

WYOMING WATER ASSESSMENT AND PROTECTION PROGRAM (SWAP)



SOURCE WATER ASSESSMENT PROGRAM EXECUTIVE SUMMARY

Source Water Assessment Prepared For:
Rock Creek Hollow CG

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SOURCE WATER ASSESSMENT SUMMARY FOR Rock Creek Hollow CG

PWS Source Water Assessment Summary

The Rock Creek Hollow-LDS Campground water system is classified as a transient non-community groundwater supply. The facility is a primitive camping site that is located about seven miles south of Atlantic City in the South Pass area. Source water for the facility is obtained from a well completed in metasedimentary rocks. The well is seasonally operated from June through October, and provides water for an estimated average camping population of 100.

In general, the campground received medium to high susceptibility ratings. Medium susceptibility ratings were assigned for point sources contaminants because of injection wells and wastewater discharge in the area near the well. Land use rated high because of the forested lands around the site. Line sources were rated low for this water source due to the fact that railroads and pipelines are not located in close proximity.

Delineation Methods

The Rock Creek Hollow Campground is a transient non-community water system that obtains its water supply from fractured metasedimentary bedrock. Hydrogeologic mapping techniques were consequently used to identify the 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 campground well is located along the southeastern flank of the Wind River Mountains approximately ten miles east of South Pass City. The well is completed in metasedimentary rocks to a depth of 64 feet. Recharge for the well originates as infiltrating precipitation on metasedimentary rock outcrops to the northeast and flows southeastward to the well. 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 were developed to encompass those areas most likely to contribute water to Rock Creek Hollow's well. Zone 2 includes a topographic high to the south that could potentially impact the well during the spring as snow in the area begins to melt. Zone 3 includes the entire Rock Creek drainage and its

tributaries which have the potential to transmit water to the fractured metasedimentary aquifer.

Integrity Summary

The Rock Creek Hollow Campground uses one well to supply water to the system. The well, Willie #1, was constructed after 1993, when more stringent construction standards were required by the state of Wyoming. 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 2, which is a direct reflection of the well completion date and no presence of an annular seal.

Water Source Sensitivity Summary

The Rock Creek Hollow Campground obtains water from fractured metasedimentary rocks which are known to have fracture flow components. As shown on the Source Sensitivity Summary Table, the well received a sensitivity score of 10.

This well received the maximum sensitivity score for two reasons. First, fracture flow is known to be vulnerable to contamination because of high velocities 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 a few contaminants that are listed on EPA's primary and secondary drinking water standards. These include nitrate, fluoride, TDS, 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, the Rock Creek Hollow Campground received high land use susceptibility ratings because it lies in a forested area. The overall point source contaminant susceptibility rating was medium due to wastewater discharge and injection well points present within 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. 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 Rock Creek Hollow CG
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
Wastewater Discharge	N/A	7	N/A
Underground Injection	N/A	4	N/A
Sol/Haz Waste Site	N/A	2	N/A

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