

WYOMING WATER ASSESSMENT AND PROTECTION PROGRAM (SWAP)



SOURCE WATER ASSESSMENT PROGRAM EXECUTIVE SUMMARY

Source Water Assessment Prepared For:
Curt Gowdy SP HQ

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SOURCE WATER ASSESSMENT SUMMARY FOR Curt Gowdy SP HQ

PWS Source Water Assessment Summary

The Curt Gowdy State Park Headquarters water system is located on Wyoming Highway 210 about 25 miles west of Cheyenne. The PWS supplies water year round to two residential houses, seasonal usage at a maintenance shop, an outdoor amphitheater, and the Hynds Lodge. Source water for the facility is obtained from the Sherman Granite.

In general, the Curt Gowdy Headquarters Area scores low for land use susceptibility. The overall land use source contaminant susceptibility rating is low due to the lack of contamination sources being present within the delineated zones.

Delineation Methods

Curt Gowdy State Park Headquarters maintains a transient non-community water system that obtains its water supply from fractured bedrock. Hydrogeologic mapping techniques were consequently used to identify a source water area for the well.

Hydrogeologic mapping techniques use surface observations in combination with subsurface geologic and hydrogeologic data to identify aquifer boundaries and areas that contribute water to the aquifer. These techniques were used when a PWS's source was derived from a spring, fractured bedrock, or from a limestone or dolomite aquifer. Conduit flow aquifers have extremely variable flow patterns and rates, making the calculation of time of travel difficult. In some instances, only one contaminant inventory zone was identified beyond Zone 1 due to the inherent difficulty in attempting to assign a particular time of travel to a given area. Because of this issue, aquifer vulnerability mapping techniques were also used as part of the hydrogeologic mapping effort to identify and delineate vulnerable areas. These areas (faults, fractures, exposed bedrock, etc.) are anticipated to be more susceptible to the rapid infiltration of contaminants released at the ground surface.

Groundwater Sources

The Headquarters well is completed in the Sherman Granite to a depth of 250 feet. Recharge for the well originates as infiltrating precipitation on Sherman Granite outcrops in the area and flows to the well by fracture flow. Additional information on this well is included on the enclosed Well Information Sheet.

As shown on the attached source water area map, contaminant inventory zones for the Headquarters' well were developed to encompass those areas most likely to contribute water to the well. Zone 2 includes an area immediately adjacent to and west of the well. This area was considered most vulnerable due to its proximity to the well. Zone 3 extends farther westward and terminates on the south and east at the ridgelines, and on the north and west along Brush Creek.

Integrity Summary

The Curt Gowdy Headquarters Area uses one well for its water supply. The well, Gowdy Headquarters Area #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 4, which is a direct reflection of the well completion date and wellhead accessibility.

Water Source Sensitivity Summary

The Curt Gowdy Headquarters Area obtains water from the Sherman Granite which is known to have fracture flow characteristics. As shown on the Source Sensitivity Summary Table, the well received a sensitivity score of 10.

The well received the maximum sensitivity score for two reasons. First, fracture flow is known to be vulnerable to contamination because of potential pathways associated with water flowing through fractures. The second reason is that laboratory analysis of water samples from the Campground within the last five years detected contaminants that are listed on EPA's primary and secondary drinking water standards. These include nitrate and total coliform. 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 Curt Gowdy Headquarters Area scores low for land use susceptibility. The overall land use 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. 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 Curt Gowdy SP HQ
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