

# **ANTELOPE VALLEY – EAST KERN WATER AGENCY**

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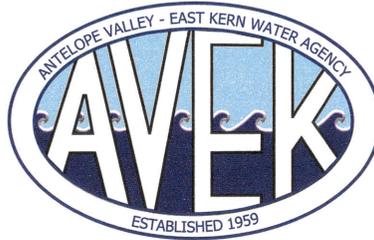
**2015 ANNUAL WATER QUALITY REPORT**

***KERN COUNTY SYSTEM***

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A PUBLIC AGENCY

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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.

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

# ***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 1<sup>st</sup> to December 31<sup>st</sup>, 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).

**Antelope Valley-East Kern Water Agency  
2015 Annual Water Quality Report - Kern County System**

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: **0.20 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: **0.50**

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          | Average     |
| Distribution      | Total Coliform Bacteria | 53 - 73 / mo       | 5% positive           | None                       | 0-1.4%         | 0%          |
| System            | E. coli                 | 53 - 73 / mo       | 1 pos. with 2 TC pos. | None                       | 0%             | 0%          |
| Raw Influent      | <i>Cryptosporidium</i>  | 0 - 2 / mo         | N/A*                  | N/A*                       | 0 oocysts/L    | 0 oocysts/L |

\**Cryptosporidium* monitoring is performed at our Rosamond 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**

| Parameter              | Units   | MCL   | DLR     | PHG   | RESULTS              |       |                        |       |                |     |             |       |
|------------------------|---------|-------|---------|-------|----------------------|-------|------------------------|-------|----------------|-----|-------------|-------|
|                        |         |       |         |       | Rosamond Plant       |       |                        |       | Water Bank     |     |             |       |
|                        |         |       |         |       | Plant Effluent (CWR) |       | Raw Influent (Sources) |       | Effluent (CWR) |     | Wells       |       |
| Range                  | Average | Range | Average | Range | Average              | Range | Average                |       |                |     |             |       |
| Aluminum               | mg/L    | 1     | 0.05    | 0.6   | 0.083-0.250          | 0.150 |                        |       | ND             |     | ND-0.020    | ND    |
| Antimony               | µg/L    | 6     | 6       | 20    |                      | ND    |                        |       | ND             |     | ND          | ND    |
| Arsenic                | µg/L    | 10    | 2       | 0.004 |                      | 4.1   |                        | 3.7   | 4.0-6.4        | 5.3 | 3.0-13      | 5.8   |
| Barium                 | mg/L    | 1     | 0.1     | 2     |                      | 0.044 |                        | 0.066 |                |     | 0.029-0.083 | 0.055 |
| Beryllium              | µg/L    | 4     | 1       | 1     |                      | ND    |                        | ND    |                |     | ND          | ND    |
| Cadmium                | µg/L    | 5     | 1       | 0.04  |                      | ND    |                        | ND    |                |     | ND          | ND    |
| Chromium (Total)       | µg/L    | 50    | 10      |       |                      | 3.1   |                        | 2.8   |                |     | 1.4-3.4     | 2.5   |
| Chromium (Hexavalent)  | µg/L    | 10    | 1       | 0.02  |                      | 3.0   |                        | 3.1   |                |     | 2-3.5       | 2.7   |
| Cyanide                | µg/L    | 150   | 100     | 150   |                      | ND    |                        | ND    |                |     | ND          | ND    |
| Fluoride               | mg/L    | 2     | 0.1     | 1     |                      | 0.20  |                        | 0.19  |                |     | 0.14-0.22   | 0.17  |
| Mercury                | µg/L    | 2     | 1       | 1.2   |                      | ND    |                        | ND    |                |     | ND          | ND    |
| Nickel                 | µg/L    | 100   | 10      | 12    |                      | ND    |                        | ND    |                |     | ND          | ND    |
| Nitrate (as NO3)       | mg/L    | 45    | 2       | 45    |                      | 12    | ND-16                  | 9.1   |                |     | 12-20       | 15    |
| Nitrite (as N)         | mg/L    | 1     | 0.4     | 1     |                      | ND    |                        |       |                |     | ND          | ND    |
| Nitrate+Nitrite (as N) | mg/L    | 10    |         | 10    |                      | 2.8   |                        |       |                |     | 2.6-4.4     | 3.4   |
| Perchlorate            | µg/L    | 6     | 4       | 1     |                      | ND    |                        | ND    |                |     | ND          | ND    |
| Selenium               | µg/L    | 50    | 5       | 30    |                      | ND    |                        | ND    |                |     | ND          | ND    |
| Thallium               | µg/L    | 2     | 1       | 0.1   |                      | ND    |                        | ND    |                |     | ND          | ND    |
| Asbestos               | MFL     | 7     | 0.2     | 7     |                      |       |                        |       |                |     | ND          | ND    |

**Antelope Valley-East Kern Water Agency  
2015 Annual Water Quality Report - Kern County System**

**GENERAL PHYSICAL AND SECONDARY STANDARDS**

| Parameter                       | Units | MCL         | DLR   | RESULTS                       |         |                        |         |                  |         |
|---------------------------------|-------|-------------|-------|-------------------------------|---------|------------------------|---------|------------------|---------|
|                                 |       |             |       | Rosamond Plant                |         | Raw Influent (Sources) |         | Water Bank Wells |         |
|                                 |       |             |       | Plant Effluent (CWR)<br>Range | Average | Range                  | Average | Range            | Average |
| Aluminum                        | µg/L  | 200         | 50    | 0.083-0.250                   | 0.150   |                        | ND      | ND-20            | 1.3     |
| Calcium                         | mg/L  | no standard |       |                               | 47      |                        | 60      | 43-110           | 72      |
| Chloride                        | mg/L  | 250         |       |                               | 29      |                        | 48      | 22-110           | 62      |
| Color                           | Units | 15          |       | <5                            | <5      |                        | <5      | <5               | <5      |
| Copper                          | µg/L  | 1000        | 50    |                               | ND      |                        | ND      | ND-4.5           | 2.1     |
| Foaming Agents (MBAS)           | mg/L  | 0.5         |       |                               | ND      |                        | ND      | ND-0.07          | 0.01    |
| Hardness (Total) as CaCO3       | mg/L  | no standard |       |                               | 140     |                        | 180     | 120-340          | 215     |
| Iron                            | µg/L  | 300         | 100   |                               | ND      |                        | ND      | ND               | ND      |
| Magnesium                       | mg/L  | no standard |       |                               | 6.2     |                        | 7.3     | 3.9-15           | 8.5     |
| Manganese                       | µg/L  | 50          | 20    |                               | ND      |                        | ND      | ND               | ND      |
| Odor @ 60 C                     | Units | 3           | 1     | <1                            | <1      |                        |         | <1               | <1      |
| pH                              | Units | no standard |       | 7.1-7.9                       | 7.45    | 7.4-8.1                | 7.7     | 7.1-8.2          | 7.73    |
| Silver                          | µg/L  | 100         | 10    |                               | ND      |                        | ND      | ND               | ND      |
| Sodium                          | mg/L  | no standard |       |                               | 40      |                        | 41      | 33-57            | 42      |
| Specific Conductance            | µmhos | 900         |       | 470-525                       | 498     | 432-550                | 491     | 376-920          | 579     |
| Sulfate                         | mg/L  | 250         | 0.5   |                               | 39      |                        | 44      | 30-83            | 52      |
| Thiobencarb (Bolero)            | µg/L  | 1           | 1     |                               | ND      |                        |         | ND               | ND      |
| Methyl tert-Butyl Ether (MTBE)  | µg/L  | 5           | 3     |                               | ND      |                        | ND      | ND               | ND      |
| Total Dissolved Solids          | mg/L  | 500         |       |                               | 280     |                        | 340     | 270-600          | 400     |
| Turbidity                       | Units | 5           |       | 0.02-0.20                     | 0.05    | 0.02-0.81              | 0.06    | 0.02-1.36        | 0.05    |
| Zinc                            | mg/L  | 5.0         | 0.050 |                               | 0.570   |                        | ND      | ND-0.020         | 1.3     |
| Total Alkalinity (as CaCO3)     | mg/L  | no standard |       |                               | 140     | 148-175                | 160     | 140-190          | 156     |
| Bicarbonate Alkalinity(as HCO3) | mg/L  | no standard |       |                               | 170     |                        | 180     | 170-230          | 191     |
| Carbonate (as CO3)              | mg/L  | no standard |       |                               | ND      |                        | ND      | ND               | ND      |
| Hydroxide (as OH)               | mg/L  | no standard |       |                               | ND      |                        | ND      | ND               | ND      |

**RADIOLOGICAL CONTAMINANTS**

| Parameter    | Units | MCL    | DLR   | PHG   | RESULTS                       |         |                  |         |
|--------------|-------|--------|-------|-------|-------------------------------|---------|------------------|---------|
|              |       |        |       |       | Rosamond Plant                |         | Water Bank Wells |         |
|              |       |        |       |       | Raw Influent Sources<br>Range | Average | Range            | 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                         |         |                  |         |
|-----------------------------------|-------|-----|-----|------|---------------------------------|---------|------------------|---------|
|                                   |       |     |     |      | Rosamond Plant                  |         | Water Bank Wells |         |
|                                   |       |     |     |      | Raw Influent (Sources)<br>Range | Average | Range            | Average |
| 1,1,1-Trichloroethane (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      |

**Antelope Valley-East Kern Water Agency  
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| Parameter                              | Units | MCL  | DLR | PHG  | Rosamond Plant<br>Raw Influent (Sources) |         | Water Bank<br>Wells |         |
|--|-------|------|-----|------|--|---------|---------------------|---------|
|  |       |      |     |      | Range                                    | Average | Range               | Average |
| 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      |
| 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      |
| Trichlorofluoromethane (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    | Raw Influent (Sources) |         | Water Bank Wells |         |
|-----------------------------|-------|------|----------|--------|------------------------|---------|------------------|---------|
|                             |       |      |          |        | Range                  | Average | 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      |

**Antelope Valley-East Kern Water Agency  
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| Parameter                 | Units | MCL | DLR (DL) | PHG  | Raw Influent (Sources) |         | Water Bank Wells |         |
|---------------------------|-------|-----|----------|------|------------------------|---------|------------------|---------|
|                           |       |     |          |      | Range                  | Average | Range            | 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        | 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 Treated Water | Chlorine (as total Cl <sub>2</sub> )      | mg/L  | 4.0**                 |     | 4     | 0.06-1.50 | 0.91    |
| Source Water               | Total Organic Carbon (TOC)                | mg/L  | Treatment Requirement | 0.3 |       | 0.3-0.7   | 0.5     |
| Distribution               | Total Organic Carbon (TOC)                | mg/L  | Treatment Requirement | 0.3 |       | ND-0.5    | 0.3     |
| Distribution Treated Water | Stage 2 D/DBP Rule Total Trihalomethanes  | µg/L  | 80**                  |     |       | 14-26     | 20 #    |
| Distribution Treated Water | Stage 2 D/DBP Rule Total Haloacetic Acids | µg/L  | 60**                  |     |       | ND - 3.5  | 2.2 #   |
| Distribution Treated Water | Bromate                                   | µg/L  | 10*                   | 5   |       | ND-36     | 5.0     |

\*\* 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

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 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 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 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.





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

System Name: Antelope Valley-East Kern Water Agency System No.: 1510053 Year: 2015 Quarter: 4th

| Sample Date (month/date): | 2014  |       |       |       | 1st Qtr. |      |      |                   | 2nd Qtr. |      |      |                   | 3rd Qtr. |      |     | 4th Qtr.          |       |       |      |                   |
|---------------------------|-------|-------|-------|-------|----------|------|------|-------------------|----------|------|------|-------------------|----------|------|-----|-------------------|-------|-------|------|-------------------|
|                           | 1st Q | 2nd Q | 3rd Q | 4th Q | 1/14     | 2/11 | 3/11 | Quarterly Average | 4/8      | 5/21 | 6/11 | Quarterly Average | 7/13     | 8/12 | 9/9 | Quarterly Average | 10/14 | 11/11 | 12/9 | Quarterly Average |
| Site 1 - Bromate          | 1.1   | 1.1   | 0.0   | 0.0   | OFF      | OFF  | OFF  | 0.0               | OFF      | 36   | 13   | 16.3              | 11       | ND   | ND  | 3.7               | ND    | ND    | ND   | 0.0               |

|                               |  |  |  |            |  |  |  |            |  |  |  |            |  |  |  |            |  |  |  |            |
|-------------------------------|--|--|--|------------|--|--|--|------------|--|--|--|------------|--|--|--|------------|--|--|--|------------|
| <b>Running Annual Average</b> |  |  |  | <b>0.6</b> |  |  |  | <b>0.3</b> |  |  |  | <b>4.1</b> |  |  |  | <b>5.0</b> |  |  |  | <b>5.0</b> |
|-------------------------------|--|--|--|------------|--|--|--|------------|--|--|--|------------|--|--|--|------------|--|--|--|------------|

|                  |  |  |  |  |  |  |  |   |  |  |  |   |  |  |  |   |  |  |  |   |
|------------------|--|--|--|--|--|--|--|---|--|--|--|---|--|--|--|---|--|--|--|---|
| Meets Standard?* |  |  |  |  |  |  |  | Yes <input checked="" type="checkbox"/> |
| (check box)      |  |  |  |  |  |  |  | No <input type="checkbox"/>             |

Identify the sample locations in the table below.

| Site | Sample Location               |
|------|-------------------------------|
| 1    | Rosamond Clear Well Reservoir |

Comments: Ozone shut off on 07/21/2015.

  
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.

**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: 2015 Quarter: 4th

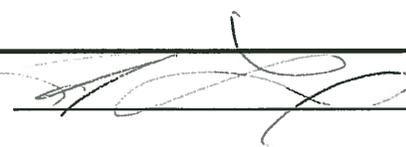
| 1st Quarter  |                         |                                    |    |
|--|-------------------------|------------------------------------|----|
| Month  | Number of Samples Taken | Monthly Ave. Chlorine Level (mg/L) |    |
| Previous Year  | April                   | 0.86                               |    |
|  | May                     | 0.85                               |    |
|  | June                    | 1.08                               |    |
|  | July                    | 0.99                               |    |
|  | August                  | 0.90                               |    |
|  | September               | 0.85                               |    |
|  | October                 | 0.81                               |    |
|  | November                | 0.87                               |    |
|  | December                | 0.79                               |    |
|  | Current Year            | January                            | 56 |
|  |                         | February                           | 53 |
|  |                         | March                              | 70 |
| Running Annual Average (RAA):  |                         | 0.89                               |    |
| Meets standard?<br>(i.e. RAA < MRDL of 4.0 mg/L as Cl <sub>2</sub> ) |                         | YES                                |    |

| 2nd Quarter  |                         |                                    |      |
|--|-------------------------|------------------------------------|------|
| Month  | Number of Samples Taken | Monthly Ave. Chlorine Level (mg/L) |      |
| Previous Year  | July                    | 0.99                               |      |
|  | August                  | 0.90                               |      |
|  | September               | 0.85                               |      |
|  | October                 | 0.81                               |      |
|  | November                | 0.87                               |      |
|  | December                | 0.79                               |      |
|  | Current Year            | January                            | 0.82 |
|  |                         | February                           | 0.90 |
|  |                         | March                              | 0.94 |
|  |                         | April                              | 55   |
|  |                         | May                                | 56   |
|  |                         | June                               | 73   |
| Running Annual Average (RAA):  |                         | 0.89                               |      |
| Meets standard?<br>(i.e. RAA < MRDL of 4.0 mg/L as Cl <sub>2</sub> ) |                         | YES                                |      |

| 3rd Quarter  |                         |                                    |
|--|-------------------------|------------------------------------|
| Month  | Number of Samples Taken | Monthly Ave. Chlorine Level (mg/L) |
| Previous Yr  | October                 | 0.81                               |
|  | November                | 0.87                               |
|  | December                | 0.79                               |
| Current Year   | January                 | 0.82                               |
|  | February                | 0.90                               |
|  | March                   | 0.94                               |
|  | April                   | 0.98                               |
|  | May                     | 0.90                               |
|  | June                    | 0.90                               |
|  | July                    | 56                                 |
|  | August                  | 56                                 |
|  | September               | 70                                 |
| Running Annual Average (RAA):  |                         | 0.90                               |
| Meets standard?<br>(i.e. RAA < MRDL of 4.0 mg/L as Cl <sub>2</sub> ) |                         | YES                                |

| 4th Quarter  |                         |                                    |
|--|-------------------------|------------------------------------|
| Month  | Number of Samples Taken | Monthly Ave. Chlorine Level (mg/L) |
| Current Year   | January                 | 0.82                               |
|  | February                | 0.90                               |
|  | March                   | 0.94                               |
|  | April                   | 0.98                               |
|  | May                     | 0.90                               |
|  | June                    | 0.90                               |
|  | July                    | 0.89                               |
|  | August                  | 1.04                               |
|  | September               | 0.95                               |
|  | October                 | 56                                 |
|  | November                | 56                                 |
|  | December                | 70                                 |
| Running Annual Average (RAA):  |                         | 0.91                               |
| Meets standard?<br>(i.e. RAA < MRDL of 4.0 mg/L as Cl <sub>2</sub> ) |                         | YES                                |

Comments:

Signature: 

Date: 1/7/16

**Antelope Valley-East Kern Water Agency  
Kern System No. 1510053  
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   | RWTP  | plant off            |              |                  |                        |                          |  |
| 2/11/2015   | RWTP  | plant off            |              |                  |                        |                          |  |
| 3/11/2015   | RWTP  | plant off            |              |                  |                        |                          |  |
| 4/8/2015    | RWTP  | plant off            |              |                  |                        |                          |  |
| 5/20/2015   | RWTP  | 175                  | 0.54         | 0.59             | 0.0                    | 25                       | 1.0                                      |
| 6/10/2015   | RWTP  | 168                  | 0.38         | 0.47             | 0.0                    | 25                       | 1.0                                      |
| 7/8/2015    | RWTP  | 148                  | 0.48         | 0.41             | 0.0                    | 25                       | 1.0                                      |
| 8/12/2015   | RWTP  | 157                  | ND           | 0.31             | 0.0                    | 25                       | 1.0                                      |
| 9/9/2015    | RWTP  | 160                  | ND           | 0.32             | 0.0                    | 25                       | 1.0                                      |
| 10/14/2015  | RWTP  | 160                  | 0.33         | 0.70             | 0.0                    | 25                       | 1.0                                      |
| 11/11/2015  | RWTP  | 160                  | 0.33         | 0.35             | 0.0                    | 25                       | 1.0                                      |
| 12/9/2015   | RWTP  | 156                  | 0.49         | 0.59             | 0.0                    | 25                       | 1.0                                      |

|         |       |     |     |     |
|---------|-------|-----|-----|-----|
| Minimum | 148.0 | ND  | ND  | 0.0 |
| Maximum | 175.0 | 0.5 | 0.7 | 0.0 |
| RAA     | 160.5 | 0.3 | 0.5 | 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)