2019 CONSUMER CONFIDENCE REPORT

Report Covers Calendar Year: January 1, 2019 - December 31, 2019

REPORTE ANUAL SOBRE LA CALIDAD DEL AGUA DEL 2019*

El reporte abarca del día 1 de Enero al 31 de Diciembre del 2019

Public Water System (PWS) Information

PWS Name:	Kino Ranch # 2	**PWS ID #**	AZ04-12015	**Owner/Operator Name:**	City of Nogales
Utilities Director:	Alejandro Barcenas			**Contact Person and Title:**	Ruben Artana, Admin. Service Coordinator
Telephone #	(520) 287-6571	**Fax #**	(520) 287-8352	**E-mail**	rartana@nogalesaz.gov

Please note: The report must contain a brief explanation regarding contaminants, which may reasonably be expected to be found in drinking water. This explanation may include the language of paragraph 40 CFR 141 . 153 (h)(1)(i) and 40CFR 141.153 (h)(1)(iii)shown below, or the system may use their own comparable language:

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 pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Our water source(s):	**Ground Water / Upper Santa Cruz Water shed**

* Este reporte contiene información muy importante sobre la calidad del agua.

Es muy importante que busque a una persona que pueda ayudarle a traducirlo al español o se puede comunicar al (520) 285-5754 para obtener ayuda sobre este reporte en español.

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 storm water 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 storm water 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 storm water runoff, and septic systems.

Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

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* at1-800-426-4791.

Source Water Assessment

Based on the information currently available on the hydrogeologic settings of and the adjacent land uses that are in the specified proximity of the drinking water source(s) of this public water system, the department has given a low risk designation for the degree to which this public water system drinking water source(s) are protected. A low risk designation indicates that most source water protection measures are either already implemented, or the hydrogeology is such that the source water protection measures will have little impact on protection.

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.
ND = Not Detectable, results are below the laboratory sample detection limit.
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.

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 ADEQ (Arizona Department of Environmental Quality) and EPA's standards. ADEQ and EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. ADEQ and 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.

Lead Information Statement:

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. **Kino Ranch # 2** is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at ***www.epa.gov/safewater/lead.***

Water Quality Data

Microbiological (RTCR)	Violation Y or N	Number of Positive Samples	Positive Sample(s) Month & Year	MCL	MCLG	Samples per Month or Year	Likely Source of Contamination
Total Coliform	N	0	0	0	0	2/month 24/year	Human and animal fecal waste
Fecal Indicator (coliphage, enterococci and/or E. coli)	N	0	0	0	0	2/month 24/year	Human and animal fecal waste
Disinfectants	**Violation Y or N**	**Running Annual Average (RAA)**	**Range of All Samples (L-H)**	**MRDL**	**MRDLG**	**Samples per Month or Year**	**Likely Source of Contamination**

Chlorine (ppm)	N	0.37ppm	.31 – .42ppm	MRDL = 4	MRDLG = 0	2/month 24/year	Water additive used to control microbes
Disinfection By-Products	**Violation Y or N**	**Running Annual Average (RAA)**	**Range of All Samples (L-H)**	**MCL**	**MCLG**	**Sample Month or Year**	**Likely Source of Contamination**
Haloacetic Acids (HAA5) (ppb)	N	< .20	< .20	60	N/A	2019	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	N	.55 ppb	.55 ppb	80	N/A	2019	Byproduct of drinking water disinfection
Lead & Copper	**Violation Y or N**	**90th Percentile AND Number of Samples Over the AL**	**Range of All Samples (L-H)**	**AL**	**ALG**	**Year Sample Dates**	**Likely Source of Contamination**
Copper (ppm)	N	<.5 ppm 0 samples	<.5 – .44	AL = 1.3	ALG = 1.3	2018	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	N	<.5 ppb 0 samples	<5 – <5	AL = 15	0	2018	Corrosion of household plumbing systems; erosion of natural deposits
Radionuclides	**Violation Y or N**	**Running Annual Average (RAA)**	**Range of All Samples (L-H)**	**MCL**	**MCLG**	**Year Sample Dates**	**Likely Source of Contamination**
Alpha Emitters (pCi/L) (This is Gross Alpha 4000)	N	(14.5 pCi/L)	(14.5 pCi/L)	15	0	2018	Erosion of natural deposits
Combined Radium 226 & 228 (pCi/L)	N	<0.6	<0.6	5	0	2018	Erosion of natural deposits
Inorganic Chemicals (IOC)	**Violation Y or N**	**Running Annual Average (RAA)**	**Range of All Samples (L-H)**	**MCL**	**MCLG**	**Year Sample Dates**	**Likely Source of Contamination**
Antimony (ppb)	N	< .1	< .1 - < .1	6	6	2015	Discharge from petroleum refineries; fire retardants; ceramics, electronics and solder
Arsenic (ppb)	N	8.8ppb	2.9 – 8.8	10	0	2018	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Asbestos (MFL)	N	<0.20	<0.20- <0.20	7	7	2012	Decay of asbestos cement water mains; erosion of natural deposits.

Barium (ppm)	N	.2	.2	2	2	2015	Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits
Beryllium (ppb)	N	.1	.1	4	4	2015	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium (ppb)	N	< .5	< .5 - < .5	.5	.5	2015	Corrosion of galvanized pipes; natural deposits; metal refineries; runoff from waste batteries and paints
Chromium (ppm)	N	.1	.1	100	100	2015	Discharge from steel and pulp mills; Erosion of natural deposits
Cyanide (mg/L)	N	.25	.25	200	200	2015	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride (ppm)	N	.38	.38 - .38	4	4	2015	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (ppb)	N	.02	.02	2	2	2015	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills and cropland.
Nitrate (ppm)	N	<.10	<.10	10	10	2019	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (ppm)	N	< .5	< .5 - < .5	1	1	2012	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (ppb)	N	.5	.5	50	50	2015	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Sodium (ppm)	N	63	63	N/A	N/A	2018	Erosion of natural deposits
Thallium (ppb)	N	.01	.01	2	0.5	2015	Leaching from ore-processing sites; discharge from electronics, glass, and drug
Synthetic Organic Chemicals (SOC)	**Violation Y or N**	**Running Annual Average (RAA)**	**Range of All Samples (L-H)**	**MCL**	**MCLG**	**Year Sample Dates**	**Likely Source of Contamination**
2,4-D (ppb)	N	< .01	< .01 - < .01	70	70	2018	Runoff from herbicide used on row crops
Alachlor (ppb)	N	< .01	< .01 - < .01	2	0	2018	Runoff from herbicide used on row crops
Atrazine (ppb)	N	< .05	< .05 - < .05	3	3	2018	Runoff from herbicide used on row crops
Benzo (a) pyrene (PAH) (ppt)	N	< .02	<.02 - <.02	200	0	2018	Leaching from linings of water storage tanks and distribution lines
Carbofuran (ppb)	N	< .5	< .5 - < .5	40	40	2018	Leaching of soil fumigant used on rice and alfalfa
Chlordane (ppb)	N	<.1	<.1 - <.1	2	0	2018	Residue of banned termiticide
Dalapon (ppb)	N	< .1	< .1 - < .1	200	200	2018	Runoff from herbicide used on rights of way
Dibromochloropropane (ppt)	N	< .01	<.01 - <.01	200	0	2018	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb (ppb)	N	< .2	< .2 - < .2	7	7	2018	Runoff from herbicide used on soybeans and vegetables
Diquat (ppb)	N	< .4	< .4 - < .4	20	20	2018	Runoff from herbicide use
Dioxin [2,3,7,8-TCDD] (ppq)	N	< 5 x 10(-9)	<5x10(-9)-<5x10(-9)	30	0	2018	Emissions from waste incineration and other combustion; discharge from chemical factories
Endothall (mg/L)	N	< .5	< .5 - < .5	100	100	2018	Runoff from herbicide use
Endrin (ppb)	N	< .01	< .01-< .01	2	2	2018	Residue of banned insecticide
Ethylene dibromide (ppt)	N	< .01	<.01 - <.01	50	0	2018	Discharge from petroleum refineries
Glyphosate (ppb)	N	< .6	< .6 - < .6	700	700	2018	Runoff from herbicide use

Heptachlor (ppt)	N	< .01	< .01-< .01	400	0	2018	Residue of banned temiticide
Hexachlorobenzene (ppb)	N	< .05	< .05 - < .05	1	0	2018	Discharge from metal refineries and agricultural chemical factories
Lindane (ppt)	N	< .01	< .01 -< .01	200	200	2018	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor (ppb)	N	< .05	< .05 - < .05	40	40	2018	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate] (ppb)	N	< .5	< .5 - .5	200	200	2018	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
Pentachlorophenol (ppb)	N	< .04	<.04 - <.04	1	0	2018	Discharge from wood preserving factories
Picloram (ppb)	N	< .1	< .1 - < .1	500	500	2018	Herbicide runoff
Simazine (ppb)	N	< .05	<.05 - <.05	4	4	2018	Herbicide runoff
Toxaphene (mg/L)	N	< .5	<.5 - <.5	3	0	2018	Runoff/leaching from insecticide used on cotton and cattle
Volatile Organic Chemicals (VOC)	**Violation Y or N**	**Running Annual Average (RAA)**	**Range of All Samples (L-H)**	**MCL**	**MCLG**	**Year Sample Dates**	**Likely Source of Contamination**
Benzene (ppb)	N	< .5	< .5 - < .5	5	0	2018	Discharge from factories; leaching from gas storage tanks and landfills
Chlorobenzene (ppb)	N	< .5	< .5 - < .5	100	100	2018	Discharge from chemical and agricultural chemical factories
Dichloromethane (ppb)	N	< .5	< .5 - < .5	5	0	2018	Discharge from pharmaceutical and chemical factories
Ethylbenzene (ppb)	N	< .5	< .5 - < .5	700	700	2018	Discharge from petroleum refineries
Styrene (ppb)	N	< .5	< .5 - < .5	100	100	2018	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (ppb)	N	< .5	< .5 - < .5	5	0	2018	Discharge from factories and dry cleaners
Trichloroethylene (ppb)	N	< .5	< .5 - .5	5	0	2018	Discharge from metal degreasing sites and other factories
Toluene (ppb)	N	< .5	< .5 - < .5	1	1	2018	Discharge from petroleum factories

Vinyl Chloride (ppm)	N	< .3	< .3 - < .3	2	0	2018	Leaching from PVC piping; discharge from chemical factories
Xylenes (ppm)	N	< .5	< .5 - < .5	10	10	2018	Discharge from petroleum or chemical factories

Violation Summary (for MCL, MRDL, AL, TT, or Monitoring & Reporting Requirement)

Violation Type	Explanation	Time Period	Corrective Action
Missed Monitoring	Total Coliform and disinfectant residual monitoring not taken in July 2019	July 2019	Collect Sample In August 2019