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 informactión muy importante sobre el aqua usted bebe. Tradúscalo ó hable con alguien que lo entienda bien.

I. Public Water System (PWS) Information

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 Robert Hanus at 928-277-1543 for additional opportunity and meetings dates and times.

II. Drinking Water Sources

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

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 # AZ04 - N/A provides a consecutive connection source of water.

IV. Drinking Water Contaminants

Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
Inorganic contaminants, 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.
Pesticides and herbicides that may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
Organic chemical contaminants, 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.
Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

V. Vulnerable Population

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 *Cryptosporidium* and microbiological contaminants call the EPA *Safe Drinking Water Hotline* at 1-800-426-4791.

VI. Source Water Assessment

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.

VII. Definitions

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

ppm x 1000 = ppb
ppb x 1000 = ppt
ppt x 1000 = ppq

TT = Treatment Technique - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

VIII. Health Effects Language

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 *Safe Drinking Water Hotline* at 1-800-426-4791.

IX. Water Quality Data

Microbiological	**Violation 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	**Violation 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	**Violation 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	**Violation 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	**Violation 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)	Violation 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)	Violation 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 temiticide
Heptachlor epoxide (ppt)				200	0		Breakdown of heptachlor
Hexachlorobenzene (ppb)				1	0		Discharge from metal refineries and

							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)	**Violation 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

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.)