

2015 Annual Water Quality Report

American Ranch Domestic Water Improvement District

Public Water System ID # 13-258

Report Date June 2016

CONSUMER CONFIDENCE REPORT

Report Covers Calendar Year: January 1 – December 31, 2015

Este informe contiene información muy importante sobre el agua usted bebe. Tradúscalo ó hable con alguien que lo entienda bien.

I. Public Water System (PWS) Information

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|--|---|-------|--------------|--------|-------------------------|
| PWS Name: | American Ranch Domestic Water Improvement District | | | | |
| PWS ID # | AZ04- 13-258 | | | | |
| Owner / Operator Name: | American Ranch Domestic Water Improvement District/Robert Hanus | | | | |
| Telephone # | 928-277-1543 | Fax # | 928-277-1106 | E-mail | rhanus@azwastewater.com |
| We want our valued customers to be informed about their water quality. If you would like to learn more about public participation or to attend any of our regularly scheduled meetings, please contact <u>Robert Hanus</u> at <u>928-277-1543</u> for additional opportunity and meetings dates and times. | | | | | |

II. Drinking Water Sources

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| The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pickup substances resulting from the presence of animals or from human activity. | |
| Our water source(s): | The system draws water from the aquifer beneath the American Ranch development. The ground water basins is the Verde River basin |

III. Consecutive Connection Sources

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| A public water system that receives some or all of its finished water from one or more wholesale systems by means of a direct connection or through the distribution system of one or more consecutive systems. Systems that purchase water from another system report regulated contaminants detected from the source water supply in a separate table. PWS ID # <u>AZ04 - N/A</u> provides a consecutive connection source of water. |
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IV. Drinking Water Contaminants

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| <p><u>Microbial contaminants</u>, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.</p> <p><u>Inorganic contaminants</u>, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.</p> <p><u>Pesticides and herbicides</u> that may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.</p> <p><u>Organic chemical contaminants</u>, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.</p> <p><u>Radioactive contaminants</u>, that can be naturally occurring or be the result of oil and gas production and mining activities.</p> |
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V. Vulnerable Population

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| Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. 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 of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by <i>Cryptosporidium</i> and microbiological contaminants call the EPA <i>Safe Drinking Water Hotline</i> at 1-800-426-4791. |
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VI. Source Water Assessment

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| If the public water system received a Source Water Assessment (SWA), include a brief summary of the susceptibility as summarized in the SWA report. Further source water assessment documentation can be obtained by contacting ADEQ, 602-771-4641. |
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VII. Definitions

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| <p><u>AL = Action Level</u> - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements.</p> <p><u>MCL = Maximum Contaminant Level</u> - The "Maximum Allowed" is the highest level of a contaminant that is allowed in drinking water.</p> <p><u>MCLG = Maximum Contaminant Level Goal</u> - The "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health.</p> <p><u>MFL = Million fibers per liter.</u></p> <p><u>MRDL = Maximum Residual Disinfectant Level.</u></p> <p><u>MRDLG = Maximum Residual Disinfectant Level Goal.</u></p> <p><u>MREM = Millirems per year</u> – a measure of radiation absorbed by the body.</p> <p><u>NA = Not Applicable</u>, sampling was not completed by regulation or was not required.</p> <p><u>NTU = Nephelometric Turbidity Units</u>, a measure of water clarity.</p> <p><u>PCi/L = Picocuries per liter</u> - picocuries per liter is a measure of the radioactivity in water.</p> <p><u>PPM = Parts per million</u> or Milligrams per liter (mg/L).</p> <p><u>PPB = Parts per billion</u> or Micrograms per liter (µg/L).</p> <p><u>PPT = Parts per trillion</u> or Nanograms per liter.</p> <p><u>PPQ = Parts per quadrillion</u> or Picograms per liter.</p> <p><u>TT = Treatment Technique</u> - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.</p> |
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VIII. Health Effects Language

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| Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods-of-time because of rainfall or agricultural activity. If you are caring for an infant, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider. |
| If arsenic is less than or equal to the MCL, your drinking water meets EPA's standards. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. |
| Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the EPA <i>Safe Drinking Water Hotline</i> at 1-800-426-4791. |

IX. Water Quality Data

| Microbiological | Violati on Y or N | Number of Samples Present OR Highest Level Detected | Absent (A) or Present (P) OR Range of All Samples (L-H) | MCL | MCLG | Sample Month & Year | Likely Source of Contamination |
|---|-------------------|---|---|------------|-------------|---------------------|--|
| Total Coliform Bacteria (System takes ≥ 40 monthly samples) 5% of monthly samples are positive; (System takes ≤ 40 monthly samples) 1 positive monthly sample | N | 0 | A | 0 | 0 | Monthly | Naturally Present in Environment |
| Fecal coliform and E. Coli (TC Rule) | N | 0 | A | 0 | 0 | Monthly | Human and animal fecal waste |
| Fecal Indicators (E. coli, enterococci or coliphage) (GW Rule) | | | | TT | n/a | | Human and animal fecal waste |
| Total Organic Carbon (ppm) | | | | TT | n/a | | Naturally present in the environment |
| Turbidity (NTU), surface water only | | | | TT | n/a | | Soil Runoff |
| Disinfectants | Violati on Y or N | Running Annual Average (RAA) | Range of All Samples (L-H) | MCL | MCLG | Sample Month & Year | Likely Source of Contamination |
| Chloramines (ppm) | | | | MRDL = 4 | MRDLG = 4 | | Water additive used to control microbes |
| Chlorine (ppm) | N | 0.34 | 0.18 to 0.55 | MRDL = 4 | MRDLG = 4 | Monthly | Water additive used to control microbes |
| Chloride dioxide (ppb) | | | | MRDL = 800 | MRDLG = 800 | | Water additive used to control microbes |
| Disinfection By-Products | Violati on Y or N | Running Annual Average (RAA) OR Highest Level Detected | Range of All Samples (L-H) | MCL | MCLG | Sample Month & Year | Likely Source of Contamination |
| Haloacetic Acids (ppb) (HAA5) | N | 2 Highest Detected level | | 60 | n/a | 8/24/15 | Byproduct of drinking water disinfection |
| Total Trihalomethanes (ppb) (TTHM) | N | 6.1 Highest Detected Level | | 80 | n/a | 8/24/15 | Byproduct of drinking water disinfection |
| Bromate (ppb) | | | | 10 | 0 | | Byproduct of drinking water disinfection |
| Chlorite (ppm) | | | | 1 | 0.8 | | Byproduct of drinking water disinfection |
| Lead & Copper | Violati on Y or N | 90 th Percentile AND Number of Samples Over the AL | Range of All Samples (L-H) | AL | ALG | Sample Month & Year | Likely Source of Contamination |
| Copper (ppm) | N | 90 th Percentile = | 0.14 to 0.89 mg/l | AL = 1.3 | ALG = 1.3 | 9/13/11 | Corrosion of household plumbing systems; erosion of natural deposits |
| Lead (ppb) | N | 90 th Percentile = | 2.0 to 14 ug/l | AL = 15 | 0 | 9/13/11 | Corrosion of household plumbing systems; erosion of natural deposits |
| Radionuclides | Violati on Y or N | Running Annual Average (RAA) OR Highest Level Detected | Range of All Samples (L-H) | MCL | MCLG | Sample Month & Year | Likely Source of Contamination |
| Beta / photon emitters (mrem/yr) | | | | 4 | 0 | | Decay of natural and man-made deposits |
| Alpha emitters (pCi/L) | | | | 15 | 0 | | Erosion of natural deposits |
| Combined Radium 226 & 228 (pCi/L) | | | | 5 | 0 | | Erosion of natural deposits |
| Uranium (pCi/L) | | | | 30 | 0 | | Erosion of natural deposits |

| Inorganic Chemicals (IOC) | Violati on Y or N | Running Annual Average (RAA) OR Highest Level Detected | Range of All Samples (L-H) | MCL | MCLG | Sample Month & Year | Likely Source of Contamination |
|---------------------------|-------------------|--|----------------------------|--------|---------|---------------------|---|
| Antimony (ppb) | N | 3 ug/l | | 6 | 6 | 9/21/14 | Discharge from petroleum refineries; fire retardants; ceramics, electronics and solder |
| Arsenic (ppb) | N | 4.9 ug/l | | 10 | 0 | 9/21/14 | Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes |
| Asbestos (MFL) | N | <0.2 mfl | | 7 | 7 | 9/21/14 | Decay of asbestos cement water mains; Erosion of natural deposits |
| Barium (ppm) | N | 0.013 mg/l | | 2 | 2 | 9/21/14 | Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits |
| Beryllium (ppb) | N | 2 ug/l | | 4 | 4 | 9/21/14 | Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries |
| Cadmium (ppb) | N | 0.0025 mg/l | | 0.005 | 0.005 | 9/21/14 | Corrosion of galvanized pipes; natural deposits; metal refineries; runoff from waste batteries and paints |
| Chromium (ppb) | N | 0.05 mg/l | | 0.1 | 0.1 | 9/21/14 | Discharge from steel and pulp mills; Erosion of natural deposits |
| Cyanide (ppb) | N | 10 ug/l | | 200 | 200 | 9/21/14 | Discharge from steel/metal factories; Discharge from plastic and fertilizer factories |
| Fluoride (ppm) | N | 0.5 mg/l | | 4 | 4 | 9/21/14 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Mercury (ppb) | N | < 0.2 ug/l | | 2 | 2 | 9/21/14 | Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills and cropland. |
| Nitrate (ppm) | N | 1.6 mg/l | | 10 | 10 | 4/29/15 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Nitrite (ppm) | N | 0.25mg/l | | 1 | 1 | 9/21/14 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Selenium (ppb) | N | 2.5 ug/l | | 50 | 50 | 9/21/14 | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines |
| Sodium (ppm) | N | 26 mg/l | | No MCL | No MCGL | 9/21/14 | Erosion of natural deposits; Runoff from landfills and cropland. |
| Thallium (ppb) | N | 0.1 ug/l | | 2 | 0.5 | 9/21/14 | Leaching from ore-processing sites; discharge from electronics, glass, and drug factories |

| Synthetic Organic Chemicals (SOC) | Violati on Y or N | Running Annual Average (RAA) OR Highest Level Detected | Range of All Samples (L-H) | MCL | MCLG | Sample Month & Year | Likely Source of Contamination |
|-----------------------------------|-------------------|--|----------------------------|-----|------|---------------------|---|
| 2,4-D (ppb) | | | | 70 | 70 | | Runoff from herbicide used on row crops |
| 2,4,5-TP (Silvex) (ppb) | | | | 50 | 50 | | Residue of banned herbicide |
| Acrylamide | | | | TT | 0 | | Added to water during sewage / wastewater treatment |
| Alachlor (ppb) | | | | 2 | 0 | | Runoff from herbicide used on row crops |
| Atrazine (ppb) | | | | 3 | 3 | | Runoff from herbicide used on row crops |
| Benzo (a) pyrene (PAH) (ppt) | | | | 200 | 0 | | Leaching from linings of water storage tanks and distribution lines |
| Carbofuran (ppb) | | | | 40 | 40 | | Leaching of soil fumigant used on rice and alfalfa |
| Chlordane (ppb) | | | | 2 | 0 | | Residue of banned termiticide |
| Dalapon (ppb) | | | | 200 | 200 | | Runoff from herbicide used on rights of way |
| Di (2-ethylhexyl) adipate (ppb) | | | | 400 | 400 | | Discharge from chemical factories |
| Di (2-ethylhexyl) phthalate (ppb) | | | | 6 | 0 | | Discharge from rubber and chemical factories |
| Dibromochloropropane (ppt) | | | | 200 | 0 | | Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards |
| Dinoseb (ppb) | | | | 7 | 7 | | Runoff from herbicide used on soybeans and vegetables |
| Diquat (ppb) | | | | 20 | 20 | | Runoff from herbicide use |
| Dioxin [2,3,7,8-TCDD] (ppq) | | | | 30 | 0 | | Emissions from waste incineration and other combustion; discharge from chemical factories |
| Endothall (ppb) | | | | 100 | 100 | | Runoff from herbicide use |
| Endrin (ppb) | | | | 2 | 2 | | Residue of banned insecticide |
| Epichlorohydrin | | | | TT | 0 | | Discharge from industrial chemical factories; an impurity of some water treatment chemicals |
| Ethylene dibromide (ppt) | | | | 50 | 0 | | Discharge from petroleum refineries |
| Glyphosate (ppb) | | | | 700 | 700 | | Runoff from herbicide use |
| Heptachlor (ppt) | | | | 400 | 0 | | Residue of banned termiticide |
| Heptachlor epoxide (ppt) | | | | 200 | 0 | | Breakdown of heptachlor |
| Hexachlorobenzene (ppb) | | | | 1 | 0 | | Discharge from metal refineries and |

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|---|--------------------------|---|-----------------------------------|------------|-------------|--------------------------------|---|
| | | | | | | | agricultural chemical factories |
| Hexachlorocyclo pentadiene (ppb) | | | | 50 | 50 | | Discharge from chemical factories |
| Lindane (ppt) | | | | 200 | 200 | | Runoff/leaching from insecticide used on cattle, lumber, gardens |
| Methoxychlor (ppb) | | | | 40 | 40 | | Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock |
| Oxamyl [Vydate] (ppb) | | | | 200 | 200 | | Runoff/leaching from insecticide used on apples, potatoes and tomatoes |
| PCBs [Polychlorinated biphenyls] (ppt) | | | | 500 | 0 | | Runoff from landfills; discharge of waste chemicals |
| Pentachlorophenol (ppb) | | | | 1 | 0 | | Discharge from wood preserving factories |
| Picloram (ppb) | | | | 500 | 500 | | Herbicide runoff |
| Simazine (ppb) | | | | 4 | 4 | | Herbicide runoff |
| Toxaphene (ppb) | | | | 3 | 0 | | Runoff/leaching from insecticide used on cotton and cattle |
| Volatile Organic Chemicals (VOC) | Violati on Y or N | Running Annual Average (RAA) OR Highest Level Detected | Range of All Samples (L-H) | MCL | MCLG | Sample Month & Year | Likely Source of Contamination |
| Benzene (ppb) | N | < 0.5 ug/l | | 5 | 0 | 09/24/10 | Discharge from factories; leaching from gas storage tanks and landfills |
| Carbon tetrachloride (ppb) | N | < 0.5 ug/l | | 5 | 0 | 09/24/10 | Discharge from chemical plants and other industrial activities |
| Chlorobenzene (ppb) | N | < 0.5 ug/l | | 100 | 100 | 09/24/10 | Discharge from chemical and agricultural chemical factories |
| o-Dichlorobenzene (ppb) | N | < 0.5 ug/l | | 600 | 600 | 09/24/10 | Discharge from industrial chemical factories |
| p-Dichlorobenzene (ppb) | N | < 0.5 ug/l | | 75 | 75 | 09/24/10 | Discharge from industrial chemical factories |
| 1,2-Dichloroethane (ppb) | N | < 0.5 ug/l | | 5 | 0 | 09/24/10 | Discharge from industrial chemical factories |
| 1,1-Dichloroethylene (ppb) | N | < 0.5 ug/l | | 7 | 7 | 09/24/10 | Discharge from industrial chemical factories |
| cis-1,2-Dichloroethylene (ppb) | N | < 0.5 ug/l | | 70 | 70 | 09/24/10 | Discharge from industrial chemical factories |
| trans-1,2-Dichloroethylene (ppb) | N | < 0.5 ug/l | | 100 | 100 | 09/24/10 | Discharge from industrial chemical factories |
| Dichloromethane (ppb) | N | < 0.5 ug/l | | 5 | 0 | 09/24/10 | Discharge from pharmaceutical and chemical factories |

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|------------------------------|---|------------|--|-----|-----|----------|--|
| 1,2-Dichloropropane (ppb) | N | < 0.5 ug/l | | 5 | 0 | 09/24/10 | Discharge from industrial chemical factories |
| Ethylbenzene (ppb) | N | < 0.5 ug/l | | 700 | 700 | 09/24/10 | Discharge from petroleum refineries |
| Styrene (ppb) | N | < 0.5 ug/l | | 100 | 100 | 09/24/10 | Discharge from rubber and plastic factories; leaching from landfills |
| Tetrachloroethylene (ppb) | N | < 0.5 ug/l | | 5 | 0 | 09/24/10 | Discharge from factories and dry cleaners |
| 1,2,4-Trichlorobenzene (ppb) | N | < 0.5 ug/l | | 70 | 70 | 09/24/10 | Discharge from textile-finishing factories |
| 1,1,1-Trichloroethane (ppb) | N | < 0.5 ug/l | | 200 | 200 | 09/24/10 | Discharge from metal degreasing sites and other factories |
| 1,1,2-Trichloroethane (ppb) | N | < 0.5 ug/l | | 5 | 3 | 09/24/10 | Discharge from industrial chemical factories |
| Trichloroethylene (ppb) | N | < 0.5 ug/l | | 5 | 0 | 09/24/10 | Discharge from metal degreasing sites and other factories |
| Toluene (ppm) | N | < 0.5 ug/l | | 1 | 1 | 09/24/10 | Discharge from petroleum factories |
| Vinyl Chloride (ppb) | N | < 0.5 ug/l | | 2 | 0 | 09/24/10 | Leaching from PVC piping; discharge from chemical factories |
| Xylenes (ppm) | N | < 0.5 ug/l | | 10 | 10 | 09/24/10 | Discharge from petroleum or chemical factories |

X. *Cryptosporidium* Monitoring (surface water systems only)

We detected *Cryptosporidium* in the finished water or source water. We detected *Cryptosporidium* in ____ of our ____ samples tested.

We have to provide additional treatment if *Cryptosporidium* is found at greater than 0.075 oocyst per liter.

We believe it is important for you to know that *Cryptosporidium* may cause serious illness in 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. These people should seek advice from their health care providers.

XI. Stage 2 Disinfectants and Disinfection By-Products Rule

Stage 2 DBP Rule required some systems to complete an Initial Distribution System Evaluation (IDSE) to characterize DBP levels in their distribution systems and identify locations to monitor DBPs for Stage 2 DBP Rule compliance. The following table summarizes the individual sample results for the IDSE standard monitoring performed in <year>

| Contaminant | Number of Analyses | Minimum Level Detected | Highest Level Detected |
|------------------------------------|--------------------|------------------------|------------------------|
| Haloacetic Acids (HAA5) (ppb) | 1 | 2 | 2 |
| Total Trihalomethanes (TTHM) (ppb) | 1 | 6.8 | 6.8 |

XII. Violations

| Type / Description | Compliance Period | Corrective Actions taken by PWS |
|--------------------|----------------------|---------------------------------|
| None | 1/1 through 12/31/15 | |

An explanation of the violation(s) in the above table, the steps taken to resolve the violation(s) and any required health effects information are required to be included with this report. (Attach copy of Public Notice if available.)