

WYOMING WATER ASSESSMENT AND PROTECTION PROGRAM (SWAP)



SOURCE WATER ASSESSMENT PROGRAM EXECUTIVE SUMMARY

Source Water Assessment Prepared For:
Central Wyoming College FS

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SOURCE WATER ASSESSMENT SUMMARY FOR Central Wyoming College FS

PWS Source Water Assessment Summary

The Central Wyoming College Field Station water system is classified as a transient non-community groundwater supply. The facility is comprised of three buildings: a Hall, a Restroom, and a residence. During the season, an average of 10,000 persons use the facility. A family of six resides in the station year round. Source water for this facility is obtained from a well completed in the alluvium along the Middle Popo Agie River. A submersible pump provides water distribution on demand to several hydropneumatic tanks located in each building maintain system pressure. No treatment or disinfection is provided. In general, the Central Wyoming College FS water sources rated high for land use susceptibility. The high ratings occurred because much of the land surrounding the water source is irrigated cropland. No point source or transportation corridor contaminants were identified within the source water area of the well.

Delineation Methods

Because the Field Station is classified as a transient non-community groundwater system and obtains water from a porous media 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 (FS) 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 (screened interval) of the well, porosity of the aquifer, and the selected time of travel (2 years and 5 years).

Groundwater Sources

The Central Wyoming College Field Station obtains its source water from one well that is completed in alluvium to a depth of 77 feet. Recharge to the alluvium occurs through the direct infiltration of precipitation and from the river. Groundwater reaches 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, the contaminant inventory zones for this well are centered around the wellhead. Zone 2 extends approximately 1,003 feet radially from the wellhead, while Zone 3 extends approximately 1,586 feet.

Integrity Summary

The Central Wyoming College Field Station uses one well to supply water to the system. The well, CWC Field Station #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 Central Wyoming College Field Station uses one shallow alluvial well. As shown on the Source Sensitivity Summary Table, the well received a sensitivity score of 10.

These wells received the maximum sensitivity score for two reasons. First, the alluvial aquifer is known to be vulnerable to contamination. The second reason is that laboratory analysis of water samples from the Field Station within the last five years detected a few contaminants that are listed on EPA's primary and secondary drinking water standards. These include nitrate, coliform, and sodium. 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, Central Wyoming College FS scores high for land use susceptibility because much of the land surrounding the water sources is irrigated cropland. No point source or transportation corridor contaminants were located within the source water area of 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. 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 Central Wyoming College FS
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