



# DRINKING WATER QUALITY REPORT FOR 2010 PREPARED MARCH 2011

## WATER PURVEYOR

The Water Purveyor is the City of Moses Lake. If you have any questions, or would like more information on our system, call the Water Division Supervisor at 764-3946 between 7:30 a.m. and 4:00 p.m., Monday through Friday. For broken pipes after normal working hours, call the Multi-Agency Communication Center at 762-1160. They will contact a Water Division employee. Our billing office is at City Hall and can be reached at 764-3715.

## PUBLIC CITY COUNCIL MEETINGS

The public potable water system is owned and operated by the City of Moses Lake. Its direction is provided by the City Council through the City Manager. The City Council meets on the second and fourth Tuesday each month, at 7:00 p.m. in the Council Chambers in the Police and Parks Building, located at 401 South Balsam. The public is encouraged to attend.

## KEY TERMS

- MCLG** – Maximum Contaminant Level Goal - 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** – Maximum Contaminant Level – The highest level that a contaminant is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Premises** – Land and buildings together considered as a property.
- Secondary Contaminant Level** – an aesthetic quality of drinking water rather than a health effect.
- ppb** – parts per billion - 1 ppb = 1 microgram/L, (The equivalent of one second in 32 years).
- ppm** – parts per million - 1 ppm = 1 mg/L (The equivalent of one second in 12 days).
- microgram/L** – microgram per liter, 1 microgram/L = 1 ppb
- mg/L** – milligrams per liter, 1 mg/L = 1 ppm
- gpg** – grains per gallon - a measure of water hardness
- N/A** – not applicable
- ND** - none detected

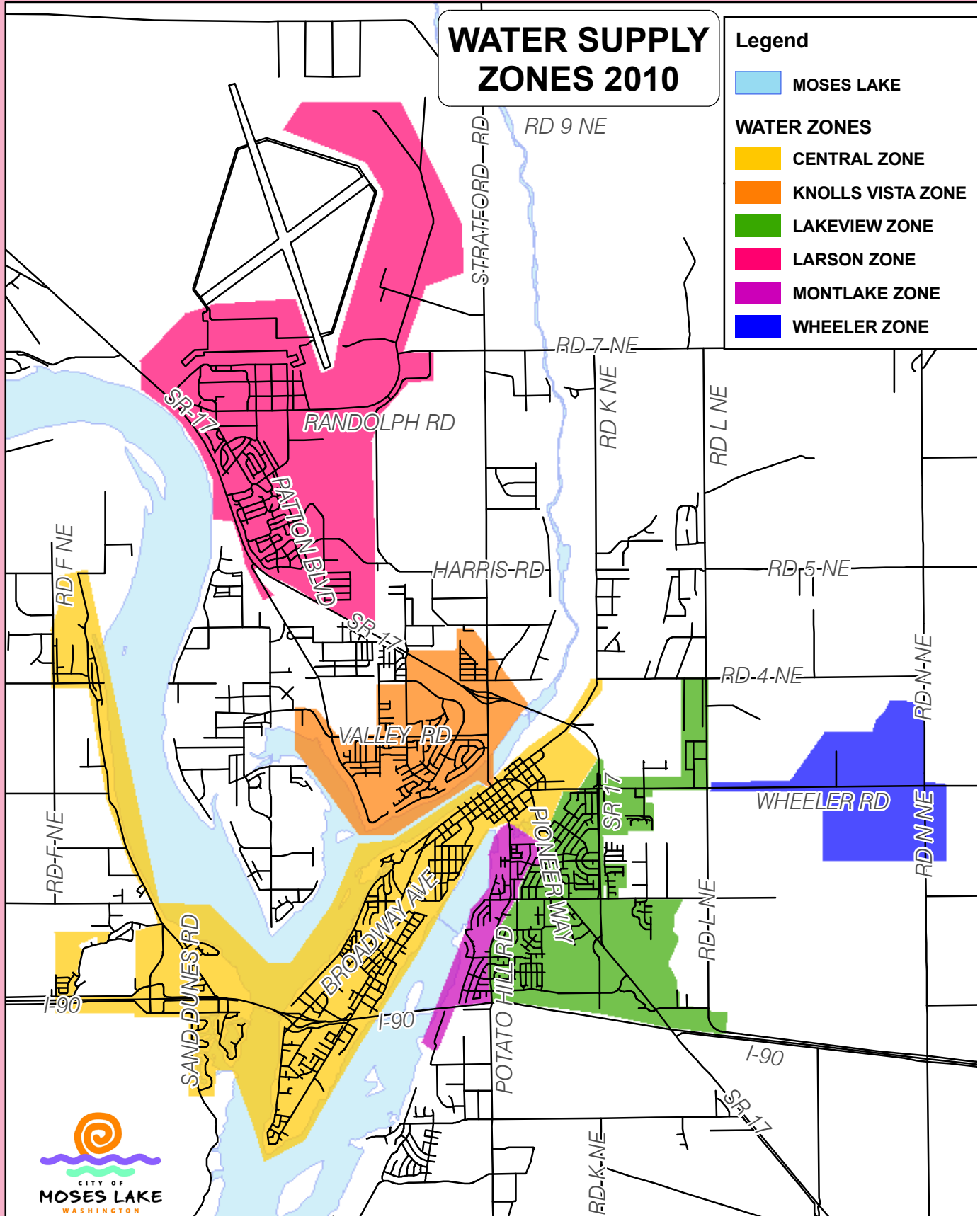
## YOUR DRINKING WATER

This report is provided to you to help you make informed decisions about the water you drink and to encourage you to get involved in protecting and improving your drinking water resource. The report tells you the source of the water we provide, the quality of the water, and who makes the management decisions. The report is required by the Federal Clean Water Act, which refers to it as the Consumer Confidence Report. As the water system's certified operator, I encourage you to call us with any concerns you have. Our goal is to provide you with fast, friendly, helpful, and efficient service.

William L. Maddox, P.E.  
Water Division Supervisor  
509-764-3946

- **City of Moses Lake Water Division:** 509-764-3946
- **City of Moses Lake Building Dept.:** 509-764-3756
- **Grant County Building Department:** 509-754-2011
- **Moses Lake City Manager:** 509-764-3701
- **After-hours emergencies (MACC):** 509-762-1160
- **City of Moses Lake Billing Office:** 509-764-3715
- **WA State Dept of Health:** 509-329-2100
- **US EPA Safe Drinking Water Hotline:** 800-426-4791
- **EPA's Web site:** [www.epa.gov/safewater](http://www.epa.gov/safewater)

# CITY OF MOSES LAKE DRINKING WATER QUALITY REPORT FOR 2010



# CITY OF MOSES LAKE

## DRINKING WATER QUALITY REPORT FOR 2010

### WATER SERVICE ZONES

The City of Moses Lake Water System is divided into 6 service zones. The following chart shows the wells that serve each zone. The water in each zone is comprised of a combination of the wells in the zone. Hardness ratings (below) and fluoride levels (pg. 6) are listed in this report by well.

### WATER HARDNESS RATING BY ZONE

**Central Zone -**  
 Downtown, Peninsula, 16 - 117 ppm (1 - 7 gpg)  
 and Westlake Area  
 Wells 4, 7, and 10

**Knolls Vista Zone -**  
 Knolls Vista Area 54 - 90 ppm (3 - 5 gpg)  
 Wells 3, 9 & 14

**Lakeview Zone-**  
 Terrace Area 21 - 208 ppm (3 -12 gpg)  
 Wells 11 & 12

**Larson Zone**  
 Grant County Airport 58 - 193 ppm (3 - 11 gpg)  
 Larson Housing Area  
 Wells 21, 23, 24, 28, & 29

**Montlake Zone**  
 Below Division Street 169 ppm (10 gpg)  
 Well 8

**Wheeler Zone**  
 16 - 166 ppm (1 - 10 gpg)  
 Wells 17 & 18

WATER HARDNESS RATING	
Hardness, ppm as CaCO <sub>3</sub>	Rating
0 – 60	Soft
61 – 120	Moderately Hard (M.H.)
121 – 180	Hard
181 – Up	Very Hard (V.H.)

**WATER SOURCE**

The City of Moses Lake has 17 wells which draw from confined aquifers in basalt rock over 300 feet below the ground surface. The aquifers have been free of the contaminants found in shallow wells. Pumping capacity is approximately 30 million gallons of water per day. Peak day production was on July 26, 2010 at 17.1 million gallons. The wells' production rates range from 520 to 2,090 gpm. Our total production for 2010 was 3 billion gallons.

**pH LEVELS**  
 pH levels range from 8.0 to 8.5

The US Geological Survey and the World Health Organization classify water hardness in parts per million (ppm) as Calcium Carbonate (CaCO<sub>3</sub>). In general, water softer than 50 ppm, as CaCO<sub>3</sub>, is corrosive. Water harder than 80 ppm requires the use of more soap. Water harder than 200 ppm may cause incrustations in pipes. Desirable hardness values are 50 to 80 ppm. More than 150 ppm is undesirable. More than 500 ppm as CaCO<sub>3</sub> is unacceptable. Moses Lake wells range from a minimum of 16 ppm to a maximum of 208 ppm. Another measure of hardness is grains per gallon (gpg) as CaCO<sub>3</sub>. (1 gpg = 17.1 ppm).

# CITY OF MOSES LAKE

## DRINKING WATER QUALITY REPORT FOR 2010

### WATER TESTING AND WATER QUALITY DATA TABLE

The Federal Safe Drinking Water Act of 1974 regulated 22 contaminants in drinking water. The table below lists all the drinking water contaminants that we detected in the most recent samples. The presence of these contaminants does not necessarily indicate that the water poses a health risk. The Environmental Protection Agency (EPA) allows Washington State Department of Health (DOH) to waive testing for certain contaminants if it will not result in unreasonable risk to health. Washington State DOH has waived testing for some synthetic and volatile organic contaminants at some city wells.

#### EPA WATER QUALITY DATA TABLE (health effected based)

Contaminants	MLG	MCL	Highest Result	Range of Detection	In compliance Yes or No	Last Sample Date
<b>INORGANIC CONTAMINANTS</b>						
1. Arsenic (ppb)	0	10	5.80	ND - 5.8	Yes	2010
2. Fluoride (ppm)	4	4	2.20	0.26 - 2.20	Yes	2010
3. Nitrate (ppm)	10	10	4.42	ND - 4.42	Yes	2010
<b>UNREGULATED CONTAMINANTS</b>						
4. DCPA (ug/L)			4.9	ND - 4.9	Yes	2010
<b>VOLATILE ORGANIC CONTAMINANTS</b>						
5. Total Trihalomethane (ppb)		80	4.4	ND - 4.4	Yes	2009
6. Haloacetic Acids (ug/L)		60	ND	ND	Yes	2009

1. Arsenic was detected within allowable levels in the Knolls Vista, Larson, Montlake, and Wheeler zones. Arsenic source is from erosion of natural deposits.
2. Fluoride was detected above the secondary MCL of 2 ppm. See chart on page 6. Fluoride presence in city water is naturally occurring. Fluoride is not added to city water.
3. Nitrate was detected within allowable levels in all zones. Nitrate occurs from runoff of fertilizer use; leaching from septic tanks, and erosion of natural deposits
4. DCPA Acid Metabolites were detected in the Lakeview, Montlake, and Wheeler zones. DCPA is a herbicide used on grasses and weeds in fruits and vegeable crops.
5. Trihalomethanes were detected within allowable levels in the distribution system. Trihalomethanes are by-products of drinking water chlorination.
6. Haloacetic Acids were not found in the distribution system.

### MONITORING VIOLATION

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During the summer of 2010, we did not monitor or test for Total Trihalomethanes and Haloacetic Acids and therefore cannot be sure of the quality of your drinking water during that time. All previous test results have been very low for Trihalomethane detections and no detections for Haloacetic Acids. We did not take a second set of Synthetic Organic samples from five of our 17 wells and one VOC sample in 2010. At this time no action is required by the users. Samples will be collected during 2011 as required. For more information contact the Water Division at 764-3945.

# CITY OF MOSES LAKE

## DRINKING WATER QUALITY REPORT FOR 2010

### CONTAMINANT INFORMATION -

#### PROVIDED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) 40 CFR PART 141

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material; and can pick up substances resulting from the presence of animals or from human activity. 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 a variety of sources such as agriculture, urban storm water runoff, and residential uses.

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

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

### CROSS CONNECTION CONTROL

Backflow prevention assemblies are installed to prevent backflow of contaminants into drinking water through cross-connections. A cross-connection is any actual or potential physical connection between a public water system and any source of non-potable liquid, solid, or gas that could contaminate the potable water supply by backflow. Backflow is the reversal of flow of water or consumers' potable water system.

The City of Moses Lake Water Division administers a cross-connection program that requires backflow preventers on water services serving properties that have potential for high health hazards as listed in Table 9 in the State WAC 246-290(4)(b).

Cross connection control within the property lines of a premise is the responsibility of the property owner. As a property owner, you are obligated to keep your water pipes in good repair and protected from freezing. You must prevent connections to any pipe, conduit, or fixture containing used, unclear, polluted, or contaminated water, unless you provide a backflow preventer approved for the potential hazard. Guidance on how to protect your potable water pipes from contamination via-cross-connections is contained in the Uniform Plumbing Code. In accordance with WAC 51-56-0603.3.3, the premise owner or responsible person shall have the backflow prevention assembly tested by a Washington State Department of Health certified backflow assembly tester at least once a year.

Please direct questions regarding mandatory premises isolation to the Water Division at 509-764-3946. For questions regarding cross-connection control on private property in the city limits contact the City of Moses Lake Community Development Department at 509-764-3750. For questions regarding cross-connection control on private property in the County, contact the Grant County Building Department at 509-754-2011.

### THERMAL EXPANSION

The City installs check valves at the meter on most services. Consumers must be aware that the installation of a check valve results in a closed plumbing system within the premises. Provisions may have to be made by the owner to provide for thermal expansion within the closed system, such as the installation of an approved thermal expansion device.



# CITY OF MOSES LAKE DRINKING WATER QUALITY REPORT FOR 2010

## FLUORIDE NOTICE TO WATER SYSTEM USERS

This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by the City of Moses Lake has a fluoride concentration above 2.0 mg/L in several pressure zones. The chart below shows the fluoride results for the various pressure zones. Page 2 contains a map showing the pressure zones.

Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums.

Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride containing products. Older children and adults may safely drink the water.

Drinking water containing more than 4 mg/L of fluoride (the U.S. Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/l of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/L because of this cosmetic dental problem.

For more information, please call Bill Maddox at the Water Division for the city of Moses Lake at 764-3951. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.

### FLUORIDE SAMPLE RESULTS FOR 2010 ZONE AVERAGE in mg/L

Central	1.01 – 2.04
Knolls Vista	1.00 – 2.31
Lakeview	0.36 – 1.87
Larson	0.26 – 1.04
Montlake	2.4
Wheeler	0.61 – 2.26

### HEALTH INFORMATION PROVIDED by EPA

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 at 1-800-426-4791.

# CITY OF MOSES LAKE

## DRINKING WATER QUALITY REPORT FOR 2010

### **WATER USE EFFICIENCY**

In 2003 the State Legislature passed the Municipal Water Law, which directed the Department of Health (DOH) to adopt a rule that establishes water use efficiency (WUE) requirements for all municipal water suppliers. There were several components in the requirements of the rule. These requirements included auditing for leakage, setting WUE goals, and submitting annual reports to the State DOH.

In June 2010, the City Council set a goal to reduce the average residential water usage by 2% before 2015. This goal focuses on customer water use and water savings. All users are encouraged to conserve water in their daily lives. See the suggestions at the bottom of the page for ways to conserve water.

### **WAYS WE'RE WORKING TOWARD USING OUR WATER EFFICIENTLY**

In 2010 the Water Division installed two meters at Pioneer Way and Hill where the water to the landscaped strip was unmetered. This resulted in a fully metered distribution system. We provide public education through the use of a booth at the Grant County Fair in August. We completed five days of leak detection in a portion of the city. We have scheduled another five days of leak detection survey in another portion of the city for 2011. The Department of Health goal for unauthorized use is 10% or below. Our system had a 11.5% unauthorized use of water, which gives us a three year average of 12.9%. We are working toward the requirement to be under 10%.

### **WATER CONSERVATION IS FOR EVERYONE**

Water conservation is the most cost-effective and environmentally sound way to reduce our demand for water. Conservation stretches our water supplies farther. Conservation can enable us to keep our usage of water at the same rate as our population continues to grow. Using less water also puts less pressure on our sewage treatment facilities and uses less energy for water heating.

### **WAYS TO CONSERVE:**

1. When buying new appliances, consider those that offer cycle and load size adjustments. They're more water and energy efficient.
2. Upgrade older toilets with water efficient models.
3. Use a commercial car wash that recycles water.
4. Turn off the water while brushing your teeth and save 25 gallons a month.
5. Report broken pipes and open hydrants to the City of Moses Lake Water Division.
6. When you give your pet fresh water, use the old water to water trees or shrubs.
7. Direct water from rain gutters toward water-loving plants in the landscape for automatic water savings.
8. Install a rain sensor on your irrigation controller so your system won't run when it's raining.
9. If installing a lawn, select a turf mix or blend that matches your climate and site conditions.
10. Use a rain gauge, or empty can, to track rainfall on your lawn. Then reduce your watering accordingly.
11. Know where your master water shut-off valve is located. This could save water and prevent damage to your home.
12. Water your plants deeply but less frequently to encourage deep root growth and drought tolerance.
13. When the kids want to cool off, use the sprinkler in an area where your lawn needs it the most.
14. Choose shrubs and groundcovers instead of turf for hard-to-water areas such as steep slopes and isolated strips.
15. Monitor your water bill for unusually high use. Your bill and water meter are tools that can help you discover leaks.
16. If water runs off your lawn easily, split your watering time into shorter periods to allow for better absorption.
17. Adjust your watering schedule each month to match seasonal weather conditions and landscape requirements.
18. Trickling or cascading fountains lose less water to evaporation than those spraying water into the air.

# CITY OF MOSES LAKE

## Drinking Water Quality Report for 2010

### EPA Consumer Confidence Report

#### English

This is very important information regarding the City of Moses Lake public potable (drinking) water system. You may wish to have this information translated.

#### Spanish

Este informe contiene informacion muy importante sobre su agua potable. Traduzcalo o hable con alguien que lo entienda bien.

#### Russian

**Данный рапорт содержит важную информацию о вашей питьевой воде. Переведите его или проконсультируйтесь с тем, кто его понимает.**

#### Japanese

このレポートには飲料水に関する重要な情報が記載されています。この英文を訳してもらるか、またはどなたか英語が分かる方にたずねてください。



DRINKING WATER QUALITY REPORT - 2010  
This Water Quality Report contains information for customers connected to the City of Moses Lake potable water system. If you are served by another public system or on a private well, this report does not pertain to the quality of your water.

ECRWSS  
POSTAL CUSTOMER

PRSTD STD  
US POSTAGE  
PAID  
WENATCHEE, WA  
PERMIT #1

City of Moses Lake  
P. O. Box 1579  
Moses Lake, WA 98837