 to 1500 (G)	Leaching from natural deposits; industrial wastes
Manganese (ppb)	50	2013 & 2015	75 (G)	20 to 130 (G)	Leaching from natural deposits
Odor (Units)	3	2013 & 2015	1.75	1.5 to 2	Naturally-occurring organic materials
Specific Conductance (μ S/cm)	1600	2015	641	72 to 820	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	2013 & 2015	15.2	1.4 to 29	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS) (ppm)	1000	2013 & 2015	253	46 to 460	Runoff/leaching from natural deposits

Disinfection Byproducts and Disinfectant Residuals (H)

Chemical or Constituent (and reporting units)	MCL [MRDL]	PHG	MCLG [MRDLG]	Sample Date	Running Annual Average	Range	Major Sources in Drinking Water
TTHM [Total Trihalomethanes] (ppb)	80	N/A	N/A	2015	19.4	12.0 to 28.1	Byproduct of drinking water chlorination
HAA5 [Haloacetic Acids] (ppb)	60	N/A	N/A	2015	7.7	7.1 to 8.4	Byproduct of drinking water disinfection
Chlorine as Cl ₂ (ppm)	[4.0]	N/A	[4]	2015	0.88	0.20 to 1.2	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose or stomach discomfort.

Disinfection Byproduct Precursors

Control of DBP precursors (TOC)	MCL	MCLG	Range	Major Sources in Drinking Water
Source Water	TT	N/A	0.20 to 0.57	Various natural and manmade sources
Treated Water	TT	N/A	0.20 to 0.49	Various natural and manmade sources

(A) Results reported due to regulatory requirement or detection of a constituent.

- (B) Results reported include amounts that are less than the State Water Resources Control Board – Division of Drinking Water required detection level for this constituent.
- (C) The weighted average reflects the quantity of water provided from each source of supply, be it groundwater (wells) and/or surface water along with the representative concentration for a particular constituent.
- (D) **ABOUT ARSENIC:** While your drinking water meets the current EPA standard for arsenic, it does contain low levels of arsenic. The standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The California State Water Resources Control Board – Division of Drinking Water (DDW) 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.
- (E) **ABOUT NITRATE:** In all previous years, nitrates were reported as NO3 which has an MCL of 45. This year's report is reporting Nitrates as N. Nitrates reported (as N) with an MCL of 10 is equivalent to an MCL of 45 for NO3. Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. 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 the 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.
- (F) **ABOUT PERCHLORATE:** Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland and to thereby reduce the production of thyroid hormones, leading to adverse effects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and development of the fetus, as well as for normal growth and development in the infant and child. In adults, thyroid hormones are needed for normal metabolism and mental function.
- (G) **ABOUT SECONDARY DRINKING WATER STANDARDS:** Color, Iron and Manganese were found at levels exceeding the Secondary MCLs. These MCLs are set to protect you against unpleasant aesthetic affects such as color, taste, odor or appearance of drinking water. The elevated levels are typically due to naturally occurring organic materials.
- (H) **ABOUT DISINFECTION BYPRODUCTS:** The Tonyville System was in violation of the State Water Resources Control Board – Division of Drinking Water (DDW) Stage 2 Disinfectants and Disinfection Byproducts (D/DBP) Rule during the first two quarters of 2015 due to exceedance of the MCL for the locational running annual average (LRAA) associated with total Trihalomethanes (TTHMs) as a result of quarterly data from the third and fourth quarters of 2014. Quarterly sampling and public notification are in place until the violation is corrected, which is anticipated to occur in the fall, 2017.

Additional General Information on Drinking Water

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some constituents. The presence of constituents does not necessarily indicate that the water poses a health risk. More information about constituents, contaminant levels and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1/800/426-4791 or their website <http://www.epa.gov/safewater/hfacts.html>.

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 and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline 1/800/426-4791.

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