



**DEPARTMENT OF THE AIR FORCE
86TH AIRLIFT WING (USAFE)**

MEMORANDUM FOR ALL PERSONNEL AT RAMSTEIN AB, GERMANY

FROM: 86 AW/CV

SUBJECT: 2018 Drinking Water Quality Report – Ramstein Air Base, Germany

1. I am pleased to present Ramstein Air Base's Annual Drinking Water Quality Report. This report is designed to inform you about the excellent water and services we have delivered to you over the past year. Our goal is to provide you with a safe, quality and reliable drinking water supply. We are continually striving to improve our services and protect our vital community water resources.

2. Where do we get our drinking water?

The Kaiserslautern Military Community (KMC) draws all its drinking water from deep wells several hundred feet below ground. Our water is pumped from these wells, treated, and then distributed to our communities. Within the KMC, there are many water distribution systems. Ramstein Air Base has 4 systems, USAFE Contingency Training Squadron (CTS) has 2 systems, and the Cold Storage Area has 1 system. Since November 2007, Vogelweh, including Kapaun AS, are supplied by the City of Kaiserslautern water provider Stadtwerke Kaiserslautern – SWK.

3. Who ensures our water is safe?

Several offices are responsible for preserving the quality of our drinking water. Ramstein AB's drinking water is managed by two base agencies:

a. 786th Civil Engineering Squadron Water and Fuels System Maintenance section operate and maintain the KMC water distribution systems and equipment. CES personnel work 24 hours a day, 7 days a week to ensure the system is pressurized and maintains sufficient disinfection (chlorine) residual. On a daily basis CES personnel conduct operational monitoring at the treatment plants to maintain the high quality of their final product - drinking water for the KMC.

b. The 86th Medical Group Bioenvironmental Engineering (BE) flight routinely monitors water quality throughout the system. Each month BE tests chlorine and pH levels, and collects water samples for bacteriological analysis. Analysis is conducted at the BE laboratory, and then reported to various organizations on a monthly basis. BE collects additional water samples based on a monitoring schedule directed by the Final Governing Standard for Germany (FGS-G) to determine compliance. The FGS-G defines the parameters to be monitored (typically the most stringent of the US/German requirements are utilized), the sampling frequency, the maximum contaminant level (MCL), the notification procedures, and what processes should be initiated if non-compliance is detected (e.g., additional treatment techniques, bottled water issuance, etc.). BE is ultimately responsible for characterizing health risks and ensuring public notifications are provided on a timely basis.

c. In addition to the FGS-G required compliance monitoring, BE and CES respond to all drinking water-related problems, and are prepared to accomplish required sampling and analysis following a water shut off (i.e., water main breakage, routine maintenance, new facility being brought on line, etc.).

d. The US Army Public Health Command Public Health Region - Europe (PHRE) at Landstuhl, a German and US certified and accredited laboratory, performs the analytical analyses for most of analytical requirements beyond bacteriological analysis.

4. How pure is my water?

a. As water travels underground it can pick up various natural and man-made substances to include:

(1) Microbes, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(2) Inorganics, 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.

(3) Pesticides and herbicides, which may come from agriculture, urban storm water runoff, and residential uses.

(4) Organic chemicals, 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.

(5) Radioactive materials, which can be naturally-occurring or the result of oil/gas production and mining activities.

b. Due to the exceptional quality of our groundwater source, treatment is not necessary for the most part. Chlorination is accomplished because it provides a measurable means of ensuring our water is properly disinfected. All of our water sources are chlorinated, and some of our water sources are also filtered. This is done to ensure the safest, most aesthetically pleasing product for our consumers.

c. More than 60 individual drinking water parameters are routinely monitored in accordance with Final Governing Standard for Germany (FGS-G). Reporting period for this report is January 1st to December 31st 2017. All samples referenced in this report were collected by Bioenvironmental Engineering. For 2017, our system was in compliance.

5. The terms and abbreviations below will assist you with understanding words and acronyms found in the tables below and within this report.

a. **Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water before some type of action is required.

b. **Action Level (AL)** – A level below the MCL that if exceeded requires initiation of additional monitoring and possible operational actions.

c. **Milligrams per Liter (mg/l)** – unit of measure. One mg/l corresponds to 1 minute in 2 years, or a single penny in \$10,000.

d. **VOC** – Volatile Organic Compounds.

6. Required Monitoring Parameters per FGS-G.

SOC, VOC, PAH, TTHM and Inorganic parameters (grey area on the following tables) were monitored and are listed below:

SOC (Pesticides/PCBs):

Alachlor	Aldicarb
Aldicarb	Sulfone
Aldicarb	Silfoxide
Atrazine	Carbofuran
Chlordane 2,4 -D	Endrin Ethylene dibromide (EDB)
Heptachlor	Lindane
Methoxychlor	1,2-Dibromo-3chloropropane (DBCP)

VOC:

Benzene	Carbon tetrachloride
o-Dichlorobenzene	cis-1,2-Dichloroethylene
1,1-Dichloroethylene	trans-1,2-Dichloroethylene
1,1,1-Trichloroethane	1,2-Dichloroethane
Dichloromethane	1,1,2-Trichloroethane
1,2,4-Trichloro-benzene	1,2-Dichloropropane
Ethylbenzene	Monochlorobenzene
Para-Dichlorobenzene	Styrene
Tetrachloroethylene	Trichloroethylene
Toluene	Vinyl chloride
Xylene (total)	

PAH:

Fluoranthene	Benzo-(b)-Fluoranthene
Benzo-(k)-Fluoranthene	Benzo-(a)-Pyrene
Benzo-(ghi)-Perylene	Indeno-(1,2,3-cd)-Pyrene

TTHM:

Dibromochloromethane	Dichlorobromomethane
Tribromomethane (Bromoform)	Trichloromethane (Chloroform)

Inorganics:

Arsenic	Barium
Beryllium	Cadmium
Chromium	Copper
Cyanide	Fluoride
Lead	Mercury
Nickel	Nitrate
Nitrite	Selenium
Silver	Sodium
Surfactants	Thallium
Zinc	

7. Drinking Water and Your Health.

a. All 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 the water poses a health risk. More information on contaminants and potential health effects can be obtained by

calling BE at DSN 479-2220 (0049-6371-46-2220). According to the Environmental Protection Agency, some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised individuals such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly, and infants are at a higher risk of waterborne illness. These people should seek advice about drinking water from their health care providers.

8. A final word on water quality.

a. Your water quality team at Ramstein AB works around the clock to provide safe, dependable water at every tap. But they can only ensure the success of today’s mission if everyone contributes. Tomorrow’s success will depend on all of us, working together, to protect our vital water resources.

b. Remember, the water we use does not quickly return to the aquifer, but is, for the most part, “consumed” by our actions. The military installation (Ramstein AB) and many nearby villages draw water from the same aquifer. Conservation is therefore essential to protect our water supply.

c. You should also consider ways you can reduce your water consumption, i.e., don’t let the water run while brushing your teeth, take a shower vs. a bath. There are numerous ways to save our most valuable natural resource for us and the future of our children. If you have ideas to reduce usage and contamination of this valuable resource submit it to the Ramstein AB Drinking Water Quality Working Group (POC – 86 AMDS Bioenvironmental Engineering).

d. These efforts will help protect the future water supply by reducing the overall consumptive use.

9. Customer Views Welcome.

We’re available to address any questions or concerns you may have. Housing residents should contact the Housing Office with any water concerns. Dorm residents should contact their building manager.

10. For more information on this report or base drinking water quality, please call the 86 MDG Bioenvironmental Engineering at DSN 479-2220 (0049-6371-462220) or the 86 CES Environmental Management Flight at DSN 480-7712.

JOSEPH H. WENCKUS, Colonel, USAF
Vice Commander

Ramstein AB Drinking Water System 1-4				
Parameters Monitored (by group)	MC-AL	Range		Exceedance
		Low	High	
Lead (mg/l)	0.015	<0.0002	0.0061	No
Copper (mg/l)	1.3	0.003	0.1	No
SOC (including	See note			

Pesticides & Herbicides (mg/l)				No
VOC (mg/l)				
PAH (mg/l)				
TTHM (mg/l)				
Inorganics (mg/l)				
Bacteriological	None	0	0	No

CTS –A Drinking Water System				
Parameters Monitored (by group)	MC-AL	Range		Violation
		Low	High	
Lead (mg/l)	0.015	<0.0002	0.0082	No
Copper (mg/l)	1.3	<0.002	0.022	No
SOC (including Pesticides & Herbicides) (mg/l)	See note			No
VOC (mg/l)				
PAH (mg/l)				
TTHM (mg/l)				
Inorganics (mg/l)				
Bacteriological	None	0	0	No

CTS –A Drinking Water System				
Parameters Monitored (by group)	MC-AL	Range		Violation
		Low	High	
Lead (mg/l)	0.015	<0.0002	0.0017	No
Copper (mg/l)	1.3	<0.002	0.016	No
SOC (including Pesticides & Herbicides) (mg/l)	See note			No
VOC (mg/l)				
PAH (mg/l)				
TTHM (mg/l)				
Inorganics (mg/l)				
Bacteriological	None	0	0	No

Cold Storage Drinking Water System				
Parameters Monitored (by group)	MC-AL	Range		Violation
		Low	High	
Lead (mg/l)	0.015	0.0015	0.003	No
Copper (mg/l)	1.3	0.007	0.016	No
SOC (including Pesticides & Herbicides) (mg/l)	See note			No
VOC (mg/l)				
PAH (mg/l)				

TTHM (mg/l)				
Inorganics (mg/l)				
Bacteriological	None	0	0	No

Note: Parameters and results are too numerous to report in these tables. All results are available upon request; there were no exceedances for 2016