



Drinking Water Quality Annual Report Gwangju AB, 2015



This annual report summarizes the quality of water delivered by Gwangju AB. Under the "Consumer Confidence Reporting Rule" of the federal Safe Drinking Water Act (SDWA), community water systems are required to report this water quality information to the consuming public. Presented in this report is information on the source of our water, its constituents and the health risks associated with any contaminants. Our goal is to provide you with a safe and dependable supply of drinking water.

"A copy of this Water Quality Report in Korean can be obtained by contacting the Kunsan Bioenvironmental Engineering office at 782-4670. This report is designed to further public understanding about public water systems and potential hazards"

“이 보고서에는 귀하의 식수에 대한 중요한 내용이 실려있습니다. 그러므로 이

보고서를 이해할 수 있는 사람한테 번역해 달라고 부탁드립니다.

보고서에 대한 질문은 생물환경공학과 782-4670 로 문의 하시기 바랍니다.”

Where does our water come from?

The primary water source for Gwangju AB is the Hwang Yong River. The water supplied to Gwangju AB is treated at the Duknam Water Treatment Plant (WTP). The Duknam WTP receives its water from the Juam Reservoir, which is supplied by the Hwang Yong River. The water then undergoes flocculation, settling, filtration, GAC (granulated activated carbon) filtration, and chlorination. There is a water treatment plant on Gwangju AB that performs disinfection of the water by chlorine addition prior to distribution to the base.

How pure is our water?

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 human activity. Contaminants that may be present in source water include:

- ◆ **Microbial contaminants**, such as viruses and bacteria, which 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**, which may come from agriculture, urban storm water runoff, and residential uses.
- ◆ **Organic chemical contaminants**, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can come from gas stations, urban storm water runoff, and septic systems.
- ◆ **Radioactive Contaminants**, which can be naturally-occurring or the result of oil/gas production and mining activities.
- ◆ 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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.
- ◆ 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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).
- ◆ The contractor group, Hanhwa 63 City, manages the maintenance and operations of the drinking water supply and distribution system. Hanhwa 63 City personnel operate on 24 hour work shifts to ensure the system is pressurized and maintains sufficient chlorine residual.
- ◆ The 8 MDOS Bioenvironmental Engineering Flight (BEF) monitors the quality of the drinking water provided to consumers and addresses any health related concerns. Analysis is conducted by certified laboratories.

How our water is monitored?

Kunsan AB BE and Daegu AB IDMTs routinely monitor for over 87 contaminants using certified laboratories and approved methods in accordance with Korean Environmental Governing Standards (KEGS).

- **Microbial contaminants** sampling is conducted monthly at distribution points (such as dormitories, AAFES food court and the contingency clinic), to include analysis for the levels of pH and chlorine in the water. A total of 36 microbiological samples were taken and no samples were positive for microbial contaminants.
- **Other contaminants** (*inorganic, pesticides & herbicides, organic chemical and radioactive contaminants*) are monitored on different frequencies respectively. Some contaminants are only monitored every 4 years and for those, the last sampling results are listed on Table 1. The contaminants listed in the table were the only primary contaminants detected in our drinking water.

Potential Health Effects & 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 from infections. These people should seek advice about drinking water from their health care providers.

About Lead in Drinking Water: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Hanhwa 63 City 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. BEF monitors lead and copper in housing annually. All test results have met KEGS drinking water requirements. If you are concerned about lead levels in your home's water, please contact Kunsan BEF at 782-4670. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at

<http://www.epa.gov/safewater/lead>.

We are pleased to announce that our drinking water meets all KEGS and EPA requirements! Of the lead and copper samples taken in September of 2015, less than 10% were above the allowed Action Level of 1.3 mg/L by the Lead and Copper rule. This level present does not pose a health threat.

Table 1: 2015, Gwangju AB Water Monitoring Data for the period of January 1 to December 31, 2015

Substances	Violation? Yes / No	Units	Detected Level		MCLG	MCL	Likely Source of Contamination
			High	Low		KEGS	
Inorganic Chemicals (17 contaminants sampled for in Quarter 3 2015. Required annually. Next required Quarter 3 2016.)							
Barium	No	mg/L	0.0076	0.0076	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Nitrate (measured as nitrogen)	No	mg/L	0.551	0.551	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total nitrate and nitrite	No	mg/L	0.551	0.551	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium	No	mg/L	4.3	4.3	N/A	N/A	Erosion of natural deposits
Disinfectant/Disinfection By-Product (9 contaminants sampled for in Quarter 3 2015. Required annually. Next required Quarter 3 2016.)							
Total Trihalomethanes (TTHM)	No	mg/L	0.023	0.023	N/A	N/A	By-product of drinking water chlorination. Annual average: 0.039 mg/L
Haloacetic Acids (HAA5)	No	mg/L	ND	ND	N/A	N/A	By-product of drinking water chlorination. Annual average: 0 mg/L
Lead and Copper (Required annually, last sampled: August 2015)							
Lead	No	mg/L	0.00110	ND	0	0.015	Corrosion from plumbing systems; erosion of natural deposits
Copper	No	mg/L	0.213	0.0185	1.3	1.3	Corrosion from plumbing systems; erosion of natural deposits
Radioactive Particles (No longer required, last sampled: Quarter 3 2009 – Quarter 3 2010) *This was the most recent mandated sampling.							
Gross Alpha	No	pCi/L	0.216	ND	0	15	Erosion of natural deposits
Combined Radium 226 & 228	No	pCi/L	0.297	0.174	0	5	Erosion of natural deposits
Uranium	No	ppb	0.05	0.035	0	30	Erosion of natural deposits

Note: The contaminants listed in the table were the only primary contaminants detected in our drinking water.

Terms Defined

Maximum Contaminant Level (MCL) - 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.

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no expected health risk. MCLGs allow for a margin of safety.

Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. **Maximum residual disinfectant level goal or MRDLG:** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum residual disinfectant level or 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.

N/A - Not applicable, No MCL established

ND - Means not detected and indicates that the substance was not found by laboratory analysis.

Parts per million (ppm) - One ppm corresponds to 1 minute in 2 years, or a single penny in \$10,000.

Parts per billion (ppb) - One ppb corresponds to 1 minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pCi/L) - Picocuries per liter is a measure of radioactivity in water.

Customer Views Welcome!!

Currently, a routine public meeting for drinking water is not held at your installation. However, if you have any specific questions or concerns on your drinking water, please contact the Kunsan AB Bioenvironmental Engineering (BE) office at 782-4670 or the Environmental Program Manager of Hanhwa 63 City at 786-6317. You can also contact the BE office for any additional information on drinking water or questions about this Consumer Confidence Report (CCR).

This CCR was prepared by Kunsan AB Bioenvironmental Engineering (8 MDOS/SGOJ) and will be posted on the 7th AF homepage <http://www.7af.pacaf.af.mil/>

Information about EPA water regulations can be found at: <http://www.epa.gov>.

General information about Korean water sources in English and Korean can be found at <http://www.kowaco.or.kr/>