ANTELOPE VALLEY – EAST KERN WATER AGENCY

2015 ANNUAL WATER QUALITY REPORT

LOS ANGELES COUNTY SYSTEM

ANTELOPE VALLEY - EAST KERN WATER AGENCY
AVEK
ESTABLISHED 1959

A PUBLIC AGENCY

February 11, 2016

Dear General Manager:

This is the 2015 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 2015 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.

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.

AVEK provides some treated water to our customers in Acton by way of an intertie with Palmdale Water District (PWD). AVEK monitors the treated water quality provided by PWD at our Acton Water Treatment Plant before it reaches our first customer. The results of this monitoring have been included in this report. If you have specific questions regarding the quality of the raw water treated by Palmdale Water District, please contact them directly.

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,

Justin Livesay
Laboratory Director

6500 WEST AVENUE N • PALMDALE, CALIFORNIA 93551
(661) 943-3201 • FAX (661) 943-3204

Antelope Valley-East Kern Water Agency

2015 Annual Water Quality Report

We are very 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 1986 and updated in 2011."

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 extracted as local groundwater 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 Justin Livesay, 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, 6500 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, "2015 Annual Water Quality Report", shows the results of our monitoring for the period of January 1st to December 31st, 2015.

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 or exceeds 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 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.

The Antelope Valley-East Kern Water Agency also provides groundwater as a 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: **0.50**
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	108 - 147 / mo	5% positive	None	0-0.7%	0%
Distribution	Fecal Coliform/*E. coli*	108 - 147 / mo	1 pos. with 2 TC pos.	None	0%	0%
Raw Influent	*Cryptosporidium*	6 / mo	N/A*	N/A*	0-0.1 oocysts/L	0 oocysts/L

**Cryptosporidium* monitoring is performed at our Acton, Eastside, and Quartz Hill treatment plant influent in accordance with the EPA's LT2 Enhanced Surface Water Treatment Rule. This monitoring aims to assess the risk of *cryptosporidium* in our raw water supply and determine if additional treatment will be necessary.

INORGANIC CONTAMINANTS

					RESULTS											
					Acton Plant Effluent (CWR)		Eastside Plant Effluent (CWR)		Quartz Hill Plant Effluent (CWR)		Raw Influent (State Water Project)		Water Bank Effluent (CWR)		Water Bank Wells	
Parameter	Units	MCL	DLR	PHG or (MCLG)	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average
Aluminum	mg/L	1	0.05	0.6		ND	ND	ND	ND	ND		0.037			ND-0.020	ND
Antimony	µg/L	6	6	20		ND		ND		ND		ND			ND	ND
Arsenic	µg/L	10	2	0.004		ND		1.6		1.3		9.0	4.0-6.4	5.3	3.0-13	5.8
Barium	mg/L	1	0.1	2		0.028		0.025		0.032		0.036			0.029-0.083	0.055
Beryllium	µg/L	4	1	1		ND		ND		ND		ND			ND	ND
Cadmium	µg/L	5	1	0.04		ND		ND		ND		ND			ND	ND
Chromium (Total)	µg/L	50	10			ND		ND		ND		3.2			1.4-3.4	2.5
Chromium (Hexavalent)	µg/L	10	1	0.02		0.26		0.50		0.63		3.0			2-3.5	2.7
Cyanide	µg/L	150	100	150		ND		ND		ND		ND			ND	ND
Fluoride	mg/L	2	0.1	1		0.22		0.12		0.13		0.24			0.14-0.22	0.17
Mercury	µg/L	2	1	1.2		ND		ND		ND		ND			ND	ND
Nickel	µg/L	100	10	12		ND		ND		ND		ND			ND	ND
Nitrate (as NO3)	mg/L	45	2	45		ND		2.4		3.2	ND-7.5	3.2			12-20	15
Nitrite (as N)	mg/L	1	0.4	1		ND		ND		ND					ND	ND
Nitrate+Nitrite (as N)	mg/L	10		10		ND		0.55		0.73					2.6-4.4	3.4
Perchlorate	µg/L	6	4	1		ND		ND		ND		ND			ND	ND
Selenium	µg/L	50	5	30		ND		ND		ND		ND			ND	ND
Thallium	µg/L	2	1	0.1		ND		ND		ND		ND			ND	ND
Asbestos	MFL	7	0.2	7											ND	ND

GENERAL PHYSICAL AND SECONDARY STANDARDS

				RESULTS								
				Acton Plant Effluent (CWR)		Eastside Plant Effluent (CWR)		Quartz Hill Plant Effluent (CWR)		Raw Influent (State Water Project)		Water Bank Wells
Parameter	Units	MCL	DLR	Range	Average	Range	Average	Range	Average	Range	Average	Range	Average
Aluminum	µg/L	200	50		ND	ND	ND	ND	ND		37	ND-20	1.3
Calcium	mg/L	no standard			34		21		26		36	43-110	72
Chloride	mg/L	250			150		74		79		98	22-110	62

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Parameter	Units	MCL	DLR	Acton Plant Effluent (CWR) Range	Acton Plant Effluent (CWR) Average	Eastside Plant Effluent (CWR) Range	Eastside Plant Effluent (CWR) Average	Quartz Hill Plant Effluent (CWR) Range	Quartz Hill Plant Effluent (CWR) Average	Raw Influent (State Water Project) Range	Raw Influent (State Water Project) Average	Water Bank Wells Range	Water Bank Wells Average
Color	Units	15		<5	<5	<5	<5	<5	<5		10	<5	<5
Copper	µg/L	1000	50		ND		ND		ND		ND	ND-4.5	2.1
Foaming Agents (MBAS)	mg/L	0.5			ND		ND		ND		ND	ND-0.07	0.01
Hardness (Total) as CaCO3	mg/L	no standard			140		94		100		110	120-340	215
Iron	µg/L	300	100		140		ND		ND		69	ND	ND
Magnesium	mg/L	no standard			13		10		9.7		4.9	3.9-15	8.5
Manganese	µg/L	50	20		9.2		ND		2.7		6.9	ND	ND
Odor @ 60 C	Units	3	1	<1	<1	<1-1	<1	<1-1	<1			<1	<1
pH	Units	no standard		6.7-8.4	7.29	6.4-7.1	6.83	6.8-7.6	7.15	7.9-9.6	8.99	7.1-8.2	7.73
Silver	µg/L	100	10		ND		ND		ND		ND	ND	ND
Sodium	mg/L	no standard			97		78		80		98	33-57	42
Specific Conductance	µmhos	900		718-800	759	424-590	507	475-744	583	447-720	554	376-920	579
Sulfate	mg/L	250	0.5		79		120		120		97	30-83	52
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	ND
Total Dissolved Solids	mg/L	500			450		340		370		410	270-600	400
Turbidity	Units	5		0.06-1.23	0.24	0.02-0.15	0.05	0.03-0.19	0.07	0.23-83.2	5.6	0.02-1.36	0.05
Zinc	mg/L	5.0	0.050		0.320		0.580		0.580		ND	ND-0.020	1.3
Total Alkalinity (as CaCO3)	mg/L	no standard			86		44		51	61-94	85	140-190	156
Bicarbonate Alkalinity(as HCO3)	mg/L	no standard			100		53		62		72	170-230	191
Carbonate (as CO3)	mg/L	no standard			ND		ND		ND		3.7	ND	ND
Hydroxide (as OH)	mg/L	no standard			ND		ND		ND		ND	ND	ND

RADIOLOGICAL CONTAMINANTS

Parameter	Units	MCL	DLR	PHG	RESULTS Raw Influent (State Water Project)	RESULTS Water Bank Wells Range	RESULTS Water Bank Wells Average
Gross Alpha	pCi/L	15	3			ND-8.5	4.0
Gross Beta	pCi/L	50	4			ND-8.3	2.0
Strontium 90	pCi/L	8	2	0.35		ND	ND
Tritium	pCi/L	20,000	1,000	400		ND	ND
Uranium	pCi/L	20	1	0.43		4-10	5.9
Radium 228	pCi/L		1	0.019		ND-1.3	0.1
Radium 226	pCi/L		1	0.05		ND	ND

VOLATILE ORGANIC CONTAMINANTS

Parameter	Units	MCL	DLR	PHG	RESULTS State Water Project Average	RESULTS Water Bank Wells Range	RESULTS Water Bank Wells Average
1,1,1-Trichlorethane (1,1,1-TCA)	µg/L	200	0.5	1000	ND	ND	ND
1,1,2,2-Tetrachloroethane	µg/L	1	0.5	0.1	ND	ND	ND
1,1,2-Trichloroethane (1,1,2-TCA)	µg/L	5	0.5	0.3	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	µg/L	5	0.5	3	ND	ND	ND
1,1-Dichloroethylene (1,1-DCE)	µg/L	6	0.5	10	ND	ND	ND
1,2,4-Trichlorobenzene	µg/L	5	0.5	5	ND	ND	ND
1,2-Dichlorobenzene (o-DCB)	µg/L	600	0.5	600	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	µg/L	0.5	0.5	0.4	ND	ND	ND
1,2-Dichloropropane	µg/L	5	0.5	0.5	ND	ND	ND
1,3-Dichloropropene (Total)	µg/L	0.5	0.5	0.2	ND	ND	ND
1,4-Dichlorobenzene (p-DCB)	µg/L	5	0.5	6	ND	ND	ND
Benzene	µg/L	1	0.5	0.15	ND	ND	ND
Carbon tetrachloride	µg/L	0.5	0.5	0.1	ND	ND	ND
cis-1,2-Dichloroethylene (c-1,2-DCE)	µg/L	6	0.5	100	ND	ND	ND
cis-1,3-Dichloropropene	µg/L				ND	ND	ND
Dichloromethane (Methylene Chloride)	µg/L	5	0.5	4	ND	ND	ND
Ethylbenzene	µg/L	300	0.5	300	ND	ND	ND
Methyl-tert-butyl ether (MTBE)	µg/L	13	3	13	ND	ND	ND
Monochlorobenzene (Chlorobenzene)	µg/L	70	0.5	70	ND	ND	ND
Styrene	µg/L	100	0.5	0.5	ND	ND	ND

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Parameter	Units	MCL	DLR	PHG	State Water Project	Water Bank Wells	
					Average	Range	Average
Tetrachloroethylene (PCE)	µg/L	5	0.5	0.06	ND	ND	ND
Toluene	µg/L	150	0.5	150	ND	ND	ND
trans-1,2-Dichloroethylene (t-1,2-DCE)	µg/L	10	0.5	60	ND	ND	ND
trans-1,3-Dichloropropene	µg/L				ND	ND	ND
Trichloroethylene (TCE)	µg/L	5	0.5	1.7	ND	ND	ND
Trichlorofluromethane (Freon11)	µg/L	150	5	1300	ND	ND	ND
Trichlorotrifluoroethane (Freon 113)	µg/L	1200	10	4000	ND	ND	ND
Vinyl Chloride (VC)	µg/L	0.5	0.5	0.05	ND	ND	ND
Xylenes (Total)	µg/L	1750	0.5	1800	ND	ND	ND

SYNTHETIC ORGANIC CHEMICALS

Parameter	Units	MCL	DLR (DL)	PHG	RESULTS	
					Water Bank Wells	
					Range	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	1.7	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	15	ND	ND
Endothall	µg/L	100	45	94	ND	ND
Endrin	µg/L	2	0.1	1.8	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	500	ND	ND
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	70	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

DISINFECTION RESIDUAL, PRECURSORS, and BYPRODUCTS

Type of Sample(s)	Parameter	Units	MCL/MRDL	DLR	MRDLG	RESULTS	
						Range	Average
Distribution	Chlorine (as total Cl2)	mg/L	4.0		4	ND-2.20	1.02
Treated Water	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.3		0.4 - 2.9	1.7
State Water Project	Total Organic Carbon (TOC)	mg/L	Treatment Requirement	0.3		0.5 - 4.5	3.0
Distribution	Stage 2 D/DBP Rule Total Trihalomethanes	µg/L	80**			2.4 - 78	44 #
Distribution	Stage 2 D/DBP Rule Total Haloacetic Acids	µg/L	60**			ND - 26	16 #
Treated Water	Bromate	µg/L	10+	5		ND - 11	4.8

** 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.

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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)
pg/L = picograms per liter, parts per quadrillion (ppq)
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 U.S. 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 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 U.S. 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 State Water Resources Control Board.
AL: Action Level. There is no MCL, if this level is exceeded, action is required 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)
QUARTERLY SUMMARY REPORT

Water System Name: Antelope Valley-East Kern Water Agency

System No. 1910045

	TTHM (ppb)							
	Monitoring Periods				LRAA (TTHM)	Meets Standard? (Y/N)	OEL (TTHM)	Exceed OEL (Y/N)
	MP1	MP2	MP3	MP4 (Current Qtr)				
Sample Date (month/date/year):	*02/19/15*	*05/21/15*	*08/20/15*	*11/19/15*				
Vincent Tank	13	78	45	32	42.00	Y	46.75	N
LVAV	22	58	57	37	43.50	Y	47.25	N
110th/R	2.4	22	49	19	23.10	Y	27.25	N
165th	5.3	OFF	67	22	23.58	Y	27.75	N
5th/M	18	58	40	22	34.50	Y	35.50	N

Comments:*165th sample turnout was out of commission during regular sample collection day and was collected as soon as possible after service was restored (12/10/15).

Note: If your OEL is higher than the TTHM MCL at any location in the distribution system, you must conduct an operational evaluation by examining the system treatment and distribution operational practices, including: storage tank operations; excess storage capacity; distribution system flushing; changes in sources or source water quality; treatment changes; and any problems that may contribute to TTHM formation. From this evaluation you must identify what steps could be taken to minimize future OEL exceedances: Please submit your operational evaluation report to the State for review within 90 days.

Name & Title of Person Submitting Report Justin Livesay - Laboratory Director **Date** 12/21/2015

MP1=3 Qtrs Ago, MP2=2 Qtrs Ago, MP3= Last Qtr, MP4=Current Qtr
LRAA = Locational Running Annual Avg = (MP1+MP2+MP3+MP4)/4
OEL = Operational Evaluation Levels = (MP2 + MP3 + 2MP4)/4
TTHM MCL = 0.080 mg/L

STAGE 2 DISINFECTION BYPRODUCT RULE
HALOACETIC ACIDS (HAA5)
QUARTERLY SUMMARY REPORT

Water System Name: Antelope Valley-East Kern Water Agency

System No. 1910045

	HAA5 (ppb)							
	Monitoring Periods				LRAA (HAA5)	Meets Standard? (Y/N)	OEL (HAA5)	Exceed OEL (Y/N)
	MP1	MP2	MP3	MP4 (Current Qtr)				
Sample Date (month/date/year):	*02/19/15*	*05/21/15*	*08/20/15*	*11/19/2015**				
Vincent Tank	ND	9.8	4.7	4.2	4.68	Y	5.73	N
LVAV	4.9	16	15	26	15.48	Y	20.75	N
110th/R	ND	4.5	9.2	3.1	4.20	Y	4.98	N
165th	ND	OFF	12	4.1	4.03	Y	5.05	N
5th/M	3.2	12	6.7	3.6	6.38	Y	6.48	N

Comments:*165th sample turnout was out of commission during regular sample collection day and was collected as soon as possible after service was restored (12/10/15).

Note: If your OEL is higher than the HAA5 MCL at any location in the distribution system, you must conduct an operational evaluation by examining the system treatment and distribution operational practices, including: storage tank operations, excess storage capacity, distribution system flushing, changes in sources or source water quality; treatment changes; and any problems that may contribute to HAA5 formation. From this evaluation you must identify what steps could be taken to minimize future OEL exceedances: Please submit your operational evaluation report to the State for review within 90 days.

Name & Title of Person Submitting Report Justin Livesay - Laboratory Director **Date** 12/21/2015

MP1=3 Qtrs Ago, MP2=2 Qtrs Ago, MP3= Last Qtr, MP4=Current Qtr
LRAA = Locational Running Annual Avg = (MP1+MP2+MP3+MP4)/4
OEL = Operational Evaluation Levels = (MP2 + MP3 + 2MP4)/4
HAA5 MCL= 0.060 mg/L

State of California
Drinking Water Program

Department of Public Health

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

System Name: Antelope Valley-East Kern Water Agency System No.: 1910045 Year: 2015 Quarter: 4th

	2014				1st Qtr.				2nd Qtr.				3rd Qtr.				4th Qtr.			
Sample Date (month/date):	1st Q	2nd Q	3rd Q	4th Q	1/14	2/11	3/11	Quarterly Average	4/8	5/13	6/10	Quarterly Average	7/8	8/12	9/9	Quarterly Average	10/14	11/11	12/9	Quarterly Average
Site 1	ND	2.4	8.7	2.6	OFF	OFF	OFF	0.0	7.5	7.6	6.6	7.2	4.9	8.5	7.5	7.0	7.4	5.7	ND	4.4
Site 2	1.4	4.1	18.8	5.3	OFF	OFF	OFF	0.0	OFF	7.4	6.3	4.6	7.9	5.4	11	8.1	9.2	7.8	5.2	7.4
Site 3	OFF	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF	OFF		OFF	OFF	OFF		OFF			
System Quarterly Average	1.4	3.3	13.8	4.0				0.0				5.9				7.5				5.9
Running Annual Average				**5.6**				**5.2**				**5.9**				**4.3**				**4.8**
Meets Standard?* (check box)								Yes ☑ No ☐				Yes ☑ No ☐				Yes ☑ No ☐				Yes ☑ No ☐

Identify the sample locations in the table below.

Site	Sample Location
1	Quartz Hill Clear Well Reservoir
2	Eastside Clear Well Reservoir
3	Acton Clear Well Reservoir

Comments: Samples collected at the entry point to the distribution system for each treatment plant using ozone. "OFF" denotes treatment plant shutdown or ozone system shutdown.

Signature

1/7/16
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.

State of California
Drinking Water Program

Department of Health Services

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

System Name: Antelope Valley-East Kern Water Agency System No.: 1910045

Calendar Year: 2015 Quarter: 4th

1st Quarter

	Month	Number of Samples Taken	Monthly Ave. Chlorine Level (mg/L)
Previous Year	April		1.01
	May		0.90
	June		0.82
	July		1.08
	August		1.12
	September		1.15
	October		1.24
	November		1.06
	December		1.00
Current Year	January	112	1.14
	February	112	0.98
	March	144	0.93
Running Annual Average (RAA):			1.04
Meets standard? (i.e. RAA < MRDL of 4.0 mg/L as Cl2)			YES

2nd Quarter

	Month	Number of Samples Taken	Monthly Ave. Chlorine Level (mg/L)
Previous Year	July		1.08
	August		1.12
	September		1.15
	October		1.24
	November		1.06
	December		1.00
Current Year	January		1.14
	February		0.98
	March		0.93
	April	124	1.07
	May	122	0.99
	June	145	0.95
Running Annual Average (RAA):			1.06
Meets standard? (i.e. RAA < MRDL of 4.0 mg/L as Cl2)			YES

3rd Quarter

	Month	Number of Samples Taken	Monthly Ave. Chlorine Level (mg/L)
Previous Yr	October		1.24
	November		1.06
	December		1.00
Current Year	January		1.14
	February		0.98
	March		0.93
	April		1.07
	May		0.99
	June		0.95
	July	116	1.07
	August	116	1.02
	September	147	1.10
Running Annual Average (RAA):			1.05
Meets standard? (i.e. RAA < MRDL of 4.0 mg/L as Cl2)			YES

4th Quarter

	Month	Number of Samples Taken	Monthly Ave. Chlorine Level (mg/L)
Current Year	January		1.14
	February		0.98
	March		0.93
	April		1.07
	May		0.99
	June		0.95
	July		1.07
	August		1.02
	September		1.10
	October	108	0.92
	November	112	0.96
	December	140	1.14
Running Annual Average (RAA):			1.02
Meets standard? (i.e. RAA < MRDL of 4.0 mg/L as Cl2)			YES

Comments:

Signature:  Date: 1/7/16

Antelope Valley-East Kern Water Agency

LA System No. 1910045

TOC Removal Running Annual Average

Sample Date	Plant	Alkalinity mgCaCO3/L	Raw TOC mg/L	Treated TOC mg/L	Actual % TOC reduction	Required % TOC reduction	"TOC Removal Ratio" actual % /required %
1/14/2015	QHWTP	78.8	1.07	0.58	45.8	25	1.8
"	EWTP	plant off					
"	AWTP	plant off					
2/11/2015	QHWTP	93.0	0.53	0.37	30.2	25	1.2
"	EWTP	plant off					
"	AWTP	plant off					
3/11/2015	QHWTP	87.2	0.52	0.35	32.7	25	1.3
"	EWTP	plant off					
"	AWTP	plant off					
4/8/2015	QHWTP	92.9	3.96	2.32	41.4	25	1.7
"	EWTP	plant off					
"	AWTP	plant off					
5/13/2015	QHWTP	90.9	3.58	2.10	41.3	25	1.7
"	EWTP	91.5	3.69	2.07	43.9	25	1.8
"	AWTP	plant off					
6/10/2015	QHWTP	86.3	3.60	1.79	50.3	25	2.0
"	EWTP	83.5	3.48	1.97	43.4	25	1.7
"	AWTP	plant off					
7/8/2015	QHWTP	90.6	3.57	2.17	39.2	25	1.6
"	EWTP	91.5	3.49	2.23	36.1	25	1.4
"	AWTP	plant off					
8/12/2015	QHWTP	89.8	2.93	1.93	34.1	25	1.4
"	EWTP	90.5	3.79	2.39	36.9	25	1.5
"	AWTP	plant off					
9/9/2015	QHWTP	92.9	3.71	2.12	42.9	25	1.7
"	EWTP	94.0	3.95	2.85	27.8	25	1.1
"	AWTP	plant off					
10/14/2015	QHWTP	74.6	4.53	2.06	54.5	35	1.6
"	EWTP	79.1	4.18	2.74	34.4	35	1.0
"	AWTP	plant off					
11/11/2015	QHWTP	65.7	1.82	0.87	52.2	25	2.1
11/18/2015	EWTP	77.9	2.78	1.36	51.1	25	2.0
"	AWTP	plant off					
12/9/2015	QHWTP	77.3	1.94	1.11	42.8	25	1.7
"	EWTP	73.7	2.09	1.13	45.9	25	1.8
"	AWTP	plant off					
	Minimum	65.7	0.5	0.4	27.8		
	Maximum	94.0	4.5	2.9	54.5		
	RAA	85.1	3.0	1.7	41.4		

Running Annual Average (RAA) **1.6**

Title 22 California Code of Regulations, Chapter 15.5, 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 64636.4(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. 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)