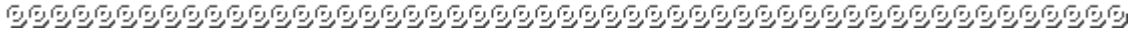


MICHIGAN STATE UNIVERSITY WATER QUALITY REPORT FOR 2006

PREPARED BY PHYSICAL PLANT DIVISION ♦ POWER AND WATER DEPARTMENT
Issued June, 2007



Dear Fellow Spartan:

We are pleased to inform you that the water you are drinking is safe and healthy. We take great care in protecting it from contamination and always strive to furnish you with a clean, high quality product that you can drink without worry. **MSU water meets or surpasses all federal and state drinking water standards.**

This report is a snapshot of the quality of the water that we provided to you in 2006. Included are details about where your water comes from, what we are doing to ensure that your water remains safe to drink, what's in it, and how it compares to Environmental Protection Agency (EPA) and state standards.



Photo by Brittani Bombrys

Sources of Drinking Water: The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. Michigan State University water comes from 17 groundwater wells, each over 340 feet deep. These wells tap into the Saginaw aquifer, a deep sandstone formation that lies beneath most of the central Lower Peninsula. It serves several communities in mid-Michigan.

HEALTH AND SAFETY INFORMATION

Pure water has often been called a universal solvent because it will dissolve almost anything. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material. It can also pick up substances resulting from the presence of animals or from human activity. Some of these substances have been deemed by the Environmental Protection Agency to be contaminants that must be monitored and strictly controlled. 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 **EPA's Safe Drinking Water Hotline (800-426-4791)**.

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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture and residential uses.

- **Radioactive contaminants**, which are naturally occurring.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

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

Is our water system meeting other rules that govern our operations? The State and EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2006.

We are committed to providing you with safe, reliable and healthy water. We are pleased to provide you with this information to keep you fully informed about your water. We will be issuing this report annually, and will also keep you informed of any problems that may occur throughout the year, as they happen.

Source Water Assessment: The State performed an assessment of our source water in 2003 to determine the susceptibility or relative potential for contamination. The susceptibility rating is on a seven-tiered scale ranging from “very-low” to “very-high” based primarily on geologic sensitivity, water chemistry and location contaminant sources. The susceptibility of our source was deemed to be “moderately high.”

Michigan State University strives to keep our source water safe to drink by complying with all applicable federal and state drinking water regulations and by developing and using a Wellhead Protection Program. The program was approved by the Michigan Department of Environmental Quality in 2000 and updated and approved again in 2006. Information on this program can be found at the following web site:

http://www.orcbs.msu.edu/enviro/programs_guidelines/wellhead/wh_01toc.htm

Potential sources of contamination include: Aboveground Storage Tanks; liquid manure spreading; chemical and waste storage areas; biowaste holding tanks; wet labs; equipment storage areas; farming operations; chemical storage; pesticide storage; equipment washing pads; paint

storage, mixing and cleaning operations; a biotechnology facility and a number of sites that that generate use and dispose of hazardous waste and other chemicals. The Wellhead Protection Program helps to ensure that all potential contaminants within the water re-charge area are safely stored with adequate containment and that other measures are taken to minimize the possibility of releases.



For more information about your water, the contents of this report, or the 2003 source water assessment, contact Doug MacDonald at 517-355-3314, or send e-mail to water@pplant.msu.edu.

The table on the next page shows test results for substances that were found in our drinking water. Results are not shown for substances that were tested for but not detected. Unless otherwise noted, the data presented in this table is from testing done January 1-December 31, 2006.

Terms and abbreviations used in the table:

| | |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MCLG | <u>Maximum Contaminant Level Goal</u> : 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. |
| MCL | <u>Maximum Contaminant Level</u> : 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. |
| MRDL | <u>Maximum Residual Disinfectant Level</u> : The highest level of a disinfectant allowed in drinking water. Adding disinfectants controls microbial contaminants. |
| MRDLG | <u>Maximum Residual Disinfectant Level Goal</u> : 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. |
| N/A | Not applicable |
| ppb | <u>parts per billion</u> or micrograms per liter |
| ppm | <u>parts per million</u> or milligrams per liter |
| pCi/L | <u>picocuries per liter</u> |
| AL | <u>Action Level</u> : The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements that a water system must follow. |
| RAA | <u>Running Annual Average</u> : the average of the most recent four quarters of test results, recalculated every quarter when a new test result is received. |

Substances we found in our water

| Water Quality Data | | | | | | | |
|-------------------------------------|-------|-------------|--------------|--------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------|
| Substance | Unit | MCL | MCLG | Amount found in MSU water | Sample Date (if not in '06) ¹ | Major Sources | Violation? |
| Barium | ppm | 2 | 2 | 0.14 | | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits | NO |
| Fluoride | ppm | 4 | 4 | 1.4 | | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories | NO |
| Gross alpha | pCi/L | 15 | 0 | 4 | 4/29/03 | Erosion of natural deposits | NO |
| Radium | pCi/L | 5 | 0 | 3 | 4/29/03 | Erosion of natural deposits | NO |
| TTHMs (Total Trihalomethanes) | ppb | 100 | N/A | Highest RAA:7.5 Range: 4.9 – 7.5 | | By-products of drinking water chlorination | NO |
| HAA5 (haloacetic acids) | ppb | 60 | N/A | Highest RAA: 4.0 Range: 0 – 4.0 | | Byproduct of drinking water disinfection | NO |
| Chlorine (ppm) | ppm | MRDL | MRDLG | Highest RAA: 0.4 Range: 0.4 – 0.6 | | Water additive used to control microbes | NO |
| | | 4 | 4 | | | | |
| Unregulated Substance ³ | | | | | | | |
| Sodium | ppm | N/A | N/A | 12 | | Erosion of natural deposits and runoff | N/A |
| Chlorodibromomethane ⁴ | ppb | N/A | N/A | 0 to trace | | By-product of drinking water chlorination | N/A |
| Chloroform ⁴ | ppb | N/A | N/A | 1.6 to 4.6 | | By-product of drinking water chlorination | N/A |
| Bromochloroacetic Acid ⁴ | Ppb | NA | N/A | 1.0 | | Byproduct of drinking water chlorination | N/A |
| Bromodichloromethane ⁴ | ppb | N/A | N/A | 0.5 – 1.7 | | By-product of drinking water chlorination | N/A |
| Dichloroacetic acid ⁴ | ppb | N/A | N/A | 0 - 2 | | Byproduct of drinking water disinfection | N/A |
| Trichloroacetic acid ⁴ | ppb | N/A | N/A | 0 - 2 | | Byproduct of drinking water disinfection | N/A |

¹Water quality regulations allow us to monitor some substances less than once a year because their concentrations are not expected to vary significantly from year to year

²These arsenic limits became effective January 23, 2006. Before then, the MCL was 50 ppb and there was no MCLG.

³Unregulated substances are those for which EPA has not established drinking water standards. The purpose of monitoring these substances is to assist EPA in determining the occurrence of unregulated substances in drinking water and whether future regulation is warranted.

⁴These constituents are not regulated individually, but combined make up the TTHM or HAA5 category, shown above.

| Substance ⁵ | AL | MSU Water ⁶ | Number of Samples Over Action Level |
|------------------------|----------|------------------------|-------------------------------------|
| Lead | 15 ppb | 2 ppb | 0 |
| Copper | 1300 ppb | 510 ppb | 0 |

⁵ MSU is currently on a 3 year cycle for lead and copper testing. These results are from 2005.

⁶ 90 percent of samples were at or below this level.

Coliform bacteria: Michigan State University is required to do 240 tests per year for coliform bacteria in our distribution system. In 2006, we tested 480 samples, and found no coliform at all.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

يحتوي هذا التقرير على معلومات هامة عن نوعية الماء في منطقتك. يرجى ترجمتها أو اسأل التقرير مع صديقك يفهم لغة المماريات جيداً.

这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

Le rapport contient des informations concernant la qualité de l'eau de votre communauté. Faites-le traduire, ou parlez-en à un ami qui le comprend bien.

Im Bericht steht wichtige information über die Qualität des Wassers Ihrer Gemeinschaft. Der Bericht soll übersetzt werden, oder sprechen Sie mit einem Freund, der ihn gut versteht.

La relazione contiene importanti informazioni sulla qualità dell'acqua della Comunità. Tradurla o parlarne con un amico che lo comprenda.

이 보고서에는 귀하가 거주하는 지역의 수질에 관한 중요한 정보가 들어 있습니다. 이것을 번역하거나 충분히 이해 하시는 친구와 상의하십시오.

Sprawozdanie zawiera ważne informacje na temat jakości wody w Twojej miejscowości. Poproś kogoś o przetłumaczenie go lub porozmawiaj z osobą, która je dobrze rozumie.

O relatório contém informações importantes sobre a qualidade da água da comunidade. Traduza-o ou peça ajuda de uma pessoa amiga para ajudá-lo a entender melhor.

Отчет содержит важную информацию о качестве воды в Вашем районе. Переведите его или попросите друга, хорошо понимающего текст, объяснить Вам его содержание.

รายงานนี้ประกอบด้วยข้อมูลข่าวสารที่สำคัญเกี่ยวกับคุณภาพของน้ำในชุมชนของท่าน โปรดจัดให้มีการแปลเป็นภาษาไทย หรือปรึกษาเพื่อนของท่าน หรือบุคคลที่อ่านเข้าใจได้ดี

Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.