

ANTELOPE VALLEY – EAST KERN WATER AGENCY

2018 ANNUAL WATER QUALITY REPORT

KERN COUNTY SYSTEM

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and Chief Engineer

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March 7, 2019

Dear General Manager:

This is the 2018 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 2018 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 operating April through August of 2018. 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

Antelope Valley-East Kern Water Agency

2018 Annual Water Quality Report

We are pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the excellent water we have delivered to you over the past year. Our goal is, and always has been, to provide to you a safe supply of drinking water.

Our main water source is the State Water Project, California Aqueduct. The State Water Resources Control Board (State Board) has assessed the vulnerability of the State Water Project as to possible contaminating activities. The assessment's description and discussion of vulnerability is as follows:

"The California Aqueduct originates at the Sacramento-San Joaquin Delta at Clifton Court Forebay. Water in the Delta originates in the Sacramento River watershed, the San Joaquin watershed, and the watershed drainage from the Mokelumne River, Stanislaus River, Merced River and several smaller rivers that drain the eastern slopes of the Sierra Nevadas. Located in these drainage areas are a broad variety of potential sources of contamination including municipal, industrial and agricultural activities. Also influencing the quality of water pumped from the Delta is the impact of the estuarial nature of the Delta and the naturally occurring salt-water intrusion which is dependent to a large extent on the inflow from the contributing rivers.

The possible contaminating activities present within the California Aqueduct watershed are described in the State Water Project Watershed Sanitary Survey conducted by the California Department of Water Resources and their consultants in 1990 and updated in 2016."

Our alternative water source is State Water Project water which has been stored in the aquifer at various underground storage facilities (i.e. "water banks") and is recovered for water quality purposes or supply purposes during times of drought. The vulnerability of the facilities was assessed in 2014 as follows:

"The wells are most vulnerable to contaminants from activities such as herbicide use along transportation corridors or road right-of-ways; agricultural/irrigation wells; irrigated crops; application of fertilizer, pesticides, and herbicides; agricultural drainage; and the raw State Water Project surface water used to recharge the groundwater basins. Other potential contaminating activities include the potential presence of certain unknown activities such as unregistered underground storage tanks."

A copy of these assessments may be viewed at, Antelope Valley-East Kern Water Agency, 6500 West Avenue N, Palmdale, CA 93551.

If you have any questions about this report or the Antelope Valley-East Kern Water Agency, please contact Jordan Wray, Laboratory Director at 661-943-3201. We want our valued customers to be informed about our Water Agency. If you want to learn more, please attend any of our regularly scheduled Board meetings. They are held on the second and fourth Tuesday of every month, 6:30 PM, at the Antelope Valley-East Kern Water Agency Office, 6450 West Avenue N, Palmdale, CA, 93551.

Antelope Valley-East Kern Water Agency routinely monitors for contaminants in our drinking water according to Federal and State laws. The table in this report, “2018 Annual Water Quality Report”, shows the results of our monitoring for the period of January 1st to December 31st, 2018.

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It is important to remember that the presence of these contaminants does not necessarily pose 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 at 1-800-426-4791.

We have learned through our monitoring and testing that some contaminants have been detected, however, we are proud to report that our drinking water meets all State and Federal requirements.

Total Coliform: Water systems are required to meet a strict standard for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If the standard is exceeded, the water supplier must notify the public by newspaper, television or radio.

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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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: **0.25 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 continuously providing a minimum free chlorine residual of 0.5 mg/L leaving the clearwell.

Lowest single free chlorine residual measurement during the year: **0.79**

Number of violations of the Groundwater Rule: **NONE**

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</u>	
					<u>Range</u>	<u>Average</u>
Distribution	Total Coliform Bacteria	56 - 70 / mo	5% positive	None	0%	0%
Distribution	E. coli	56 - 70 / mo	1 pos. with 2 TC pos.	None	0%	0%

INORGANIC CONTAMINANTS

					RESULTS							
					Rosamond Plant				Water Bank			
<u>Parameter</u>	<u>Units</u>	<u>MCL</u>	<u>DLR</u>	<u>PHG</u>	<u>Plant Effluent (CWR)</u>		<u>Raw Influent (Sources)</u>		<u>Effluent (CWR)</u>		<u>Wells</u>	
					<u>Range</u>	<u>Average</u>	<u>Range</u>	<u>Average</u>	<u>Range</u>	<u>Average</u>	<u>Range</u>	<u>Average</u>
Aluminum	µg/L	1000	50	600	ND-150	84	ND	ND			ND	ND
Antimony	µg/L	6	6	1		ND	ND	ND			ND	ND
Arsenic	µg/L	10	2	0.004		5.0	2.0-8.8	4.8	3.4-5.6	4.3	2.4-18	5.0
Barium	µg/L	1000	100	2000		ND	32-100	62			36-90	65
Beryllium	µg/L	4	1	1		ND	ND	ND			ND	ND
Cadmium	µg/L	5	1	0.04		ND	ND	ND			ND	ND
Chromium (Total)	µg/L	50	10			ND	ND-16	6.0			ND	ND
Chromium (Hexavalent)	µg/L	*	1	0.02		3.3	0.80-15	7.7			1.5-6.1	3.1
Cyanide	µg/L	150	100	150		ND	ND	ND			ND	ND
Fluoride	mg/L	2	0.1	1		0.20	0.17-0.33	0.23			0.14-0.30	0.20
Lead	µg/L	15	5.0	0.2		ND	ND-0.59	0.10			ND-1.1	0.28
Mercury	µg/L	2	1	1.2		ND	ND	ND			ND-6.9	1.1
Nickel	µg/L	100	10	12		ND	ND	ND			ND-15	3.1
Nitrate (as N)	mg/L	10	0.4	10		3.4	0.86-4.2	2.6			1.5-4.4	3.3
Nitrite (as N)	mg/L	1	0.4	1		ND	ND	ND			ND	ND
Nitrate+Nitrite (as N)	mg/L	10		10		3.4	0.86-4.2	2.7			1.5-4.4	3.3
Perchlorate	µg/L	6	4	1		ND	ND-0.43	0.11			ND	ND
Selenium	µg/L	50	5	30		ND	ND-10	2.7			ND-9.7	2.8
Thallium	µg/L	2	1	0.1		ND	ND	ND			ND	ND

*There is currently no MCL for hexavalent chromium. The previous MCL of 0.010 mg/L was withdrawn on September 11, 2017.

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GENERAL PHYSICAL AND SECONDARY STANDARDS

Parameter	Units	MCL	DLR	RESULTS							
				Rosamond Plant		Water Bank		Effluent (CWR)		Wells	
				Plant Effluent (CWR)	Raw Influent (Sources)	Plant Effluent (CWR)	Raw Influent (Sources)	Range	Average	Range	Average
				Range	Average	Range	Average				
Aluminum	µg/L	1000	50	ND-150	84	ND	ND			ND	ND
Calcium	mg/L	no standard			75	26-110	70			30-110	63
Chloride	mg/L	250			60	40-130	72			51-110	79
Color	Units	15		<5	<5	<5	<5			<5	<5
Copper	µg/L	1000	50		ND	ND-6.6	2.6			ND-7.1	2.9
Foaming Agents (MBAS)	mg/L	0.5			ND	ND	ND			ND	ND
Hardness (Total) as CaCO ₃	mg/L	no standard			220	89-340	220			150-330	234
Iron	µg/L	300	100		ND	ND-130	42			ND-160	29
Magnesium	mg/L	no standard			8.7	5.8-16	11			4.6-13	9.2
Manganese	µg/L	50	20		ND	ND-5.1	1.4			ND-6.4	1.0
Odor @ 60 C	Units	3	1	<1	<1	<1	<1			<1	<1
pH	Units	no standard		7.3-8.4	7.93	7.3-8.1	7.60			7.3-7.7	7.53
Silver	µg/L	100	10		ND	ND	ND			ND	ND
Sodium	mg/L	no standard			44	36-53	48			33-55	43
Specific Conductance	µmhos	900		600-610	600	430-930	650			480-830	680
Sulfate	mg/L	250	0.5		50	39-100	66			36-92	59
Thiobencarb (Bolero)	µg/L	1	1		ND	ND	ND			ND	ND
Methyl tert-Butyl Ether (MTBE)	µg/L	5	3		ND	ND	ND			ND	ND
Total Dissolved Solids	mg/L	500			360	270-600	410			280-560	420
Turbidity	Units	5		0.01-0.25	0.08	0.08-0.72	0.28			0.02-3.77	0.78
Zinc	µg/L	5000	50		ND	ND-40	6.7			ND	ND
Total Alkalinity (as CaCO ₃)	mg/L	no standard			160	93-180	140			140-200	160
Bicarbonate Alkalinity(as HCO ₃)	mg/L	no standard			190	110-220	170			170-220	190
Carbonate (as CO ₃)	mg/L	no standard			2.0	ND	ND			ND	ND
Hydroxide (as OH)	mg/L	no standard			ND	ND	ND			ND	ND

RADIOLOGICAL CONTAMINANTS

Parameter	Units	MCL	DLR	PHG	RESULTS			
					Rosamond Plant		Water Bank	
					Raw Influent Sources	Raw Influent Sources	Wells	Wells
					Range	Average	Range	Average
Gross Alpha	pCi/L	15	3		ND-3.4	1.7	ND-5.0	1.2
Gross Beta	pCi/L	50	4		ND-4.1	2.7	ND-4.8	2.8
Strontium 90	pCi/L	8	2	0.35	ND	ND	ND	ND
Tritium	pCi/L	20,000	1,000	400	ND	ND	ND	ND
Uranium	pCi/L	20	1	0.43		6.3	3.1-7.1	5.0
Radium 228	pCi/L		1	0.019	ND	ND	ND-0.56	0.14
Radium 226	pCi/L		1	0.05	ND	ND	ND-0.35	0.17

VOLATILE ORGANIC CONTAMINANTS

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

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

SYNTHETIC ORGANIC CHEMICALS

RESULTS

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

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<u>Parameter</u>	<u>Units</u>	<u>MCL</u>	<u>DLR (DL)</u>	<u>PHG</u>	<u>Raw Influent (Sources)</u>		<u>Water Bank Wells</u>	
					<u>Range</u>	<u>Average</u>	<u>Range</u>	<u>Average</u>
Polychlorinated Biphenyls	µg/L	0.5	0.5	0.09	ND	ND	ND	ND
Simazine	µg/L	4	1	4	ND	ND	ND	ND
Thiobencarb (Bolero)	µg/L	70	1	42	ND	ND	ND	ND
Toxaphene	µg/L	3	1	0.03	ND	ND	ND	ND
2,3,7,8-TCDD (Dioxin)	pg/L	30	5	0.05	ND	ND	ND	ND
2,4,5-TP (Silvex)	µg/L	50	1	3	ND	ND	ND	ND
1,2,3-Trichloropropane	µg/L	0.005	0.005	0.0007	ND	ND	ND	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 Cl ₂)	mg/L	4.0**		4	0.00-1.70	1.06
Treated Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.3		0.5-0.8	0.6
Source Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.3		0.5-0.7	0.6
Distribution	Stage 2 D/DBP Rule Total Trihalomethanes	µg/L	80**			18-44	28 #
Distribution	Stage 2 D/DBP Rule Total Haloacetic Acids	µg/L	60**			3.3-7.0	5.0 #
Treated Water	Bromate	µg/L	10*	5		--	--

** 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.

STAGE 2 DISINFECTION BYPRODUCT RULE

TOTAL TRIHALOMETHANE (TTHM) AND HALOACETIC ACIDS (HAA5)

QUARTERLY SUMMARY REPORT

Water System Name Antelope Valley-East Kern Water Agency

Water System Number 1510053

		TTHM (ppb)						HAA5 (ppb)					
		Monitoring Periods				OEL	LRAA	Monitoring Periods				OEL	LRAA
		MP1 (3 qtrs ago)	MP2 (2 qtrs ago)	MP3 (last qtr)	MP4 (current qtr)			MP1 (3 qtrs ago)	MP2 (2 qtrs ago)	MP3 (last qtr)	MP4 (current qtr)		
Sample Date -->		02/15/18	05/17/18	08/16/18	11/15/18			2/15/18	5/17/18	8/16/18	11/15/18		
Sample Locations													
1	EAFB	24	42	26	18	26.0	27.5	4.4	6.6	4.6	3.3	4.5	4.7
2	Boron	24	44	26	18	26.5	28.0	4.5	7.0	5.0	3.4	4.7	5.0
3						0.0						0.0	
4						0.0						0.0	
5						0.0						0.0	
6						0.0						0.0	
7						0.0						0.0	
8						0.0						0.0	

Stage 1 Compliance (RAA)= 27.8 YES

Stage 1 Compliance (RAA)= 4.9 YES

Signature



Date

12/05/18

Instructions:

- Please begin by filling out your water system name and number.
- Enter the name of the Stage 2 sample site at the left of each row used.
- Fill in the date of the current monitoring period under the TTHM Section on the left. The same date will automatically appear under the same monitoring period in the HAA5 section on the right. Use the following date format: mm/dd/yy.
- Under the date entered, place the TTHM result for each sample station on the left hand side and do the same for HAA5 results on the right hand side.
- The Operational Evaluation Level (OEL) and Locational Running Annual Average (LRAA) will automatically be calculated if you're using this form electronically. Please keep the previous three quarters of data on the sheet to allow these calculations to work. For example, if you've completed four quarters of monitoring and are on to the 1st quarter of the next year, leave the 2nd, 3rd and 4th quarters from the previous year and replace the data from the first quarter of last year with the 1st quarter data from the current year. If you are not using this form electronically, the equations for the OEL and LRAA are located at the bottom of the page.
- Sign and date the report

OEL = Operational Evaluation Level = $((2 \times \text{MP1}) + \text{MP2} + \text{MP3}) / 4$
 LRAA = Locational Running Annual Average = $(\text{MP1} + \text{MP2} + \text{MP3} + \text{MP4}) / 4$

MP1 = 3 Quarters Ago
 MP2 = 2 Quarters Ago

MP3 = Last Quarter
 MP4 = Current Quarter

Quarterly Bromate Report for Disinfection Byproducts Compliance (in µg/L or ppb)

System Name: Antelope Valley-East Kern Water Agency System No.: 1510053 Year: 2018 Quarter: 4th

	2017				1st Qtr.				2nd Qtr.				3rd Qtr.				4th Qtr.			
Sample Date (month/date):	1st Q	2nd Q	3rd Q	4th Q	1/10	2/14	3/14	Quarterly Average	4/11	5/9	6/13	Quarterly Average	7/11	8/8	9/12	Quarterly Average	10/10	11/14	12/12	Quarterly Average
Site 1 - Bromate	0.0	0.0	0.0	0.0	OFF	OFF	OFF	0.0	OFF	OFF	OFF	0.0	OFF	OFF	OFF	0.0	OFF	OFF	OFF	0.0

Running Annual Average				0.0				0.0				0.0				0.0				0.0
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Meets Standard?*								Yes <input checked="" type="checkbox"/>				Yes <input checked="" type="checkbox"/>				Yes <input checked="" type="checkbox"/>				Yes <input checked="" type="checkbox"/>
(check box)								No <input type="checkbox"/>				No <input type="checkbox"/>				No <input type="checkbox"/>				No <input type="checkbox"/>

Identify the sample locations in the table below.

Site	Sample Location
1	Rosamond Clear Well Reservoir

Comments: Ozone off all quarter

Signature

1/10/2019
Date

*If, during the first year of monitoring, any individual quarter's average will cause the running annual average of that system to exceed the standard, then the system is out of compliance at the end of that quarter.

**Quarterly Report for Disinfectant Residuals Compliance
For Systems Using Chlorine or Chloramines**

System Name: Antelope Valley-East Kern Water Agency System No.: 1510053

Calendar Year: 2018 Quarter: 4TH

1st Quarter		
Month	Number of Samples Taken	Monthly Ave. Chlorine Level (mg/L)
Previous Year	April	1.18
	May	1.23
	June	1.32
	July	1.22
	August	1.16
	September	1.20
	October	1.13
	November	1.16
	December	1.15
Current Year	January	70
	February	56
	March	56
Running Annual Average (RAA):		1.19
Meets standard? (i.e. RAA < MRDL of 4.0 mg/L as Cl ₂)		YES

2nd Quarter		
Month	Number of Samples Taken	Monthly Ave. Chlorine Level (mg/L)
Previous Year	July	1.22
	August	1.16
	September	1.20
	October	1.13
	November	1.16
	December	1.15
Current Year	January	1.16
	February	1.19
	March	1.22
	April	56
	May	70
	June	56
Running Annual Average (RAA):		1.14
Meets standard? (i.e. RAA < MRDL of 4.0 mg/L as Cl ₂)		YES

3rd Quarter		
Month	Number of Samples Taken	Monthly Ave. Chlorine Level (mg/L)
Previous Yr	October	1.13
	November	1.16
	December	1.15
Current Year	January	1.16
	February	1.19
	March	1.22
	April	1.14
	May	1.05
	June	0.89
	July	70
	August	56
	September	56
Running Annual Average (RAA):		1.10
Meets standard? (i.e. RAA < MRDL of 4.0 mg/L as Cl ₂)		YES

4th Quarter		
Month	Number of Samples Taken	Monthly Ave. Chlorine Level (mg/L)
Current Year	January	1.16
	February	1.19
	March	1.22
	April	1.14
	May	1.05
	June	0.89
	July	0.94
	August	1.08
	September	1.05
	October	70
	November	56
	December	56
Running Annual Average (RAA):		1.06
Meets standard? (i.e. RAA < MRDL of 4.0 mg/L as Cl ₂)		YES

Comments:

Signature: 

Date: 1/10/2019

Antelope Valley-East Kern Water Agency
Kern System No. 1510053
TOC Removal Running Annual Average

Sample Date	Plant	Alkalinity mgCaCO ₃ /L	Raw TOC mg/L	Treated TOC mg/L	Actual % TOC reduction	Required % TOC reduction	"TOC Removal Ratio" actual % /required %
1/10/2018	RWTP	plant off					
2/14/2018	RWTP	plant off					
3/14/2018	RWTP	plant off					
4/11/2018	RWTP	162	0.53	0.60	0.0	25	1.0
5/9/2018	RWTP	164	0.49	0.55	0.0	25	1.0
6/13/2018	RWTP	149	0.47	0.52	0.0	25	1.0
7/11/2018	RWTP	167	0.66	0.69	0.0	25	1.0
8/8/2018	RWTP	152	0.68	0.75	0.0	25	1.0
9/12/2018	RWTP	plant off					
10/10/2018	RWTP	plant off					
11/14/2018	RWTP	plant off					
12/12/2018	RWTP	plant off					
Minimum		149.0	0.5	0.5	0.0		
Maximum		167.0	0.7	0.8	0.0		
RAA		158.8	0.6	0.6	0.0		

Running Annual Average (RAA) 1.0

Title 22 California Code of Regulations Article 5:

Required percent TOC reduction**

Table 64536.2-A Source Water Alkalinity

Raw TOC	0-60	<60 - 120	>120
>2.0 - 4.0	35.0 %	25.0 %	15.0 %
>4.0 - 8.0	45.0 %	35.0 %	25.0 %
>8.0	50.0 %	40.0 %	30.0 %

**If one or more of the section 64536.4(b) 1-6 conditions are met, the system may assign a monthly value of 1 for the TOC removal ratio in lieu of the calculated value

List condition when used: 1

1. The system's source water TOC level, prior to any treatment is less than or equal to 2.0 mg/L
2. The system's treated water TOC level is less than or equal to 2.0 mg/L
3. The system's source water SUVA, prior to any treatment, is less than or equal to 2.0 L/mg-m
4. The system's finished water SUVA is less than or equal to 2.0 L/mg-m
5. A system practicing softening removes at least 10 mg/L of magnesium hardness (as CaCO₃)
6. A system practicing enhanced softening lowers alkalinity below 60 mg/L (as CaCO₃)