

# WYOMING WATER ASSESSMENT AND PROTECTION PROGRAM (SWAP)



## SOURCE WATER ASSESSMENT PROGRAM EXECUTIVE SUMMARY

Source Water Assessment Prepared For:  
Miller-Lower MHP

Assessment Completed By:  
**Lidstone and Associates, Inc.**  
Engineering, Geology & Water Resource Consultants  
4025 Automation Way, Building E  
Fort Collins, CO 80525



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## **SOURCE WATER ASSESSMENT SUMMARY FOR Miller-Lower MHP**

### **PWS Source Water Assessment Summary**

The Miller Lower-Mobile Home Park maintains a community water system located in northeast Cheyenne at 1414 North College Drive. Water is provided to about 70 people per day through 18 service connections on a year round basis.

Water for the facility is obtained from a single well that is completed in the White River Formation. Groundwater from this well is pumped into two 80-gallon pressure tanks to pressurize and service the distribution system. The system is disinfected periodically using batch chlorination. A private well is reportedly available for use as a back-up source in emergencies.

In general, the Miller-Lower Mobile Home Park water source rated high for land use and medium for potential point source susceptibility. The high ratings occurred because much of the land surrounding the water sources is urban and because an underground injection well is located near the well.

### **Delineation Methods**

The Miller-Lower Mobile Home Park is a community water system that obtains its water from a porous sandstone aquifer. A WhAEM model was used to estimate the two year and five year time of travel zones for the water system based on data obtained from the City of Cheyenne's Wellhead Protection Plan document and Wyoming SEO records.

U.S. EPA's Wellhead Analytic Element Model or WhAEM method was used for community water systems that derive their sources from alluvial or shallow bedrock aquifers. The WhAEM model uses well and limited hydrogeologic data to estimate time-of-travel capture zones in relatively simple hydrogeologic settings for either confined or unconfined aquifers. For the source water assessment, the WhAEM model was used to develop two year and five year groundwater capture zones. Due to this methodology, the delineated source water areas may be larger than the true capture zones for each well. However, use of this method typically results in source water protection areas that can be used to more reliably protect the water supply.

### **Groundwater Sources**

The Mobile Home Park obtains its water from one well is that is 180 feet deep. This well draws water from saturated portions of the White River Formation. Recharge to this well is derived from infiltrating precipitation and stream losses over White River Formation outcrops, and flows eastward to the well through porous media flow. Additional information on this well is included on the attached Well Information Sheet.

As shown on the enclosed source water area map, contaminant inventory zones were delineated for the well. Zones 2 and 3 extend south from the wellhead and encompass an area immediately west of College Drive.

## **Integrity Summary**

The Miller Lower Mobile Home Park uses one well to supply water to the community system. The well, Miller #2, was completed before 1983 when less stringent construction standards were required by the State of Wyoming. Records show the well was properly sealed to protect against surface infiltration of potential contaminants but was lacking protection from flooding. As shown on the Integrity Summary Table, the well received a score of 4, which is a direct reflection of the well completion date and possibility of flooding around the wellhead.

## **Water Source Sensitivity Summary**

The Miller Lower Mobile Home Park obtains its water from one well, completed in the confined White River Formation. As shown on the Source Sensitivity Summary Table, the well received a sensitivity score of 6.

This well received a sensitivity score of 6 for two reasons. First, the porous confined aquifer is less vulnerable to contamination. The second reason is that laboratory analysis of water samples from the Mobile Home Park within the last five years detected a few contaminants that are listed on EPA's primary and secondary drinking water standards. These include nitrate, arsenic, sulfate, and fluoride. Despite detection, these contaminants were detected at concentrations below the EPA's maximum contaminant levels.

## **Water System Susceptibility Rating**

Susceptibility is defined as the potential for a public water supply to draw water contaminated at concentrations that would pose a threat or concern to human health. In general, the Miller-Lower Mobile Home Park scores high for land use susceptibility because all of the land surrounding the water sources is urban. The presence of an underground injection well within Zone 3 resulted in a medium contaminant susceptibility for the well. Susceptibility ratings for each type of potential contaminant source are summarized on the attached susceptibility tables

A review of your PWS's routine water analysis results revealed that one or more chemicals that are considered contaminants in drinking water were detected at some time within the last five years. Chemical detections have a large impact on your PWS's sensitivity score because it may indicate that there is a pathway for contaminants to reach the water supply. However, it is likely that these chemicals are present only in small amounts and are not a danger to your health. Some of these chemicals may also occur naturally in water.

For more information about which chemicals were detected, please contact the PWS for a copy of the most recent Consumer Confidence Report or water analysis results. Chemical detections at levels that are a concern to human health are reported on the EPA's website: [http://www.epa.gov/enviro/html/sdwis/sdwis\\_query.html](http://www.epa.gov/enviro/html/sdwis/sdwis_query.html). To see if your PWS has exceeded the federal primary or secondary drinking water standards, just click on the State of Wyoming and then type in the name of your PWS. Consumer Confidence Reports are prepared by the PWS on a yearly basis. The reports should include information about any chemicals found in the water, even those found at very low levels. Please contact Kim Parker at DEQ, 307-777-7781, or WARWS for assistance. You may also contact EPA to find out what contaminants were

detected. You may have to fill out a Freedom of Information Act request to obtain the water test results for your PWS. Please call EPA's Safe Drinking Water Hotline at 1-800-426-4791.

**POINT SUSCEPTIBILITY SUMMARY TABLE  
FOR Miller-Lower MHP**

**Point Source Susceptibility Summary**

It may appear from the results of this point source susceptibility summary table that your system has too many PSOCs influencing the final ratings. In some cases, a specific PSOC falls within a specific contaminant inventory zone shared by multiple wells or intakes. When this is the case, that PSOC will be scored for each intake. For example, an underground storage tank may appear within a contaminant inventory zone shared by four different wells. This would cause that single storage tank to be entered into the table four times, or once for each well or intake.

Point Source Type	Low	Medium	High
Underground Injection	N/A	1	N/A

- \* Illustrates the number of PSOCs in a particular rating class for all water sources
- \* N/A - Not Applicable