

WYOMING WATER ASSESSMENT AND PROTECTION PROGRAM (SWAP)



SOURCE WATER ASSESSMENT PROGRAM EXECUTIVE SUMMARY

Source Water Assessment Prepared For:
Wyoming Campground

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SOURCE WATER ASSESSMENT SUMMARY FOR Wyoming Campground

PWS Source Water Assessment Summary

The Wyoming Campground water system is classified as a transient non-community groundwater system and is located off I-80 between Cheyenne and Pine Bluffs. The facility serves a population of 20 between May 1 and October 1 through 60 service connections. Source water for the facility is obtained from two wells that are completed in Upper Miocene Rocks.

The Wyoming Campground's two wells are Wyoming CG Well #2 and Woody's Truck Stop Well #2. Wyoming CG Well #2 scores low for land use susceptibility because much of the land surrounding the water sources is dryland agricultural. Woody's Truck Stop Well #2 scores medium for land use susceptibility because much of the land surrounding the water source is dryland agricultural. The reason why the land use susceptibilities are different is the difference in well integrity scores. The Wyoming Campground should also be aware of the interstate highway that runs through the zone of influence of the water supply wells.

Delineation Methods

Because the Wyoming Campground is classified as a transient non-community groundwater system and obtains water from a porous sandstone aquifer, Lidstone delineated the source water area for this system using calculated fixed radius (CFR) methods. This method was used to estimate the two and five year time of travel radii for the groundwater system based on data obtained from the Wyoming SEO, the PWS sanitary survey, and the SWAP guidance document.

CFR is an appropriate method to use when groundwater flow to the well, spring or tunnel can be characterized as porous. This process was implemented for small communities that derive water from deeper, confined aquifers, or for non-community water systems. A factor of safety of 1.5 was applied to all systems where portions of the data were suspect. At the ground surface, the radius can be used to delineate an area around the well to be used for wellhead protection. The radius is the distance from the well to a point where groundwater (and contaminant) can reach the well over a specified time period. Input data requirements are limited, consisting of the pumping rate, open area (screened interval) of the well, porosity of the aquifer, and the selected time of travel (2 years and 5 years).

Groundwater Sources

The Campground obtains its source water from two wells that are completed in Upper Miocene Rocks to depths ranging from 205 to 280 feet. Recharge to the Upper Miocene Rocks occurs through the direct infiltration of precipitation. Groundwater reaches the wells through porous media flow. Additional information on these two wells is included on the attached Well Information Sheets.

As shown on the enclosed source water area map, the contaminant inventory zones for these wells are centered around the wellheads. Zone 2s for the wells extend between 648 and 685 feet radially from the wellheads, while Zone 3s range from 1,024 to 1,084 feet. Differences in the

size of the contaminant inventory zones are primarily due to differences in the pumping rates of individual wells and local aquifer permeability.

Integrity Summary

The Wyoming Campground water system is classified as a transient non-community groundwater system. The Wyoming CG Well #2 was constructed after 1993 when stringent construction standards were required by the State of Wyoming. The Woody's Truck Stop Well #2 was constructed before 1983 when less stringent construction standards were not required by the State of Wyoming. Records show that the wells were properly sealed to protect against surface infiltration of potential contaminants and flooding around the wellhead. As shown on the Integrity Summary Table, the Wyoming CG Well #2 and Woody's Truck Stop Well #2 received scores of 2 and 4, respectively. These scores reflect the well completion date and wellhead accessibility.

Water Source Sensitivity Summary

The Wyoming Campground water system obtains source water for the facility from two wells that are completed in Upper Miocene Rocks. As shown on the Source Sensitivity Summary Table, the wells received sensitivity scores of 6.

These wells received a score of 6 for two reasons. First, the wells are located in a confined aquifer that is known to be insensitive to contamination. The second reason is that laboratory analysis of water samples within the last five years detected a contaminant that is listed on EPA's primary and secondary drinking water standards, nitrate. Despite detection, this contaminant was 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 Wyoming Campground has two wells, Wyoming CG Well #2 and Woody's Truck Stop Well #2. Wyoming CG Well #2 scores low for land use susceptibility because much of the land surrounding the water source is dryland agricultural. Woody's Truck Stop Well #2 scores medium for land use susceptibility because much of the land surrounding the water sources is dryland agriculture but the integrity score was higher than the Wyoming CG Well #2. The presence of an underground injection point within Zone 2 resulted in a medium and high point source contaminant susceptibility for the Wyoming CG Well #2 and Woody's Truck Stop Well #2, respectively. An interstate highway runs through Zone 2 and Zone 3 for both wells. Therefore, the wells were assigned a low, medium, and high transportation corridor susceptibility score. 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. 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 Wyoming Campground
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	1

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