

# WYOMING WATER ASSESSMENT AND PROTECTION PROGRAM (SWAP)



## SOURCE WATER ASSESSMENT PROGRAM EXECUTIVE SUMMARY

Source Water Assessment Prepared For:  
Gardens North Homeowners Assn

Assessment Completed By:  
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## **SOURCE WATER ASSESSMENT SUMMARY FOR Gardens North Homeowners Assn**

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

The Gardens North Homeowner Association water facility is classified as a community groundwater supply. The subdivision is located contiguous to Riverton's north city limit, and east on Honor Farm Road. Originally designed to provide water for a population of about 500 through 175 connections year round, this PWS currently serves a resident population of 250 through 120 service connections. Source water for this facility is obtained from one well completed in the Wind River Formation.

The Association received high susceptibility ratings for land use because much of the land surrounding the water sources is classified as forest and irrigated agriculture. The Association should also be aware that a railroad lies within the source water area.

### **Delineation Methods**

The homeowners association maintains a community water system that obtains its source water from a porous sandstone formation. WhAEM methods were used to delineate the two and five year source water areas based on information obtained from the Wyoming SEO, and a Wyoming Water Development Commission Level II report completed for the City of Riverton.

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 Gardens North Homeowners Association obtains groundwater for its community supply from one well that is completed to a depth of 400 feet. This well obtains water from saturated sandstone beds of the Wind River Formation. Recharge to the Wind River Formation occurs through the direct infiltration of precipitation on outcrops. Groundwater flows through these sandstone beds to the well under confined artesian conditions through porous media. Additional information on this well is available on the enclosed Well Information Sheet.

As shown on the attached source water area maps, contaminant inventory zones for the well encompass an area immediately adjacent to the well. Zones 2 and 3 are generally centered on the well.

## **Integrity Summary**

The association uses one well to supply water to the community system. The well, Gardens North #1, was constructed prior to 1983, when less stringent construction standards were required by the State of Wyoming. However, records show that the well was properly sealed to protect against surface infiltration of potential contaminants and flooding around the wellhead. As shown on the Integrity Summary Table, the well received a low score of 3, which is a direct reflection of the well completion date.

## **Water Source Sensitivity Summary**

The Gardens North Homeowners Association obtains its water from the Wind River Formation, a deep confined porous aquifer. 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 known to be less vulnerable to contamination. The second reason is that laboratory analysis of water samples from the Campground within the last five years detected a few contaminants that are listed on EPA's primary and secondary drinking water standards. These include nitrate, DI(2-Ethylhexyl - Phthalate, fluoride, and sulfate. 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. The association scores high for land use susceptibility because much of the land surrounding the water sources is classified as forest and irrigated agriculture. The well was also assigned a low susceptibility for transportation corridor contaminants because a railroad runs through Zone 3. 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 Gardens North Homeowners Assn  
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
None Identified	N/A	N/A	N/A

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