ANTELOPE VALLEY – EAST KERN WATER AGENCY

2024 ANNUAL WATER QUALITY REPORT

KERN COUNTY SYSTEM

ANTELOPE VALLEY - EAST KERN WATER AGENCY
AVEK
ESTABLISHED 1959

A PUBLIC AGENCY

March 13, 2025

Dear General Manager:

This is the 2024 Annual Water Quality Report from the Antelope Valley-East Kern Water Agency (AVEK). Since the water you obtain from AVEK represents one of your sources of water, we have included a summary of results for all analyses completed in 2024 for your convenience. If you find that you need copies of individual monitoring reports please feel free to contact me and I will be happy to provide those for you.

The AVEK Rosamond Water Treatment Plant was off the entirety of 2024. While the treatment plant was offline, water from our Westside Water Bank well field was delivered to our Kern County customers.

In accordance with the Consumer Confidence Report (CCR) guidance manuals issued by the State Water Resources Control Board and the United States Environmental Protection Agency, we are herein providing you with the monitoring data and other information you will need to produce your CCR.

If you have any questions or need additional information, please call me at 661-943-3201. However, please do not designate AVEK or this office as your contact in your CCR. According to the State Board and EPA guidelines, the designated contact person should be someone from your system. While we are always happy to clarify questions about AVEK water, we do not have the specific information necessary to answer questions about your water, blending practices or distribution systems.

Respectfully,

Jordan Wray
Laboratory Director

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The mission of AVEK is to deliver reliable, sustainable and high quality supplemental water to the region in a cost-effective and efficient manner.

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The Antelope Valley-East Kern Water Agency provides treated surface water and treated groundwater as our sources of drinking water.
Treatment technique: Conventional
EPA Turbidity Performance Standards: Turbidity of the filtered water must:

1. Be less than or equal to 0.30 NTU in 95% of measurements in a month.
2. Not exceed 1 NTU at any time.

Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1: **100%**
Highest single turbidity measurement during the year: **0.15 NTU**
Percentage of samples < 0.30 NTU: **100%**
The number of violations of any surface water treatment requirements: **NONE**
Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

The Antelope Valley-East Kern Water Agency also provides chlorinated groundwater as an alternative source of drinking water.
Treatment technique: Chlorination
EPA Groundwater Rule: AVEK meets the requirements of the Groundwater Rule by providing a minimum of 4-log reduction of viruses by continously providing a minimum free chlorine residual of 0.5 mg/L leaving the clearwell.

Lowest single free chlorine residual measurement during the year: **0.87**
Number of violations of the Groundwater Rule: **NONE**

MICROBIOLOGICAL CONTAMINANTS

Type of Sample(s)	Parameter	Sampling Frequency	MCL	No. of Months in Violation	System Results Range	System Results Average
Distribution	Total Coliform Bacteria	55 - 70 / mo	5% positive	None	0%	0%
Distribution	E. coli	55 - 70 / mo	1 pos. with 2 TC pos.	None	0%	0%

INORGANIC CONTAMINANTS

					RESULTS							
					Rosamond Plant				Water Bank			
					Plant Effluent (CWR)		Raw Influent (Sources)		Effluent (CWR)		Wells	
Parameter	Units	MCL	DLR	PHG	Range	Average	Range	Average	Range	Average	Range	Average
Aluminum	µg/L	1000	50	600							ND	ND
Antimony	µg/L	6	6	1							ND	ND
Arsenic	µg/L	10	2	0.004					3.4-5.6	4.5	2.3-12	4.3
Barium	µg/L	1000	100	2000							100-110	29
Beryllium	µg/L	4	1	1							ND	ND
Cadmium	µg/L	5	1	0.04							ND	ND
Chromium (Total)	µg/L	50	10								ND	ND
Cyanide	µg/L	150	100	150							ND	ND
Fluoride	mg/L	2	0.1	1							0.15-0.30	0.19
Mercury	µg/L	2	1	1.2							ND	ND
Nickel	µg/L	100	10	12							ND	ND
Nitrate (as N)	mg/L	10	0.4	10							1.3-5.1	2.1
Nitrite (as N)	mg/L	1	0.4	1							ND	ND
Perchlorate	µg/L	6	1	1							ND	ND
Selenium	µg/L	50	5	30							5.2-10	2.7
Thallium	µg/L	2	1	0.1							ND	ND

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GENERAL PHYSICAL AND SECONDARY STANDARDS

RESULTS

Parameter	Units	MCL	DLR	Rosamond Plant Plant Effluent (CWR) Range	Rosamond Plant Plant Effluent (CWR) Average	Rosamond Plant Raw Influent (Sources) Range	Rosamond Plant Raw Influent (Sources) Average	Water Bank Effluent (CWR) Range	Water Bank Effluent (CWR) Average	Water Bank Wells Range	Water Bank Wells Average
Aluminum	µg/L	1000	50							ND	ND
Calcium	mg/L	no standard								50-100	70
Chloride	mg/L	250								49-110	70
Color	Units	15		<5	<5			<5	<5	ND-3	ND
Copper	µg/L	1000	50							ND	ND
Foaming Agents (MBAS)	mg/L	0.5								ND	ND
Hardness (Total) as CaCO3	mg/L	no standard								150-310	210
Iron	µg/L	300	10							ND-28	4.9
Magnesium	mg/L	no standard								4.6-13	8.0
Manganese	µg/L	50	20							ND	ND
Odor @ 60 C	Units	3	1	<1	<1			<1	<1	ND	ND
pH	Units	no standard		7.5-8.0	7.8			7.3-7.9	7.7	7.6-8.1	7.9
Silver	µg/L	100	10							ND	ND
Sodium	mg/L	no standard								33-47	40
Specific Conductance	µmhos	1600								560-870	660
Sulfate	mg/L	250	0.5							42-91	58
Thiobencarb (Bolero)	µg/L	1	1							ND	ND
Methyl tert-Butyl Ether (MTBE)	µg/L	5	RAR							ND	ND
Total Dissolved Solids	mg/L	1000								330-550	390
Turbidity	Units	5						0.02-0.15	0.05	0.05-1.5	0.40
Zinc	µg/L	5000	50							ND	ND
Total Alkalinity (as CaCO3)	mg/L	no standard								ND	ND
Bicarbonate Alkalinity(as HCO3)	mg/L	no standard								140-160	150
Carbonate (as CO3)	mg/L	no standard								ND	ND
Hydroxide (as OH)	mg/L	no standard								ND	ND

RADIOLOGICAL CONTAMINANTS

RESULTS

Parameter	Units	MCL	DLR	PHG	Rosamond Plant Raw Influent Sources Range	Rosamond Plant Raw Influent Sources Average	Water Bank Wells Range	Water Bank Wells Average
Gross Alpha	pCi/L	15	3					6.1
Gross Beta	pCi/L	50	4					
Strontium 90	pCi/L	8	2	0.35				
Tritium	pCi/L	20,000	1,000	400				
Uranium	pCi/L	20	1	0.43			4.1-8.4	6.3
Radium 228	pCi/L		1	0.019			ND	ND
Radium 226	pCi/L		1	0.05			ND	ND

VOLATILE ORGANIC CONTAMINANTS

RESULTS

Parameter	Units	MCL	DLR	PHG	Rosamond Plant Raw Influent (Sources) Range	Rosamond Plant Raw Influent (Sources) Average	Water Bank Wells Range	Water Bank Wells Average
1,1,1-Trichlorethane (1,1,1-TCA)	µg/L	200	0.5	1000			ND	ND
1,1,2,2-Tetrachloroethane	µg/L	1	0.5	0.1			ND	ND
1,1,2-Trichloroethane (1,1,2-TCA)	µg/L	5	0.5	0.3			ND	ND
1,1-Dichloroethane (1,1-DCA)	µg/L	5	0.5	3			ND	ND
1,1-Dichloroethylene (1,1-DCE)	µg/L	6	0.5	10			ND	ND
1,2,4-Trichlorobenzene	µg/L	5	0.5	5			ND	ND
1,2-Dichlorobenzene (o-DCB)	µg/L	600	0.5	600			ND	ND

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Parameter	Units	MCL	DLR	PHG	Rosamond Plant Raw Influent (Sources) Range	Rosamond Plant Raw Influent (Sources) Average	Water Bank Wells Range	Water Bank Wells Average
1,2-Dichloroethane (1,2-DCA)	µg/L	0.5	0.5	0.4			ND	ND
1,2-Dichloropropane	µg/L	5	0.5	0.5			ND	ND
1,3-Dichloropropene (Total)	µg/L	0.5	0.5	0.2			ND	ND
1,4-Dichlorobenzene (p-DCB)	µg/L	5	0.5	6			ND	ND
Benzene	µg/L	1	0.5	0.15			ND	ND
Carbon tetrachloride	µg/L	0.5	0.5	0.1			ND	ND
cis-1,2-Dichloroethylene (c-1,2-DCE)	µg/L	6	0.5	100			ND	ND
cis-1,3-Dichloropropene	µg/L						ND	ND
Dichloromethane (Methylene Chloride)	µg/L	5	0.5	4			ND	ND
Ethylbenzene	µg/L	300	0.5	300			ND	ND
Methyl-tert-butyl ether (MTBE)	µg/L	13	3	13			ND	ND
Monochlorobenzene (Chlorobenzene)	µg/L	70	0.5	70			ND	ND
Styrene	µg/L	100	0.5	0.5			ND	ND
Tetrachloroethylene (PCE)	µg/L	5	0.5	0.06			ND	ND
Toluene	µg/L	150	0.5	150			ND	ND
trans-1,2-Dichloroethylene (t-1,2-DCE)	µg/L	10	0.5	60			ND	ND
trans-1,3-Dichloropropene	µg/L						ND	ND
Trichloroethylene (TCE)	µg/L	5	0.5	1.7			ND	ND
Trichlorofluromethane (Freon11)	µg/L	150	5	1300			ND	ND
Trichlorotrifluoroethane (Freon 113)	µg/L	1200	10	4000			ND	ND
Vinyl Chloride (VC)	µg/L	0.5	0.5	0.05			ND	ND
Xylenes (Total)	µg/L	1750	0.5	1800			ND	ND

SYNTHETIC ORGANIC CHEMICALS

RESULTS

Parameter	Units	MCL	DLR (DL)	PHG	Raw Influent (Sources) Range	Raw Influent (Sources) Average	Water Bank Wells Range	Water Bank Wells Average
Alachlor	µg/L	2	1	4			ND	ND
Atrazine	µg/L	1	0.5	0.15			ND	ND
Bentazon	µg/L	18	2	200			ND	ND
Benzo(a)pyrene	µg/L	0.2	0.1	0.007			ND	ND
Carbofuran	µg/L	18	5	0.7			ND	ND
Chlordane	µg/L	0.1	0.1	0.03			ND	ND
2,4-D	µg/L	70	10	20			ND	ND
Dalapon	µg/L	200	10	790			ND	ND
Dibromochloropropane (DBCP)	µg/L	0.2	0.01	0.0017			ND	ND
Di(2-ethylhexyl)adipate	µg/L	400	5	200			ND	ND
Di(2-ethylhexyl)phthalate	µg/L	4	3	12			ND	ND
Dinoseb	µg/L	7	2	14			ND	ND
Diquat	µg/L	20	4	6			ND	ND
Endothall	µg/L	100	45	94			ND	ND
Endrin	µg/L	2	0.1	0.3			ND	ND
Ethylene Dibromide (EDB)	µg/L	0.05	0.02	0.01			ND	ND
Glyphosate	µg/L	700	25	900			ND	ND
Heptachlor	µg/L	0.01	0.01	0.008			ND	ND
Heptachlor Epoxide	µg/L	0.01	0.01	0.006			ND	ND
Hexachlorobenzene	µg/L	1	0.5	0.03			ND	ND
Hexachlorocyclopentadiene	µg/L	50	1	2			ND	ND
Lindane	µg/L	0.2	0.2	0.032			ND	ND
Methoxychlor	µg/L	30	10	0.09			ND	ND
Molinate	µg/L	20	2	1			ND	ND
Oxamyl	µg/L	50	20	26			ND	ND
Pentachlorophenol	µg/L	1	0.2	0.3			ND	ND
Picloram	µg/L	500	1	166			ND	ND

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Parameter	Units	MCL	DLR (DL)	PHG	Raw Influent (Sources) Range	Raw Influent (Sources) Average	Water Bank Wells Range	Water Bank Wells Average
Polychlorinated Biphenyls	µg/L	0.5	0.5	0.09			ND	ND
Simazine	µg/L	4	1	4			ND	ND
Thiobencarb (Bolero)	µg/L	70	1	42			ND	ND
Toxaphene	µg/L	3	1	0.03			ND	ND
2,3,7,8-TCDD (Dioxin)	pg/L	30	5	0.05			ND	ND
2,4,5-TP (Silvex)	µg/L	50	1	3			ND	ND
1,2,3-Trichloropropane	µg/L	0.005	0.005	0.0007			ND	ND

DISINFECTION RESIDUAL, PRECURSORS, and BYPRODUCTS

Type of Sample(s)	Parameter	Units	MCL/MRDL	DLR	MRDLG	RESULTS Range	RESULTS Average
Distribution	Chlorine (as total Cl2)	mg/L	4.0**		4	0.18-1.35	0.97
Treated Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.3			
Source Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.3			
Distribution	Stage 2 D/DBP Rule Total Trihalomethanes	µg/L	80**	0.5		15-24	20 #
Distribution	Stage 2 D/DBP Rule Total Haloacetic Acids	µg/L	60**	0.5		2.8-4.0	3.2 #
Treated Water	Bromate	µg/L	10[+]	1.0			

** Running Annual Average of distribution system samples. The MCLs are based upon Running Annual Averages.
Stage 2 D/DBP Rule Total THMs and Total HAAs compliance is based upon Locational Running Annual Averages.

Location with the highest TTHM average

[+] Compliance is based on the running annual average computed quarterly, of monthly samples, collected at the entrance to the distribution system.

DEFINITIONS and FOOTNOTES:

Plant Effluent, CWR, is finished, treated drinking water.
Raw Water is the Source Water, the California Aqueduct or wells, prior to treatment.
Units: mg/L = milligrams per liter, parts per million (ppm)
µg/L = micrograms per liter, parts per billion (ppb)
pg/L = picograms per liter, parts per quadrillion (ppq)
µmhos = micromhos, a measure of specific conductance
pCi/L = pico Curies per liter
< = less than
> = greater than
ND = none detected above the DLR
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.
MCL: Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set by the US Environmental Protection Agency or the State Water Resources Control Board as close to the PHGs and MCLGs as is economically or technologically feasible.
MRDL: Maximum Residual Disinfectant Level. The level of a disinfectant added for water treatment that may not exceeded at the consumer's tap.
DLR: Detection Limit for purposes of Reporting.
(DL): Detection limit determined by the Laboratory when no DLR has been established.
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.
MRDLG: Maximum Residual Disinfectant Level Goal. The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the US Environmental Protection Agency.
PHG: Public Health Goal. 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 Office of Environmental Health Hazard
Primary Drinking Water Standard: Primary MCLs, specific treatment techniques adopted in lieu of primary MCLs, and monitoring and reporting requirements for MCLs that are specified in regulations.
Assessment.
Secondary Standards: Aesthetic standards established by the State Water Resources Control Board.
All analyses performed by ELAP certified laboratories: AVEK Water Agency, Eurofins Eaton Analytical Laboratories, or Eurofins subcontract lab.