

Antelope Valley-East Kern Water Agency
2007 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: 0.11 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

<u>Type of Sample(s)</u>	<u>Parameter</u>	<u>Sampling Frequency</u>	<u>MCL</u>	<u>No. of Months in Violation</u>	<u>System Results range</u>	<u>Results average</u>
Distribution	Total Coliform Bacteria	74 - 91 / mo	5% positive	none	0 - 1.3%	0.1%
& Effluent	Fecal Coliform and E. coli	74 - 91 / mo	1 pos. with 2 TC pos.	none	0%	0%

INORGANIC CONTAMINANTS

<u>Type of Sample(s)</u>	<u>Parameter</u>	<u>Units</u>	<u>MCL</u>	<u>DLR</u>	<u>PHG or (MCLG)</u>	<u>System Results range</u>	<u>Results average</u>
Plant Effluent	Aluminum	mg/L	1	0.05	0.6	ND	ND
"	Antimony	ug/L	6	6	20		ND
"	Arsenic	ug/L	10	2	none		ND
"	Barium	mg/L	1	0.1	(2)		ND
"	Beryllium	ug/L	4	1	(4)		ND
"	Cadmium	ug/L	5	1	0.07		ND
"	Chromium (total)	ug/L	50	10	(100)		ND
"	Copper	mg/L	1	0.05	0.17		ND
"	Cyanide	ug/L	150	100	150		ND
"	Fluoride	mg/L	2	0.1	1		ND
"	Lead	ug/L	AL = 15	5	2		ND
"	Mercury	ug/L	2	1	1.2		ND
"	Nickel	ug/L	100	10	12		ND
"	Nitrate (as NO3)	mg/L	45	2.0	45		4.2
"	Nitrite (as N)	mg/L	1	0.4	1		ND
"	Selenium	ug/L	50	5	(50)		ND
"	Thallium	ug/L	2	1	0.1		ND

SYNTHETIC ORGANIC CHEMICALS - including Pesticides and Herbicides

<u>Type of Sample(s)</u>	<u>Parameter</u>	<u>Units</u>	<u>MCL</u>	<u>DLR (DL)</u>	<u>Results range</u>	<u>Results average</u>
Source Water	Dibromochloropropane (DBCP)	ug/L	.2	0.01	ND	ND
"	Ethylene dibromide (EDB)	ug/L	0.05	0.02	ND	ND
"	Endrin	ug/L	2	.1	ND	ND
"	Lindane (gamma-BHC)	ug/L	0.2	0.2	ND	ND
"	Methoxychlor	ug/L	30	10.0	ND	ND
"	Toxaphene	ug/L	3	1.0	ND	ND
"	Chlordane	ug/L	.1	.1	ND	ND
"	Diethylhexyphthalate (DEHP)	ug/L	4	3.0	ND	ND
"	Heptachlor	ug/L	.01	0.01	ND	ND
"	Heptachlor epoxide	ug/L	.01	0.01	ND	ND
"	Atrazine	ug/L	1	0.5	ND	ND

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<u>Type of Sample(s)</u>	<u>Synthetic Organic Chemicals continued</u>			<u>DLR</u>		<u>Results</u>	
	<u>Parameter</u>	<u>Units</u>	<u>MCL</u>	<u>(DL)</u>	<u>range</u>	<u>average</u>	
Source Water	Molinate (Ordram)	ug/L	20	2.0	ND	ND	
"	Simazine (Princep)	ug/L	4	1.0	ND	ND	
"	Thiobencarb (Bolero)	ug/L	70	1.0	ND	ND	
"	Alachlor (Alanex)	ug/L	2	1.0	ND	ND	
"	Bentazon (Basagran)	ug/L	18	2.0	ND	ND	
"	Benzo(a)pyrene	ug/L	0.2	.1	ND	ND	
"	2,4 - D	ug/L	70	10.0	ND	ND	
"	2,4,5 - TP	ug/L	50	1.0	ND	ND	
"	Carbofuran (Furadan)	ug/L	18	5.0	ND	ND	
"	Dalapon (Dowpon)	ug/L	200	10.0	ND	ND	
"	Dinoseb (DNBP)	ug/L	7	2.0	ND	ND	
"	Di(2-ethylhexyl)adipate	ug/L	400	5.0	ND	ND	
"	Glyphosate	ug/L	700	25.0	ND	ND	
"	Hexachlorobenzene	ug/L	1	0.5	ND	ND	
"	Hexachlorocyclopentadiene	ug/L	50	1.0	ND	ND	
"	Oxamyl (Vydate)	ug/L	50	20.0	ND	ND	
"	Pentachlorophenol (PCP)	ug/L	1	0.2	ND	ND	
"	Pichloram (Tordon)	ug/L	500	1.0	ND	ND	
"	Polychlorinated Biphenyls (Tot PCBs)	ug/L	0.5	0.5	ND	ND	
"	Aldicarb (Temik)	ug/L		3.0	ND	ND	
"	Aldicarb sulfone	ug/L		4.	ND	ND	
"	Aldicarb sulfoxide	ug/L		3.0	ND	ND	
"	Aldrin	ug/L		.075	ND	ND	
"	Bromacil (Hyvar)	ug/L		10.0	ND	ND	
"	Butachlor	ug/L		0.38	ND	ND	
"	Carbaryl (Sevin)	ug/L		5.0	ND	ND	
"	Total DCPA Mono&Diacid Degradate	ug/L		(1.000)	ND	ND	
"	Diazinon	ug/L		(0.100)	ND	ND	
"	Dicamba (Banvel)	ug/L		1.50	ND	ND	
"	Dieldrin	ug/L		0.02	ND	ND	
"	Dimethoate (Cygon)	ug/L		0.100	ND	ND	
"	3-Hydroxycarbofuran	ug/L		3.0	ND	ND	
"	Methomyl	ug/L		2.0	ND	ND	
"	Metolachlor	ug/L		(0.050)	ND	ND	
"	Metribuzin	ug/L		(0.050)	ND	ND	
"	Propachlor	ug/L	0.5	0.5	ND	ND	
"	PCB 1016 Aroclor	ug/L		0.5	ND	ND	
"	PCB 1221 Aroclor	ug/L		0.5	ND	ND	
"	PCB 1232 Aroclor	ug/L		0.5	ND	ND	
"	PCB 1242 Aroclor	ug/L		0.5	ND	ND	
"	PCB 1248 Aroclor	ug/L		0.5	ND	ND	
"	PCB 1254 Aroclor	ug/L		0.5	ND	ND	
"	PCB 1260 Aroclor	ug/L		0.5	ND	ND	
"	Caffeine	ug/L		(0.020)	ND	ND	

VOLATILE ORGANIC CONTAMINANTS

<u>Type of Sample(s)</u>	<u>Parameter</u>	<u>Units</u>	<u>MCL</u>	<u>DLR</u>	<u>PHG or (MCLG)</u>	<u>Results</u>	
						<u>range</u>	<u>average</u>
Source Water	Benzene	ug/L	1	0.5	0.15		ND
"	Carbon tetrachloride	ng/L	500	500	100		ND
"	1,2-Dichlorobenzene	ug/L	600	0.5	600		ND
"	1,4-Dichlorobenzene	ug/L	5	0.5	6		ND
"	1,1-Dichloroethane	ug/L	5	0.5	3		ND
"	1,2-Dichloroethane	ng/L	500	500	400		ND
"	1,1-Dichloroethene	ug/L	6	0.5	10		ND
"	cis-1,2-Dichloroethene	ug/L	6	0.5	(70)		ND

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						<u>range</u>	<u>average</u>
Source Water	trans-1,2-Dichloroethene	ug/L	10	0.5	(100)		ND
"	Dichloromethane	ug/L	5	0.5	4		ND
"	1,2-Dichloropropane	ug/L	5	0.5	0.5		ND
"	Total 1,3-Dichloropropene	ng/L	500	500	200		ND
"	Ethyl Benzene	ug/L	300	0.5	300		ND
"	Methyl tert-Butyl Ether (MTBE)	ug/L	5	3.	13		ND
"	Monochlorobenzene	ug/L	70	0.5			ND
"	Styrene	ug/L	100	0.5	(100)		ND
"	1,1,2,2-Tetrachloroethane	ug/L	1	0.5	0.1		ND
"	Tetrachloroethene (PCE)	ug/L	5	0.5	0.06		ND
"	1,2,4-Trichlorobenzene	ug/L	5	0.5	5		ND
"	1,1,1-Trichloroethane	ug/L	200	0.5	(200)		ND
"	1,1,2-Trichloroethane	ug/L	5	0.5	(3)		ND
"	Trichloroethene (TCE)	ug/L	5	0.5	0.8		ND
"	Toluene	ug/L	150	0.5	150		ND
"	Trichlorofluoromethane	ug/L	150	5	700		ND
"	Trichlorotrifluoromethane	mg/L	1.2	0.01	4		ND
"	Vinyl chloride	ng/L	500	500	50		ND
"	Xylenes (total)	mg/L	1.750	0.0005	1.800		ND
"	34 Additional unregulated VOCs analyzed by method 524.2, all results ND.						

DISINFECTION RESIDUAL, PRECURSORS, and BYPRODUCTS

<u>Type of Sample(s)</u>	<u>Parameter</u>	<u>Units</u>	<u>MCL/MRDL</u>	<u>DLR</u>	<u>MRDLG</u>	<u>Results</u>	
						<u>range</u>	<u>average</u>
Distribution	Chlorine (as total Cl2)	mg/L	4.0**		4	0.1 - 1.5	0.69
Treated Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.50		0.9 - 2.5	1.6
Source Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.50		1.3 - 4.2	2.5
Distribution	Total Trihalomethanes	ug/L	80**	0.5	none	51 - 78	77.8 #
Distribution	Total Haloacetic Acids (5)	ug/L	60**	2		20 - 23	20.2 #

** Running Annual Average of distribution system samples. The MCLs are based upon Running Annual Averages.

The State of California Total Trihalomethanes MCL is 100 ug/L, the EPA MCL is 80 ug/L

The State of California has not adopted a Total Haloacetic Acids MCL, the EPA MCL is 60 ug/L

This average is a system-wide value, please see the attached summaries for site specific averages.

REGULATED CONTAMINANTS with SECONDARY MCLs

<u>Type of Sample(s)</u>	<u>Parameter</u>	<u>Units</u>	<u>MCL</u>	<u>DLR</u>	<u>Results</u>	
					<u>range</u>	<u>average</u>
Plant Effluent	Aluminum	ug/L	200	50	ND	ND
"	Chloride	mg/L	500			84
"	Color	Units	15			<5
"	Copper	mg/L	1.00	50		ND
"	Corrosivity		non-corrosive			***
"	Foaming Agents (MBAS)	ug/L	500			<0.050
"	Iron	ug/L	300	100		ND
"	Manganese	ug/L	50	20		ND
"	Odor @ 60 C	Units	3	1	<1 - 3	<1
Plant Effluent	Silver	ug/L	100	10		ND
"	Sulfate	mg/L	500	0.5		66
"	Specific Conductance	umhos	1600			522
"	Total Dissolved Solids	mg/L	1000			290
"	Turbidity	Units	5		0.02 - 0.11	0.03
"	Zinc	mg/L	5.0	0.05		0.920

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ADDITIONAL CONSTITUENTS ANALYZED

<u>Type of Sample(s)</u>	<u>Parameter</u>	<u>Units</u>	<u>MCL</u>	<u>DLR</u>	<u>AL</u>	<u>range</u>	<u>average</u>
Source Water	Total Alkalinity (as CaCO ₃)	mg/L	no standard			62 - 81	75.7
Plant Effluent	Total Alkalinity (as CaCO ₃)	mg/L	no standard				33
"	Bicarbonate Alkalinity(HCO ₃)	mg/L	no standard				40
"	Carbonate Alkalinity	mg/L	no standard				<2.000
"	Carbon Dioxide	mg/L	no standard				4.1
"	Hydroxide Alkalinity	mg/L	no standard				<2.000
"	Calcium	mg/L	no standard				24
"	Magnesium	mg/L	no standard				7.6
"	pH	Units	no standard			6.5 - 7.2	6.89
"	Potassium	mg/L	no standard				2.2
"	Sodium	mg/L	no standard				63
"	Total Hardness (as CaCO ₃)	mg/L	no standard				91
Source Water	Nitrate (as NO ₃)	mg/L	45	2.0			3.8

DEFINITIONS and FOOTNOTES:

Source Water is the California Aqueduct.

Units: mg/L = milligrams per liter, parts per million (ppm)

ug/L = micrograms per liter, parts per billion (ppb)

ng/L = nanograms per liter, parts per trillion (ppt)

pg/L = picograms per liter, parts per quadrillion (ppq)

umhos = 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 Environmental Protection Agency.

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.

The State of California Total Trihalomethanes MCL is 100 ug/L, the EPA MCL is 80 ug/L

The State of California has not adopted a MCL for Haloacetic Acids, the EPA MCL is 60 ug/L

*** 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, MWH or Truesdail Laboratories.