

# WYOMING WATER ASSESSMENT AND PROTECTION PROGRAM (SWAP)



## SOURCE WATER ASSESSMENT PROGRAM EXECUTIVE SUMMARY

Source Water Assessment Prepared For:  
Second Fike Subdivision

Assessment Completed By:  
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## **SOURCE WATER ASSESSMENT SUMMARY FOR Second Fike Subdivision**

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

The Second Fike Subdivision water system is classified as a community groundwater supply. The Subdivision is located near Riverton's north city limit. The water facility provides untreated groundwater to the Subdivision's population of 26 residents through 14 service connections year round. Source water for this subdivision is obtained from a well that is completed in the Wind River Formation. Water pumped from this well flows directly to distribution. A 150 gallon galvanized steel pressure tank provides storage and maintains system pressure. No water treatment or disinfection is provided.

The Second Fike Subdivision water system scores high for land use susceptibility because much of the land surrounding the water source is urban. The overall point source contaminant susceptibility rating is low due to the lack of contamination sources being present within the delineated zones.

### **Delineation Methods**

The Second Fike Subdivision is 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, the sanitary survey, and a Wyoming Water Development Commission 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 data 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 Subdivision obtains groundwater for its community supply from one well that is completed to a depth of 232 feet. This well obtains water from sufficiently 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 of this well is available on the enclosed Well Information Sheet.

As shown on the attached source water area map, contaminant inventory zones for the well encompass an area immediately adjacent to and west of the well. The shape and size of Zones 2 and 3 reflect hydrogeologic conditions with respect to well pumping rates, aquifer transmissivities, and groundwater flow directions.

## **Integrity Summary**

The Second Fike Subdivision water system is classified as a community groundwater supply. The well was constructed before 1983 when less stringent construction standards were required by the State of Wyoming. Records show that the well was properly sealed to prevent surface infiltration of potential contaminants and flooding around the wellhead. As shown on the Integrity Summary Table, Second Fike received a low score of 3, primarily due to its well completion date.

## **Water Source Sensitivity Summary**

The Second Fike Subdivision water system obtains source water for this subdivision from a well that is completed in the Wind River Formation. As shown on the Source Sensitivity Summary Table, the well received a sensitivity score of 6.

This well received this intermediate sensitivity score for two reasons. The first reason is that it obtains water from a confined aquifer which is relatively insensitive to contamination. The second reason is that laboratory analysis of water samples from the subdivision within the last five years detected a few contaminants that are listed on the EPA's primary and secondary drinking water standards. These include sulfate, nitrate, and fluoride. While sulfate concentrations exceeded the EPA's secondary standards, the remaining contaminants were generally 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 Second Fike Subdivision water system scores high for land use susceptibility because much of the land surrounding the water sources is urban. The overall point source contaminant susceptibility rating is low due to the lack of contamination sources being present within the delineated zones. 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 Second Fike Subdivision  
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