Not Applicable (NA) – Sampling was not completed by regulation or was not required.

Parts per billion (ppb) or Micrograms per liter (µg/L) – One part per billion corresponds to one minute in 2,000 years or a single penny in $10,000,000. ppb x 1,000 = ppt.

Parts per million (ppm) or Milligrams per liter (mg/L) – One part per million corresponds to one minute in two years or a single penny in $10,000. ppm x 1,000 = ppb.

Parts per quadrillion (ppq) – Also known as Picograms per liter.

Parts per trillion (ppt) or Nanograms per liter- ppt x 1,000 = ppq.

Picocuries per liter (PCi/L) – A measure of the radioactivity in water.

Running Annual Average (RAA) – An average of monitoring results for the previous 12 calendar months.

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

ADDITIONAL INFORMATION

Arsenic

While your drinking water meets EPA standards, it contains low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing it from drinking water. EPA continues to research the health effects of low levels of arsenic (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). In 2015, there were no violations with regard to arsenic.

Lead

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 two minutes before using tap water. Additional information is available from the EPA Safe Drinking Water Hotline at (800) 426-4791.

Nitrates

Nitrates in drinking water at levels above 10 ppm are a health risk for infants younger than six months of age and elderly people on oxygen continually. 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 seek advice from your healthcare provider. In 2015, there were no violations with regard to nitrates.

MONITORING ASSISTANCE PROGRAM (MAP)

The Arizona Department of Environmental Quality has extended this program to ensure water suppliers serving fewer than 10,000 customers complete all monitoring requirements under the rules of government agencies responsible for safe drinking water. Under this agreement, the state employs an independent firm to take the required water samples and send them to a laboratory for analysis. The results are sent to the water provider and the Arizona Department of Environmental Quality. In this way, you—our customer—the state and we are guaranteed that tests are done in a timely manner.

HOW DO I KNOW IF MY WATER IS SAFE?

Under the ADEQ MAP, Marana Water, in collaboration with MAP, routinely monitors for more than 80 contaminants as required by federal and state regulations. Testing is required for synthetic organic chemicals (SOCs), inorganic chemicals (IOCs), volatile organic chemicals (VOCs), radiochemicals, lead and copper and disinfection byproducts. Bacteriological tests are required monthly.

WHAT HAPPENS IF THE WATER TESTED INDICATES CONTAMINATION?

If a constituent is found to be out of compliance with the Safe Drinking Water Standards, we are required by federal and state law to notify our customers. Notifications can be made by letter, the media or through this report. If a serious situation occurs that may affect the health, safety and well-being of our residents, we will do whatever is necessary to advise our customers and find an alternate source of safe drinking water.

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

REPORT PERIOD

All systems were tested monthly, quarterly or annually for contaminants, depending on the guidelines for each established by the EPA.

SYSTEM VIOLATIONS

In 2015, the Marana Water Department had no violations to report for Airline/Lambert (PWSID#10138).

CHLORINATION

Marana Water treats its water with calcium hypochlorite (chlorine). Chlorine is the most commonly used disinfectant for water and saves lives by controlling waterborne diseases.

WATER HARDNESS

Arizona water passes through soils that are rich in calcium and magnesium. These harmless, tasteless minerals become completely dissolved, creating what is known as hard water. Water hardness poses no health risk to consumers; however, it can create challenges around the house, such as a reduction in the cleansing ability of laundry soap and deposits left behind on bath fixtures, dishes and glassware.

A table of water hardness for the Town of Marana's water service area is available on our website at maranawater.com/water-quality.

WHOM DO I CONTACT FOR ADDITIONAL INFORMATION ABOUT MY WATER QUALITY?

Questions or comments regarding this report should be directed to Paul Martinez, Superintendent, at **(520) 382-2570.** You may also reach him via e-mail at **pmartinez@maranaaz.gov.**

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water

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2015 ANNUAL WATER QUALITY REPORT

Airline/Lambert PWSID# 10138

TOWN OF MARANA WATER SYSTEM

Airline/Lambert PWSID# 10138

For more information about Marana Water, visit us at www.maranawater.com

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

MARANA WATER SYSTEM MEETS SAFE DRINKING STANDARDS

This year's Annual Water Quality Report covers the monitoring period between January 1, 2015 and December 31, 2015. This report is a snapshot of the year's water quality and the services Marana Water provides. Our goal is, and always has been, to provide you with a safe and dependable supply of drinking water. We are committed to ensuring the quality of your water. The water we provide meets and/or exceeds the Safe Drinking Water Standards established by the U.S. Environmental Protection Agency (EPA) and the State of Arizona's Department of Environmental Quality (ADEQ).

WHERE DOES OUR WATER COME FROM?

The sources of drinking water (tap and bottled) 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. Water can also pick up substances resulting from the presence of animals or from human activity.

Our water source is groundwater from the Lower Santa Cruz portion of the Tucson Basin Aquifer. Our portion of the aquifer was created primarily by runoff from the surrounding mountain ranges of Southern Arizona along with storm water percolating through the ground along the Lower Santa Cruz and its tributaries. Marana, and other water agencies, also store Central Arizona Project water in this aquifer.

Marana Water System (Airline/Lambert) consists of four potable wells pumping water at depths ranging from 154 to 246 feet below ground from our aquifer. The water from those wells is stored in reservoirs where it is chlorinated and pumped through pipelines to reach your home or business.

WHAT TYPE OF CONTAMINANTS MIGHT BE PRESENT IN MY WATER?

Contaminants that *may* be present in source water include:

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

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.

DETECTED CONTAMINANTS / AIRLINE & LAMBERT PWS # 10138 / Avra Valley Rd/Airline Rd/Lambert Ln/Saguaro Bloom/ Silverbell Rd & Linda Vista

DISINFECTION BYPRODUCTS

DEQ ID	Contaminant	MCL	MCLG	Units	Average	Range	Highest Detect	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
10138	Haloacetic Acids (HAA)	60	N/A	ppb	N/D	N/D	N/D	No	08/15	By-product of drinking water disinfection
10138	Total Trihalomethanes (TTHM)	80	N/A	ppb	4.3	4.3	4.3	No	08/15	By-product of drinking water disinfection

INORGANIC CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect/RAA	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10138	Arsenic	10	0	ppb	4.8 - 5.6	5.6	No	07/15	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
10138	Barium	2	2	ppm	0.038 - 0.041	0.041	No	07/15	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
10138	Chromium	100	100	ppb	0-1.2	1.2	No	07/15	Discharge from steel and pulp mills; erosion of natural deposits
10138	Fluoride	4	4	ppm	0.52 - 0.57	0.57	No	07/15	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
10138	Nitrate (as Nitrogen)	10	10	ppm	3.00 – 4.30	4.30	No	07/15	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

RADIONUCLIDES

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10138	Gross Alpha	15	0	pCi/l	7.7 - 8.5 +/- 0.6	No	06/15,07/15	Erosion of natural deposits
10138	Combined Radium	5	0	pCi/l	0.4 - 0.6 +/- 0.2	No	06/15,07/15	Erosion of natural deposits

VOLATILE ORGANIC CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10138	Ethylbenzene	700	700	ppb	0 – 22	2.7	No	07/15,11/15	Discharge from petroleum refineries
10138	Xylenes	10	10	ppm	0.0019	0.0019	No	07/15, 11/15	Discharge from petroleum factories; discharge from chemical factories

UNREGULATED CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10138	Sodium	N/A	N/A	ppm	97.00-100.00	100.00	No	07/15	Erosion of natural deposits

DISINFECTANTS

DEQ ID	Contaminant	MRDL	MRDLG	Units	Range	Level Average	Violation (Yes/No)	Year Tested	Likely Source of Contamination
10138	Chlorine Residual	4	4	ppm	0.56 - 1.64	0.91	No	2015	Disinfection additive used to control microbes

LEAD AND COPPER

DEQ ID	ContaminantAL	ALG	Units	90th Percentile	Number of Sites over AL	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
10138	Copper	1.3	ppm	0.246	1	No	08/15	Corrosion of household plumbing systems; erosion of natural deposits.
10138	Lead	15	ppb	2.3	0	No	08/15	Corrosion of household plumbing systems; erosion of natural deposits

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as people 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 care providers. Call the Safe Drinking Water Hotline at (800) 426-4791 to learn more about EPA and Center for Disease Control (CDC) guidelines on appropriate means to reduce the risk of infection by cryptosporidium and other microbiological contaminants, as well as other potential health effects.

SOURCE WATER ASSESSMENT PROGRAM (SWAP)

In 2003, ADEQ completed a Source Water Assessment for Marana Water's drinking water wells. This assessment reviewed the adjacent land uses that may pose a risk to the water sources. The results of the assessment do not mean that contamination has or will occur, but we can use this information to evaluate the need to improve our water treatment capabilities and prepare for contamination threats. The assessment identified risks that include, but are not limited to, gas stations, landfills, agricultural fields, and wastewater treatment facilities. Airline/Lambert has not been designated as high risk. A designation of high risk indicates there may be additional source water protection measures that can be implemented on the local level.

Residents can help protect water sources by practicing good septic system maintenance, limiting pesticide and fertilizer use, and taking hazardous household chemicals to appropriate collection sites. Source Water Assessments on file with ADEQ are available for public review. If a Source Water Assessment is available, you may obtain a copy of it by contacting ADEQ at (602) 771-4641.

TERMS & ABBREVIATIONS

To help you better understand the terms and abbreviations used in this report please use the following definitions:

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level (MCL) – The "maximum allowed" is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. MCLs are set at stringent levels.

Maximum Contaminant Level Goal (MCLG) – The "goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

MFL – Million fibers per liter.

Millirems per year (MREM) – A measure of radiation absorbed by the body.

Nephelometric Turbidity Units (NTU) – A measure of water clarity.

Non Detect (ND) – The contaminant is below the detection level.

ADDITIONAL INFORMATION

Arsenic

While your drinking water meets EPA standards, it contains low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing it from drinking water. EPA continues to research the health effects of low levels of arsenic (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). In 2015, there were no violations with regard to arsenic.

Lead

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 two minutes before using tap water. Additional information is available from the EPA Safe Drinking Water Hotline at (800) 426-4791.

Nitrates

Nitrates in drinking water at levels above 10 ppm are a health risk for infants younger than six months of age and elderly people on oxygen continually. 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 seek advice from your healthcare provider. In 2015, there were no violations with regard to nitrates.

MONITORING ASSISTANCE PROGRAM (MAP)

The Arizona Department of Environmental Quality has extended this program to ensure water suppliers serving fewer than 10,000 customers complete all monitoring requirements under the rules of government agencies responsible for safe drinking water. Under this agreement, the state employs an independent firm to take the required water samples and send them to a laboratory for analysis. The results are sent to the water provider and the Arizona Department of Environmental Quality. In this way, you—our customer—the state and we are guaranteed that tests are done in a timely manner.

HOW DO I KNOW IF MY WATER IS SAFE?

Under the ADEQ Monitoring Assistance Program (MAP), Marana Water, in collaboration with MAP, routinely monitors for more than 80 contaminants as required by federal and state regulations. Testing is required for synthetic organic chemicals (SOCs), inorganic chemicals (IOCs), volatile organic chemicals (VOCs), radiochemicals, lead and copper and disinfection byproducts. Bacteriological tests are required monthly.

WHAT HAPPENS IF THE WATER TESTED INDICATES CONTAMINATION?

If a constituent is found to be out of compliance with the Safe Drinking Water Standards, we are required by federal and state law to notify our customers. Notifications can be made by letter, the media or through this report. If a serious situation occurs that may affect the health, safety and well-being of our residents, we will do whatever is necessary to advise our customers and find an alternate source of safe drinking water.

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

REPORT PERIOD

All systems were tested monthly, quarterly or annually for contaminants, depending on the guidelines for each established by the EPA.

SYSTEM VIOLATIONS

In 2015, Marana Water had no violations to report for the Airport (PWSID#10406).

CHLORINATION

Marana Water treats its water with calcium hypochlorite (chlorine). Chlorine is the most commonly used disinfectant for water and saves lives by controlling waterborne diseases.

WATER HARDNESS

Arizona water passes through soils that are rich in calcium and magnesium. These harmless, tasteless minerals become completely dissolved, creating what is known as hard water. Water hardness poses no health risk to consumers; however, it can create challenges around the house, such as a reduction in the cleansing ability of laundry soap and deposits left behind on bath fixtures, dishes and glassware.

A table of water hardness for the Town of Marana's water service area is available on our website at maranawater.com/water-quality.

WHOM DO I CONTACT FOR ADDITIONAL INFORMATION ABOUT MY WATER QUALITY?

Questions or comments regarding this report should be directed to Paul Martinez, Superintendent, at **(520) 382-2570.** You may also reach him via e-mail at **pmartinez@maranaaz.gov.**

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water

2015 ANNUAL WATER QUALITY REPORT

Airport PWSID# 10406

TOWN OF MARANA MUNICIPAL WATER SYSTEM

Airport PWSID# 10406

For more information about Marana Water,
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Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

MARANA WATER SYSTEM MEETS SAFE DRINKING STANDARDS

This year's Annual Water Quality Report covers the monitoring period between January 1, 2015 and December 31, 2015. This report is a snapshot of the year's water quality and the services the Marana Water provides. Our goal is and always has been to provide you with a safe and dependable supply of drinking water. We are committed to ensuring the quality of your water. The water we provide meets and/or exceeds the Safe Drinking Water Standards established by the U.S. Environmental Protection Agency (EPA) and the State of Arizona's Department of Environmental Quality (ADEQ).

WHERE DOES OUR WATER COME FROM?

The sources of drinking water (tap and bottled) 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. Water can also pick up substances resulting from the presence of animals or from human activity.

Our water source is groundwater from the Lower Santa Cruz portion of the Tucson Basin Aquifer. Our portion of the aquifer was created primarily by runoff from the surrounding mountain ranges of Southern Arizona along with storm water percolating through the ground along the Lower Santa Cruz and its tributaries. Marana, and other water agencies, also store Central Arizona Project water in this aquifer.

Marana Water System (Airport) is a non-transient non-community water system. The water system contains two potable wells pumping water at depths ranging from 209 to 229 feet below ground from our aquifer. The water from those wells is stored in reservoirs where it is chlorinated and pumped through pipelines to reach your home or business.

WHAT TYPE OF CONTAMINANTS MIGHT BE PRESENT IN MY WATER?

Contaminants that *may* be present in source water include:

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

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.

DETECTED CONTAMINANTS / AIRPORT PWS# 10406 / Marana Regional Airport

DISINFECTION BYPRODUCTS

DEQ ID	Contaminant	MCL	MCLG	Units	Average	Range	Highest RAA	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
10406	Haloacetic Acids (HAA)	60	N/A	ppb	135	9.5-17.5	13.5	No	09/15, 12/15	By-product of drinking water disinfection
10406	Total Trihalomethanes (TTHM)	80	N/A	ppb	55.6	29.8-81.2	68.5	No	09/15, 12/15	By-product of drinking water disinfection

INORGANIC CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect/RAA	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10406	Arsenic	10	0	ppb	2.2 – 3.4	3.4	No	02/14	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
10406	Barium	2	2	ppm	0.045 - 0.050	0.05	No	04/14	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
10406	Nitrate (as Nitrogen)	10	10	ppm	0.35-0.48	0.48	No	07/15	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

SECONDARY CONTAMINANTS

DEQ ID	Contaminant	Secondary Standard	MCLG	Units	Level Detected/Range	Highest Detect	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10406	Sulfate	250	N/A	ppm	214-246	246.00	No	10/15	Erosion of natural deposits

DISINFECTANTS

DEQ ID	Contaminant	MRDL	MRDLG	Units	Range	Level Average	Violation (Yes/No)	Year Tested	Likely Source of Contamination
10406	Chlorine Residual	4	4	ppm	0.26-1.27	0.64	No	2015	Disinfection additive used to control microbes

LEAD AND COPPER

DEQ ID	Contaminant	AL	ALG	Units	90th Percentile	Number of Sites over AL	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
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10406	Lead	15	0	ppb	0.7	0	No	07/14	Corrosion of household plumbing systems; erosion of natural deposits

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SOURCE WATER ASSESSMENT PROGRAM (SWAP)

In 2003, ADEQ completed a Source Water Assessment for the Marana Water's drinking water wells. This assessment reviewed the adjacent land uses that may pose a risk to the water sources. The results of the assessment do not mean that contamination has or will occur, but we can use this information to evaluate the need to improve our water treatment capabilities and prepare for contamination threats. The assessment identified risks that include, but are not limited to, gas stations, landfills, agricultural fields, and wastewater treatment facilities. The Airport has not been designated as high risk. A designation of high risk indicates there may be additional source water protection measures that can be implemented on the local level.

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Under the ADEQ Monitoring Assistance Program (MAP), Marana Water, in collaboration with MAP, routinely monitors for more than 80 contaminants as required by federal and state regulations. Testing is required for synthetic organic chemicals (SOCs), inorganic chemicals (IOCs), volatile organic chemicals (VOCs), radiochemicals, lead and copper and disinfection byproducts. Bacteriological tests are required monthly.

WHAT HAPPENS IF THE WATER TESTED INDICATES CONTAMINATION?

If a constituent is found to be out of compliance with the Safe Drinking Water Standards, we are required by federal and state law to notify our customers. Notifications can be made by letter, the media or through this report. If a serious situation occurs that may affect the health, safety and well-being of our residents, we will do whatever is necessary to advise our customers and find an alternate source of safe drinking water.

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

REPORT PERIOD

All systems were tested monthly, quarterly or annually for contaminants, depending on the guidelines for each established by the EPA.

SYSTEM VIOLATIONS

In 2015, the Town of Marana Utilities Department had no violations to report for Hartman Vistas (PWSID#10329).

CHLORINATION

Marana Water treats its water with calcium hypochlorite (chlorine). Chlorine is the most commonly used disinfectant for water and saves lives by controlling waterborne diseases.

WATER HARDNESS

Arizona water passes through soils that are rich in calcium and magnesium. These harmless, tasteless minerals become completely dissolved, creating what is known as hard water. Water hardness poses no health risk to consumers; however, it can create challenges around the house, such as a reduction in the cleansing ability of laundry soap and deposits left behind on bath fixtures, dishes and glassware.

A table of water hardness for the Town of Marana's water service area is available on our website at www.maranawater.com/water-quality.

WHOM DO I CONTACT FOR ADDITIONAL INFORMATION ABOUT MY WATER QUALITY?

Questions or comments regarding this report should be directed to Paul Martinez, Superintendent, at **(520) 382-2570.** You may also reach him via e-mail at **pmartinez@maranaaz.gov.**

MARANA WATER
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2015 ANNUAL WATER QUALITY REPORT

Hartman Vistas PWSID# 10329

TOWN OF MARANA WATER SYSTEM

Hartman Vistas PWSID# 10329

For more information about the Marana Water, visit us at www.maranawater.com

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

MARANA WATER SYSTEM MEETS SAFE DRINKING STANDARDS

This year's Annual Water Quality Report covers the monitoring period between January 1, 2015 and December 31, 2015. This report is a snapshot of the year's water quality and the services Marana Water provides. Our goal is and always has been to provide you with a safe and dependable supply of drinking water. We are committed to ensuring the quality of your water. The water we provide meets and/or exceeds the Safe Drinking Water Standards established by the U.S. Environmental Protection Agency (EPA) and the State of Arizona's Department of Environmental Quality (ADEQ).

WHERE DOES OUR WATER COME FROM?

The sources of drinking water (tap and bottled) 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. Water can also pick up substances resulting from the presence of animals or from human activity.

Our water source is groundwater from the Lower Santa Cruz portion of the Tucson Basin Aquifer. Our portion of the aquifer was created primarily by runoff from the surrounding mountain ranges of Southern Arizona along with storm water percolating through the ground along the Lower Santa Cruz and its tributaries. Marana, and other water agencies, also store Central Arizona Project water in this aquifer.

Marana Water System (Hartman Vistas) consists of three potable wells pumping water at depths ranging from 145 to 161 feet below ground from our aquifer. The water from those wells is stored in reservoirs where it is chlorinated and pumped through pipelines to reach your home or business.

WHAT TYPE OF CONTAMINANTS MIGHT BE PRESENT IN MY WATER?

Contaminants that *may* be present in source water include:

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

DETECTED CONTAMINANTS / HARTMAN VISTAS PWSID# 10329 / Hartman Vistas/Hartman 10/Oasis Hills/Oshrin Park/Cortaro Ranch/ Willow Ridge/Twin Peaks Rd & I-10

DISINFECTION BYPRODUCTS

DEQ ID	Contaminant	MCL	MCLG	Units	Average	Range	Highest RAA	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
10329	Haloacetic Acids (HAA)	60	N/A	ppb	<0.0020	<0.0020	<0.002	No	09/15	By-product of drinking water disinfection
10329	Total Trihalomethanes (TTHM)	80	N/A	ppb	10.10	10.10	10.10	No	09/15	By-product of drinking water disinfection

INORGANIC CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect/RAA	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10329	Arsenic	10	0	ppb	ND - 2.00	2.0	No	07/15	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
10329	Barium	2	2	ppm	0.084 - 0.11	0.11	No	07/15	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
10329	Fluoride	4	4	ppm	0.19 - 0.52	0.52	No	07/15	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
10329	Nitrate (as Nitrogen)	10	10	ppm	1.10 – 2.10	2.10	No	07/15	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

UNREGULATED CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10329	Sodium	N/A	N/A	ppm	24.00 - 30.00	30.00	No	05/12, 07/15	Erosion of natural deposits

DISINFECTANTS

DEQ ID	Contaminant	MRDL	MRDLG	Units	Range	Level Average	Violation (Yes/No)	Year Tested	Likely Source of Contamination
10329	Chlorine Residual	4	4	ppm	0.66-1.40	0.96	No	2015	Disinfection additive used to control microbes

LEAD AND COPPER

DEQ ID	Contaminant	AL	ALG	Units	90th Percentile	Number of Sites over AL	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
10329	Copper	1.3	1.3	ppm	0.036	0	No	07/15	Corrosion of household plumbing systems; erosion of natural deposits
10329	Lead	15	0	ppb	<0.010	0	No	07/15	Corrosion of household plumbing systems; erosion of natural deposits

RADIONUCLIDES

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10329	Gross Alpha	15	0	pCi/L	1.2 - 2.4 +/- 0.3	No	07/15	Corrosion of household plumbing systems; errosion of natural deposits
10329	Combined Radium	5	0	pCi/L	0.7 +/- 0.2	No	07/15	Corrosion of household plumbing systems; errosion of natural deposits

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 people 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 care providers. Call the Safe Drinking Water Hotline at (800) 426-4791 to learn more about EPA and Center for Disease Control (CDC) guidelines on appropriate means to reduce the risk of infection by cryptosporidium and other microbiological contaminants, as well as other potential health effects.

SOURCE WATER ASSESSMENT PROGRAM (SWAP)

In 2003, ADEQ completed a Source Water Assessment for Marana Water's drinking water wells. This assessment reviewed the adjacent land uses that may pose a risk to the water sources. The results of the assessment do not mean that contamination has or will occur, but we can use this information to evaluate the need to improve our water treatment capabilities and prepare for contamination threats. The assessment identified risks that include, but are not limited to, gas stations, landfills, agricultural fields, and wastewater treatment facilities. Hartman Vistas has not been designated as high risk. A designation of high risk indicates there may be additional source water protection measures that can be implemented on the local level.

Residents can help protect water sources by practicing good septic system maintenance, limiting pesticide and fertilizer use, and taking hazardous household chemicals to appropriate collection sites. Source Water Assessments on file with ADEQ are available for public review. If a Source Water Assessment is available, you may obtain a copy of it by contacting ADEQ at (602) 771-4641.

TERMS & ABBREVIATIONS

To help you better understand the terms and abbreviations used in this report please use the following definitions:

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level (MCL) – The "maximum allowed" is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. MCLs are set at stringent levels.

Maximum Contaminant Level Goal (MCLG) – The "goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

MFL – Million fibers per liter.

Millirems per year (MREM) – A measure of radiation absorbed by the body.

Nephelometric Turbidity Units (NTU) – A measure of water clarity.

Non Detect (ND) – The contaminant is below the detection level.

Not Applicable (NA) – Sampling was not completed by regulation or was not required.

Parts per million (ppm) or Milligrams per liter (mg/L) – One part per million corresponds to one minute in two years or a single penny in $10,000. ppm x 1,000 = ppb.
Parts per quadrillion (ppq) – Also known as Picograms per liter.
Parts per trillion (ppt) or Nanograms per liter – ppt x 1,000 = ppq.
Picocuries per liter (PCi/L) – A measure of the radioactivity in water.
Running Annual Average (RAA) – An average of monitoring results for the previous 12 calendar months.
Treatment Technique (TT) – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

ADDITIONAL INFORMATION

Arsenic
While your drinking water meets EPA standards, it contains low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing it from drinking water. EPA continues to research the health effects of low levels of arsenic (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). In 2015, there were no violations with regard to arsenic.

Lead
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 two minutes before using tap water. Additional information is available from the EPA Safe Drinking Water Hotline at (800) 426-4791.

Nitrates
Nitrates in drinking water at levels above 10 ppm are a health risk for infants younger than six months of age and elderly people on oxygen continually. 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 seek advice from your healthcare provider. In 2015, there were no violations with regard to nitrates.

MONITORING ASSISTANCE PROGRAM (MAP)

The Arizona Department of Environmental Quality has extended this program to ensure water suppliers serving fewer than 10,000 customers complete all monitoring requirements under the rules of government agencies responsible for safe drinking water. Under this agreement, the state employs an independent firm to take the required water samples and send them to a laboratory for analysis. The results are sent to the water provider and the Arizona Department of Environmental Quality. In this way, you—our customer—the state and we are guaranteed that tests are done in a timely manner.

HOW DO I KNOW IF MY WATER IS SAFE?

Under the ADEQ Monitoring Assistance Program (MAP), Marana Water, in collaboration with MAP, routinely monitors for more than 80 contaminants as required by federal and state regulations. Testing is required for synthetic organic chemicals (SOCs), inorganic chemicals (IOCs), volatile organic chemicals (VOCs), radiochemicals, lead and copper and disinfection byproducts. Bacteriological tests are required monthly.

WHAT HAPPENS IF THE WATER TESTED INDICATES CONTAMINATION?

If a constituent is found to be out of compliance with the Safe Drinking Water Standards, we are required by federal and state law to notify our customers. Notifications can be made by letter, the media or through this report. If a serious situation occurs that may affect the health, safety and well-being of our residents, we will do whatever is necessary to advise our customers and find an alternate source of safe drinking water.
In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

REPORT PERIOD

All systems were tested monthly, quarterly or annually for contaminants, depending on the guidelines for each established by the EPA.

SYSTEM VIOLATIONS

In 2015, the Marana Water received one violation for failure to submit chlorine residual monitor data for North Marana system (PWSID# 10150). This data was immediately submitted. The North Marana system also had a violation for not submitting enough total coliform samples. The violation was due to miscalculation in population reported to ADEQ. The correction has been made and all required samples are being monitored and reported.

CHLORINATION

Marana Water treats its water with calcium hypochlorite (chlorine). Chlorine is the most commonly used disinfectant for water and saves lives by controlling waterborne diseases.

WATER HARDNESS

Arizona water passes through soils that are rich in calcium and magnesium. These harmless, tasteless minerals become completely dissolved, creating what is known as hard water. Water hardness poses no health risk to consumers; however, it can create challenges around the house, such as a reduction in the cleansing ability of laundry soap and deposits left behind on bath fixtures, dishes and glassware.
A table of water hardness for the Town of Marana's water service area is available on our website at maranawater.com/water-quality.

WHOM DO I CONTACT FOR ADDITIONAL INFORMATION ABOUT MY WATER QUALITY?

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water

2015 ANNUAL WATER QUALITY REPORT

North Marana PWSIDs# 10150

TOWN OF MARANA WATER SYSTEM

North Marana PWSID#: 10150

For more information about Marana Water, visit us at www.maranawater.com

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

MARANA WATER SYSTEM MEETS SAFE DRINKING STANDARDS

This year's Annual Water Quality Report covers the monitoring period between January 1, 2015 and December 31, 2015. This report is a snapshot of the year's water quality and the services the Town provides. Our goal is and always has been to provide you with a safe and dependable supply of drinking water. We are committed to ensuring the quality of your water. The water we provide meets and/or exceeds the Safe Drinking Water Standards established by the U.S. Environmental Protection Agency (EPA) and the State of Arizona's Department of Environmental Quality (ADEQ).

WHERE DOES OUR WATER COME FROM?

The sources of drinking water (tap and bottled) 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. Water can also pick up substances resulting from the presence of animals or from human activity.

Our water source is groundwater from the Lower Santa Cruz portion of the Tucson Basin Aquifer. Our portion of the aquifer was created primarily by runoff from the surrounding mountain ranges of Southern Arizona along with storm water percolating through the ground along the Lower Santa Cruz and its tributaries. Marana, and other water agencies, also store Central Arizona Project water in this aquifer.

Marana Water System (North Marana) consists of five potable wells pumping water at depths ranging from 200 to 235 feet below ground from our aquifer. The water from those wells is stored in reservoirs where it is chlorinated and pumped through pipelines to reach your home or business.

WHAT TYPE OF CONTAMINANTS MIGHT BE PRESENT IN MY WATER?

Contaminants that *may* be present in source water include:

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

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 people 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 care providers. Call the Safe Drinking Water Hotline at (800) 426-4791 to learn more about EPA and Center for Disease Control (CDC) guidelines on appropriate means to reduce the risk of infection by cryptosporidium and other microbiological contaminants, as well as other potential health effects.

DETECTED CONTAMINANTS / NORTH MARANA PWS # 10150 / Gladden Farms/Rancho Marana/Marana Vistas/Honea Heights/Fianchetto Farms/Amole Circle/San Lucas/Yoem Pueblo/Warfield Circle

DISINFECTION BYPRODUCTS

DEQ ID	Contaminant	MCL	MCLG	Units	Average	Range	Highest RAA	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10150	Haloacetic Acids (HAA)	60	N/A	ppb	N/D	N/D	N/D	No	08/15	By-product of drinking water disinfection
10150	Total Trihalomethanes (TTHM)	80	N/A	ppb	5.9	5.9	5.9	No	08/15	By-product of drinking water disinfection

INORGANIC CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect/RAA	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10150	Arsenic	10	0	ppb	N/D - 3.30	3.30	No	04/14	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
10150	Barium	2	2	ppm	0.05 - 0.08	0.08	No	04/14	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
10150	Chromium	100	100	ppb	ND - 1.3	1.3	No	04/14	Discharge from steel and pulp mills; erosion of natural deposits
10150	Fluoride	4	4	ppm	0.28 - 0.69	0.69	No	04/14	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
10150	Nitrate (as Nitrogen)	10	10	ppm	0.81-5.2	5.20	No	07/15	Runoff from fertilizer use; leaching from septic of natural deposits tanks, sewage; erosion of natural deposits

UNREGULATED CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10150	Sodium	N/A	N/A	ppm	39.00 - 69.00	0.08	No	04/14	Erosion of natural deposits

SYNTHETIC ORGANIC CONTAMINANTS, INCLUDING PESTICIDES AND HERBICIDES

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10150	Di (2-ethyhexyl) phthalate	6	0	ppb	1.90	No	04/14	Discharge from rubber and chemical factories

DISINFECTANTS

DEQ ID	Contaminant	MRDL	MRDLG	Units	Range	Level Average	Violation (Yes/No)	Year Tested	Likely Source of Contamination
10150	Chlorine Residual	4	4	ppm	0.67-1.28	1.00	No	2015	Disinfection additive used to control microbe

LEAD AND COPPER

DEQ ID	Contaminant	AL	ALG	Units	90th Percentile	Number of Sites over AL	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
10150	Copper	1.3	1.3	ppm	0.07	0	No	07/14	Corrosion of household plumbing systems; erosion of natural deposits.
10150	Lead	15	0	ppb	1.40	0	No	07/14	Corrosion of household plumbing systems; erosion of natural deposits.

RADIONUCLIDES

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10150	Gross Alpha	15	0	pCi/L	2.5-7.2	No	07/14	Erosion of natural deposits
10150	Combined Radium	5	0	pCi/L	0.3-0.7	No	07/14	Erosion of natural deposits

SOURCE WATER ASSESSMENT PROGRAM (SWAP)

In 2003, ADEQ completed a Source Water Assessment for the Town of Marana's drinking water wells. This assessment reviewed the adjacent land uses that may pose a risk to the water sources. The results of the assessment do not mean that contamination has or will occur, but we can use this information to evaluate the need to improve our water treatment capabilities and prepare for contamination threats. The assessment identified risks that include, but are not limited to, gas stations, landfills, agricultural fields, and wastewater treatment facilities. The Marana (North Marana) system, has been designated as high risk. A designation of high risk indicates there may be additional source water protection measures that can be implemented on the local level. Residents can help protect water sources by practicing good septic system maintenance, limiting pesticide and fertilizer use, and taking hazardous household chemicals to appropriate collection sites. Source Water Assessments on file with ADEQ are available for public review. If a Source Water Assessment is available, you may obtain a copy of it by contacting ADEQ at (602) 771-4641.

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To help you better understand the terms and abbreviations used in this report please use the following definitions:

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Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MFL – Million fibers per liter.
Millirems per year (MREM) – A measure of radiation absorbed by the body.
Nephelometric Turbidity Units (NTU) – A measure of water clarity.
Non Detect (ND) – The contaminant is below the detection level.
Not Applicable (NA) – Sampling was not completed by regulation or was not required.
Parts per billion (ppb) or Micrograms per liter (µg/L) – One part per billion corresponds to one minute in 2,000 years or a single penny in $10,000,000. ppb x 1,000 = ppt.

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Parts per million (ppm) or Milligrams per liter (mg/L) – One part per million corresponds to one minute in two years or a single penny in $10,000. ppm x 1,000 = ppb.

Parts per quadrillion (ppq) – Also known as Picograms per liter.

Parts per trillion (ppt) or Nanograms per liter – ppt x 1,000 = ppq.

Picocuries per liter (PCi/L) – A measure of the radioactivity in water.

Running Annual Average (RAA) – An average of monitoring results for the previous 12 calendar months.

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

ADDITIONAL INFORMATION

Arsenic
While your drinking water meets EPA standards, it contains low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing it from drinking water. EPA continues to research the health effects of low levels of arsenic (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). In 2015, there were no violations with regard to arsenic.

Lead
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 two minutes before using tap water. Additional information is available from the EPA Safe Drinking Water Hotline at (800) 426-4791.

Nitrates
Nitrates in drinking water at levels above 10 ppm are a health risk for infants younger than six months of age and elderly people on oxygen continually. 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 seek advice from your healthcare provider. In 2015, there were no violations with regard to nitrates.

MONITORING ASSISTANCE PROGRAM (MAP)

The Arizona Department of Environmental Quality has extended this program to ensure water suppliers serving fewer than 10,000 customers complete all monitoring requirements under the rules of government agencies responsible for safe drinking water. Under this agreement, the state employs an independent firm to take the required water samples and send them to a laboratory for analysis. The results are sent to the water provider and the Arizona Department of Environmental Quality. In this way, you—our customer—the state and we are guaranteed that tests are done in a timely manner.

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

REPORT PERIOD

All systems were tested monthly, quarterly or annually for contaminants, depending on the guidelines for each established by the EPA.

SYSTEM VIOLATIONS

In 2015, Marana Water had no violations to report for Palo Verde (PWSID# 10136).

CHLORINATION

Marana Water treats its water with calcium hypochlorite (chlorine). Chlorine is the most commonly used disinfectant for water and saves lives by controlling waterborne diseases.

WATER HARDNESS

Arizona water passes through soils that are rich in calcium and magnesium. These harmless, tasteless minerals become completely dissolved, creating what is known as hard water. Water hardness poses no health risk to consumers; however, it can create challenges around the house, such as a reduction in the cleansing ability of laundry soap and deposits left behind on bath fixtures, dishes and glassware.

A table of water hardness for the Town of Marana's water service area is available on our website at maranawater.com/water-quality.

WHOM DO I CONTACT FOR ADDITIONAL INFORMATION ABOUT MY WATER QUALITY?

Questions or comments regarding this report should be directed to Paul Martinez, Superintendent, at **(520) 382-2570.** You may also reach him via e-mail at **pmartinez@maranaaz.gov.**

MARANA WATER
5100 West Ina Road
Marana, AZ 85743-9746
maranawater.com

water

MAILING ADDRESS
XXXX Saguaro Bloom Drive
Marana, AZ 85743-9746

2015 ANNUAL WATER QUALITY REPORT

Palo Verde PWSID# 10136

TOWN OF MARANA MUNICIPAL WATER SYSTEM

Palo Verde PWSID# 10136

For more information about Marana Water,
visit us at www.maranawater.com

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

MARANA WATER SYSTEM MEETS SAFE DRINKING STANDARDS

This year's Annual Water Quality Report covers the monitoring period between January 1, 2015 and December 31, 2015. This report is a snapshot of the year's water quality and the services Marana Water provides. Our goal is and always has been to provide you with a safe and dependable supply of drinking water. We are committed to ensuring the quality of your water. The water we provide meets and/or exceeds the Safe Drinking Water Standards established by the U.S. Environmental Protection Agency (EPA) and the State of Arizona's Department of Environmental Quality (ADEQ).

WHERE DOES OUR WATER COME FROM?

The sources of drinking water (tap and bottled) 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. Water can also pick up substances resulting from the presence of animals or from human activity.

Our water source is groundwater from the Lower Santa Cruz portion of the Tucson Basin Aquifer. Our portion of the aquifer was created primarily by runoff from the surrounding mountain ranges of Southern Arizona along with storm water percolating through the ground along the Lower Santa Cruz and its tributaries. Marana, and other water agencies, also store Central Arizona Project water in this aquifer.

Marana Water System (Palo Verde) consists of one potable well pumping water at depths ranging from 222 to 228 feet below ground from our aquifer. The water from this well is stored in a reservoir where it is chlorinated and pumped through pipelines to reach your home or business.

WHAT TYPE OF CONTAMINANTS MIGHT BE PRESENT IN MY WATER?

Contaminants that *may* be present in source water include:

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

DETECTED CONTAMINANTS / PALO VERDE PWS #10136 / Twin Peaks Rd & Clayton

INORGANIC CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect/RAA	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10136	Arsenic	10	0	ppb	5.20	5.20	No	05/12	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
10136	Barium	2	2	ppm	0.12	0.12	No	05/12	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
10136	Chromium	100	100	ppb	2.20	2.20	No	05/12	Discharge from steel and pulp mills; erosion of natural deposits
10136	Fluoride	4	4	ppm	0.26	0.26	No	04/12	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
10136	Nitrate (as Nitrogen)	10	10	ppm	4.30	4.30	No	07/15	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

RADIONUCLIDES

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10136	Gross Alpha	15	0	pCi/L	18.8±0.9	No	07/15	Erosion of natural deposits
10136	Uranium	30	0	ppb	20.7±3.7	No	07/15	Erosion of natural deposits

UNREGULATED CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10136	Sodium	N/A	N/A	ppm	100.00	100.00	No	05/12	Erosion of natural deposits

DISINFECTANTS

DEQ ID	Contaminant	MRDL	MRDLG	Units	Range	Level Average	Violation (Yes/No)	Year Tested	Likely Source of Contamination
10136	Chlorine Residual	4	4	ppm	0.57-1.43	0.96	No	2015	Disinfection additive used to control microbe

LEAD AND COPPER

DEQ ID	Contaminant	AL	ALG	Units	90th Percentile	Number of Sites over AL	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
10136	Copper	1.3	1.3	ppm	0.247	0	No	08/15	Corrosion of household plumbing systems; erosion of natural deposits.
10136	Lead	15	0	ppb	0.8	0	No	08/15	Corrosion of household plumbing systems; erosion of natural deposits.

DISINFECTION BYPRODUCTS

DEQ ID	Contaminant	MCL	MCLG	Units	Average	Range	Highest RAA	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
10136	Total Trihalomethane (TTTM)	80	N/A	ppb	1.3	1.3	1.3	No	08/15	By-product of drinking water disinfection

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 people 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 care providers. Call the Safe Drinking Water Hotline at (800) 426-4791 to learn more about EPA and Center for Disease Control (CDC) guidelines on appropriate means to reduce the risk of infection by cryptosporidium and other microbiological contaminants, as well as other potential health effects.

SOURCE WATER ASSESSMENT PROGRAM (SWAP)

In 2003, ADEQ completed a Source Water Assessment for Marana Water's drinking water wells. This assessment reviewed the adjacent land uses that may pose a risk to the water sources. The results of the assessment do not mean that contamination has or will occur, but we can use this information to evaluate the need to improve our water treatment capabilities and prepare for contamination threats. The assessment identified risks that include, but are not limited to, gas stations, landfills, agricultural fields, and wastewater treatment facilities. Palo Verde has not been designated as high risk. A designation of high risk indicates there may be additional source water protection measures that can be implemented on the local level.

Residents can help protect water sources by practicing good septic system maintenance, limiting pesticide and fertilizer use, and taking hazardous household chemicals to appropriate collection sites. Source Water Assessments on file with ADEQ are available for public review. If a Source Water Assessment is available, you may obtain a copy of it by contacting ADEQ at (602) 771-4641.

TERMS & ABBREVIATIONS

To help you better understand the terms and abbreviations used in this report please use the following definitions:

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level (MCL) – The "maximum allowed" is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. MCLs are set at stringent levels.

Maximum Contaminant Level Goal (MCLG) – The "goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

MFL – Million fibers per liter.

Millirems per year (MREM) – A measure of radiation absorbed by the body.

Nephelometric Turbidity Units (NTU) – A measure of water clarity.

Non Detect (ND) – The contaminant is below the detection level.

Not Applicable (NA) – Sampling was not completed by regulation or was not required.

Parts per quadrillion (ppq) – Also known as Picograms per liter.
Parts per trillion (ppt) or Nanograms per liter – ppt x 1,000 = ppq.
Picocuries per liter (PCi/L) – A measure of the radioactivity in water.
Running Annual Average (RAA) – An average of monitoring results for the previous 12 calendar months.
Treatment Technique (TT) – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

ADDITIONAL INFORMATION

Arsenic
While your drinking water meets EPA standards, it contains low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing it from drinking water. EPA continues to research the health effects of low levels of arsenic (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). In 2015, there were no violations with regard to arsenic.

Lead
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 two minutes before using tap water. Additional information is available from the EPA Safe Drinking Water Hotline at (800) 426-4791.

Nitrates
Nitrates in drinking water at levels above 10 ppm are a health risk for infants younger than six months of age and elderly people on oxygen continually. 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 seek advice from your healthcare provider. In 2015, there were no violations with regard to nitrates.

MONITORING ASSISTANCE PROGRAM (MAP)

The Arizona Department of Environmental Quality has extended this program to ensure water suppliers serving fewer than 10,000 customers complete all monitoring requirements under the rules of government agencies responsible for safe drinking water. Under this agreement, the state employs an independent firm to take the required water samples and send them to a laboratory for analysis. The results are sent to the water provider and the Arizona Department of Environmental Quality. In this way, you—our customer—the state and we are guaranteed that tests are done in a timely manner.

HOW DO I KNOW IF MY WATER IS SAFE?

Under the ADEQ Monitoring Assistance Program (MAP), Marana Water, in collaboration with MAP, routinely monitors for more than 80 contaminants as required by federal and state regulations. Testing is required for synthetic organic chemicals (SOCs), inorganic chemicals (IOCs), volatile organic chemicals (VOCs), radiochemicals, lead and copper and disinfection byproducts. Bacteriological tests are required monthly.

WHAT HAPPENS IF THE WATER TESTED INDICATES CONTAMINATION?

If a constituent is found to be out of compliance with the Safe Drinking Water Standards, we are required by federal and state law to notify our customers. Notifications can be made by letter, the media or through this report. If a serious situation occurs that may affect the health, safety and well-being of our residents, we will do whatever is necessary to advise our customers and find an alternate source of safe drinking water.
In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

REPORT PERIOD

All systems were tested monthly, quarterly or annually for contaminants, depending on the guidelines for each established by the EPA.

SYSTEM VIOLATIONS

In 2015, Marana Water Picture Rocks (PWSID#10092) had one minor violation for not submitting report on time in 2015.

CHLORINATION

Marana Water treats its water with calcium hypochlorite (chlorine). Chlorine is the most commonly used disinfectant for water and saves lives by controlling waterborne diseases.

WATER HARDNESS

Arizona water passes through soils that are rich in calcium and magnesium. These harmless, tasteless minerals become completely dissolved, creating what is known as hard water. Water hardness poses no health risk to consumers; however, it can create challenges around the house, such as a reduction in the cleansing ability of laundry soap and deposits left behind on bath fixtures, dishes and glassware.
A table of water hardness for the Town of Marana's water service area is available on our website at www.maranawater.com/water-quality.

WHOM DO I CONTACT FOR ADDITIONAL INFORMATION ABOUT MY WATER QUALITY?

Questions or comments regarding this report should be directed to Paul Martinez, Superintendent, at **(520) 382-2570.** You may also reach him via e-mail at **pmartinez@maranaaz.gov.**

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2015 ANNUAL WATER QUALITY REPORT

Picture Rocks PWSID# 10092

TOWN OF MARANA WATER SYSTEM

Picture Rocks PWSID#: 10092

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MARANA WATER SYSTEM MEETS SAFE DRINKING STANDARDS

This year's Annual Water Quality Report covers the monitoring period between January 1, 2015 and December 31, 2015. This report is a snapshot of the year's water quality and the services Marana Water provides. Our goal is and always has been to provide you with a safe and dependable supply of drinking water. We are committed to ensuring the quality of your water. The water we provide meets and/or exceeds the Safe Drinking Water Standards established by the U.S. Environmental Protection Agency (EPA) and the State of Arizona's Department of Environmental Quality (ADEQ).

WHERE DOES OUR WATER COME FROM?

The sources of drinking water (tap and bottled) 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. Water can also pick up substances resulting from the presence of animals or from human activity.

Our water source is groundwater from the Lower Santa Cruz portion of the Tucson Basin Aquifer. Our portion of the aquifer was created primarily by runoff from the surrounding mountain ranges of Southern Arizona along with storm water percolating through the ground along the Lower Santa Cruz and its tributaries. Marana, and other water agencies, also store Central Arizona Project water in this aquifer.

Marana Water System (Picture Rocks) consists of two potable wells pumping water at depths ranging from 170 to 180 feet below ground from our aquifer. The water from those wells is stored in reservoirs where it is chlorinated and pumped through pipelines to reach your home or business.

WHAT TYPE OF CONTAMINANTS MIGHT BE PRESENT IN MY WATER?

Contaminants that *may* be present in source water include:

- **Microbial contaminants,** such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
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VULNERABLE POPULATION

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DETECTED CONTAMINANTS / Picture Rocks PWS #10092 / Continental Reserve/Picture Rocks/Cortaro Rd & Silverbell Rd

DISINFECTION BYPRODUCTS

DEQ ID	Contaminant	MCL	MCLG	Units	Average	Range	Highest RAA	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10092	Haloacetic Acids (HAA)	60	N/A	ppb	8.200	8.200	8.200	No	09/15	By-product of drinking water disinfection
10092	Total Trihalomethanes (TTHM)	80	N/A	ppb	47.30	47.30	47.30	No	09/15	By-product of drinking water disinfection

INORGANIC CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect/RAA	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10092	Arsenic	10	0	ppb	5.4	5.4	No	07/15	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
10092	Barium	2	2	ppm	0.051	0.051	No	07/15	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
10092	Fluoride	4	4	ppm	0.57	0.57	No	07/15	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
10092	Nitrate (as Nitrogen)	10	10	ppm	4.20	4.20	No	07/15	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

RADIONUCLIDES

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10092	Gross Alpha	15	0	pCi/L	7.5 ± 0.6	No	07/15	Erosion of natural deposits

UNREGULATED CONTAMINANTS

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Highest Detect	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10092	Sodium	N/A	N/A	ppm	110.00	110.00	No	07/15	Erosion of natural deposits

SYNTHETIC ORGANIC CONTAMINANTS, INCLUDING PESTICIDES AND HERBICIDES

DEQ ID	Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes/No)	Sample Date	Likely Source of Contamination
10092	Simazine	4	4	ppb	0.06	No	11/12	Herbicide runoff

DISINFECTANTS

DEQ ID	Contaminant	MRDL	MRDLG	Units	Range	Level Average	Violation (Yes/No)	Year Tested	Likely Source of Contamination
10092	Chlorine Residual	4	4	ppm	0.78-1.27	0.94	No	2015	Disinfection additive used to control microbe

LEAD AND COPPER

DEQ ID	Contaminant	AL	ALG	Units	90th Percentile	Number of Sites over AL	Violation (Yes/No)	Sample Date/Year	Likely Source of Contamination
10092	Copper	1.3	1.3	ppm	0.51	0	No	06/13	Corrosion of household plumbing systems; erosion of natural deposits.
10092	Lead	15	0	ppb	5.0	0	No	06/13	Corrosion of household plumbing systems; erosion of natural deposits.

SOURCE WATER ASSESSMENT PROGRAM (SWAP)

In 2003, ADEQ completed a Source Water Assessment for Marana Water's drinking water wells. This assessment reviewed the adjacent land uses that may pose a risk to the water sources. The results of the assessment do not mean that contamination has or will occur, but we can use this information to evaluate the need to improve our water treatment capabilities and prepare for contamination threats. The assessment identified risks that include, but are not limited to, gas stations, landfills, agricultural fields, and wastewater treatment facilities. Picture Rocks has not been designated as high risk. A designation of high risk indicates there may be additional source water protection measures that can be implemented on the local level.

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MFL – Million fibers per liter.

Millirems per year (MREM) – A measure of radiation absorbed by the body.

Nephelometric Turbidity Units (NTU) – A measure of water clarity.

Non Detect (ND) – The contaminant is below the detection level.

Not Applicable (NA) – Sampling was not completed by regulation or was not required.

Parts per billion (ppb) or Micrograms per liter (µg/L) – One part per billion corresponds to one minute in 2,000 years or a single penny in $10,000,000. ppb x 1,000 = ppt.

Parts per million (ppm) or Milligrams per liter (mg/L) – One part per million corresponds to one minute in two years or a single penny in $10,000. ppm x 1,000 = ppb.