

Antelope Valley-East Kern Water Agency
2010 Annual Water Quality Report - Kern County System

The Antelope Valley-East Kern Water Agency provides treated surface water as a source 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: **0.19 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.

MICROBIOLOGICAL CONTAMINANTS

Type of Sample(s)	Parameter	Sampling Frequency	MCL	No. of Months in Violation	System Results	
					Range	Average
Distribution & Effluent	Total Coliform Bacteria	76 - 91 / mo	5% positive	None	0%	0%
	Fecal Coliform and E. coli	76 - 91 / mo	1 pos. with 2 TC pos.	None	0%	0%

INORGANIC CONTAMINANTS

Parameter	Units	MCL	DLR	PHG	RESULTS			
					Plant Effluent (CWR)		Raw Inflow (Source)	
					Range	Average	Range	Average
Aluminum	mg/L	1	0.05	0.6	ND	ND		ND
Antimony	µg/L	6	6.0	20		ND		ND
Arsenic	µg/L	10	2.0	0.004		ND		ND
Barium	mg/L	1	0.1	2		ND		ND
Beryllium	µg/L	4	1.0	1		ND		ND
Cadmium	µg/L	5	1.0	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		ND		ND
Lead	µg/L		5.0	0.2		ND		ND
Mercury	µg/L	2	1.0	1.2		ND		ND
Nickel	µg/L	100	10	12		ND		ND
Nitrate (as NO3)	mg/L	45	2.0	45		2.5	ND-3.1	2.1
Nitrite (as N)	mg/L	1	0.4	1		ND		ND
Nitrate+Nitrite (as N)	mg/L	10	0.4	10		1.0		1.0
Perchlorate	µg/L	6	4.0	6		ND		ND
Selenium	µg/L	50	5.0	30		ND		ND
Thallium	µg/L	2	1.0	0.1		ND		ND

RADIOLOGICAL CONTAMINANTS

Parameter	Units	MCL	DLR	PHG	RESULTS
					Raw Inflow (Source)
Uranium	pCi/L	20	1.0	0.43	1.1

SYNTHETIC ORGANIC CHEMICALS

Parameter	Units	MCL	DLR	RESULTS
				Raw Inflow (Source)
Silvex	µg/L	50	1.0	ND
2,4-D	µg/L	70	10	ND
Alachlor	µg/L	2	1.0	ND
Atrazine	µg/L	1	0.5	ND
Bentazon	µg/L	18	2.0	ND
Benzo(a)pyrene	µg/L	0.2	0.1	ND
Carbofuran	µg/L	18	5.0	ND
Chlordane	µg/L	0.1	0.1	ND
Dalapon	µg/L	200	10	ND
Di(2-ethylhexyl)adipate	µg/L	400	5.0	ND
Di(2-ethylhexyl)phthalate	µg/L	4	3.0	ND
Dibromochloropropane (DBCP)	µg/L	0.2	0.01	ND
Dinoseb	µg/L	7	2.0	ND
Endrin	µg/L	2	0.1	ND
Ethylene Dibromide (EDB)	µg/L	0.05	0.02	ND
Glyphosate	µg/L	700	25	ND
Heptachlor	µg/L	0.01	0.01	ND
Heptachlor Epoxide	µg/L	0.01	0.01	ND

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Hexachlorobenzene	µg/L	1	0.5	ND
Hexachlorocyclopentadiene	µg/L	50	1.0	ND
Lindane	µg/L	2	0.2	ND
Methoxychlor	µg/L	30	10	ND
Molinate	µg/L	20	2.0	ND
Oxamyl	µg/L	50	20	ND
Pentachlorophenol	µg/L	1	0.2	ND
Picloram	µg/L	500	1.0	ND
Polychlorinated Biphenyls	µg/L	0.5	0.5	ND
Simazine	µg/L	4	1.0	ND
Thiobencarb (Bolero)	µg/L	70	1.0	ND
Toxaphene	µg/L	3	1.0	ND

VOLATILE ORGANIC CONTAMINANTS

Parameter	Units	MCL	DLR	PHG	RESULTS
					Raw Influent (Source)
1,1,1-Trichloroethane (1,1,1-TCA)	µg/L	200	0.5	100	ND
1,1,2,2-Tetrachloroethane	µg/L	1	0.5	0.1	ND
1,1,2-Trichloroethane (1,1,2-TCA)	µg/L	5	0.5	0.3	ND
1,1-Dichloroethane (1,1-DCA)	µg/L	5	0.5	3	ND
1,1-Dichloroethylene (1,1-DCE)	µg/L	6	0.5	10	ND
1,2,4-Trichlorobenzene	µg/L	5	0.5	5	ND
1,2-Dichlorobenzene (o-DCB)	µg/L	600	0.5	600	ND
1,2-Dichloroethane (1,2-DCA)	µg/L	0.5	0.5	0.4	ND
1,2-Dichloropropane	µg/L	5	0.5	0.5	ND
1,3-Dichloropropene (Total)	µg/L	0.5	0.5	0.2	ND
1,4-Dichlorobenzene (p-DCB)	µg/L	5	0.5	6	ND
Benzene	µg/L	1	0.5	0.15	ND
Carbon tetrachloride	µg/L	0.5	0.5	0.1	ND
cis-1,2-Dichloroethylene (c-1,2-DCE)	µg/L	6	0.5	100	ND
Dichloromethane (Methylene Chloride)	µg/L	5	0.5	4	ND
Ethylbenzene	µg/L	300	0.5	300	ND
Methyl-tert-butyl ether (MTBE)	µg/L	5	3.0	13	ND
Monochlorobenzene (Chlorobenzene)	µg/L	70	0.5	200	ND
Styrene	µg/L	100	0.5	0.5	ND
Tetrachloroethylene (PCE)	µg/L	5	0.5	0.06	ND
Toluene	µg/L	150	0.5	150	ND
trans-1,2-Dichloroethylene (t-1,2-DCE)	µg/L	10	0.5	60	ND
Trichloroethylene (TCE)	µg/L	5	0.5	1.7	ND
Trichlorofluoromethane (Freon11)	µg/L	150	5.0	700	ND
Trichlorotrifluoroethane (Freon 113)	µg/L	1200	10	4000	ND
Vinyl Chloride (VC)	µg/L	0.5	0.5	0.05	ND
Xylenes (Total)	µg/L	1750	0.5	1800	<0.50

GENERAL PHYSICAL AND SECONDARY STANDARDS

Parameter	Units	MCL	DLR	RESULTS			
				Plant Effluent (CWR)		Raw Influent (Source)	
				Range	Average	Range	Average
Aluminum	µg/L	200	50	ND	ND		ND
Calcium	mg/L	no standard			18		20
Chloride	mg/L	250			89		82
Color	Units	15		<5	<5		
Copper	µg/L	1000	50		ND		ND
Foaming Agents (MBAS)	mg/L	0.5			<0.050		<0.050
Hardness (Total) as CaCO3	mg/L	no standard			97		100
Iron	µg/L	300	100		ND		ND
Magnesium	mg/L	no standard			13		13
Manganese	µg/L	50	20		ND		ND
Odor @ 60 C	Units	3	1	<1	<1		
pH	Units	no standard		6.4-7.1	6.8	6.8-9.0	7.8
Potassium	mg/L	no standard			2.8		2.9
Silver	µg/L	100	10		ND		ND
Sodium	mg/L	no standard			58		59
Specific Conductance	µmhos	900			490		460
Sulfate	mg/L	250	0.5		48		29
Thiobencarb (Bolero)	µg/L	1	1.0		ND		ND
Total Dissolved Solids	mg/L	500			260		350
Turbidity	Units	5		0.01-0.19	0.04		

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Zinc	mg/L	5.0	0.05	0.990		ND
Total Alkalinity (as CaCO ₃)	mg/L	no standard		60	61-83	70
Bicarbonate Alkalinity(HCO ₃)	mg/L	no standard		73		
Carbonate Alkalinity	mg/L	no standard		<1.8		
Hydroxide Alkalinity	mg/L	no standard		<1.0		

DISINFECTION RESIDUAL, PRECURSORS, and BYPRODUCTS

Type of Sample(s)	Parameter	Units	MCL/MRDL	DLR	MRDLG	RESULTS	
						Range	Average
Distribution	Chlorine (as total Cl ₂)	mg/L	4.0**		4	0.03-1.55	0.81
Treated Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement		DLR=0.3	0.6-2.8	1.6
Source Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement		DLR=0.3	0.7-4.2	2.5
Distribution	Total Trihalomethanes	µg/L	80**	0.5	none	35-53	41 #
Distribution	Total Haloacetic Acids (5)	µg/L	60**	2		13-15	15 #

** Running Annual Average of distribution system samples. The MCLs are based upon Running Annual Averages.
 # This average is a system-wide value, please see the attached summaries for site specific averages.

DEFINITIONS and FOOTNOTES:

Plant Effluent, CWR, is finished, treated drinking water.
 Raw Water is the Source Water, the California Aqueduct, prior to treatment.
Units: mg/L = milligrams per liter, parts per million (ppm)
 µg/L = micrograms per liter, parts per billion (ppb)
 µmhos = micromhos, a measure of specific conductance
 MFL = million fibers per liter
 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 California Department of Public Health 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 be 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 Assessment.
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.
Secondary Standards: Aesthetic standards established by the California Department of Public Health.
AL: Action Level. There is no MCL, if this level is exceeded, action is required by the California Department of Public Health.
 # This average is a system-wide value, please see the attached summary for site specific averages.
 ** Total Trihalomethanes and Haloacetic Acids(5) MCLs an annual running average of distribution system samples.
 *** A corrosion inhibitor is added to the treated water before entry into the distribution system
 All analyses performed by the ELAP certified laboratories: AVEK Water Agency, BSK Analytical Laboratories, or BSK subcontract lab.