

**SOURCE WATER ASSESSMENT
EXECUTIVE SUMMARY
FOR
Ranchester**

June 30, 2004

PROJECT: 424-001

ASSESSMENT COMPLETED BY: TRIHYDRO CORPORATION

1252 Commerce Drive, Laramie, WY 82070



ENGINEERING SOLUTIONS. ADVANCING BUSINESS.

Home Office | 1252 Commerce Drive | Laramie, WY 82070 | phone 307/745.7474 | fax 307/745.7729 | www.trihydro.com

SOURCE WATER ASSESSMENT SUMMARY FOR Ranchester

PWS Source Water Assessment Summary

The Town of Ranchester is a community surface water system located in Sheridan County. The system serves 700 people per day through 261 service connections year-round. The system is supplied by a surface water intake that obtains its water from the Tongue River and its tributaries. Additionally, facilities include a water treatment plant, one coated steel storage tank for treated water, and the interconnecting transmission system. The raw water is treated by conventional filtration technique. The water source scored medium with respect to the combined integrity and aquifer sensitivity rating. The town scored medium with respect to land use susceptibility, high with respect to point source susceptibility and high with respect to transportation corridor susceptibility.

Delineation Methods

This water system is a community system that draws water from surface water. Surface water mapping methods were used to determine contaminant inventory zones 2 and 3.

The surface water source area was delineated using surface topographic techniques. Zone 2 for included an area 1,000 feet on either side of the Tongue River and its perennial streams that extended upstream of the intake for a distance of 15 miles. Zone 3 for the intake includes the entire stream drainage basin from Zone 2 to the basin headwaters.

Surface Water Sources

Ranchester draws water from one surface water intake. The intake obtains water from the Tongue River and its tributaries. As shown on the enclosed source water area delineation map, contaminant inventory zones 2 and 3 were delineated using surface water mapping methods. Zone 2 consists of a 1000 foot buffer zone area along the Tongue River and its tributaries. Zone 2 extends from the surface water intake upstream 15 miles. Zone 3 encompasses the entire Tongue River drainage basin upstream from the intake.

Integrity Summary

Ranchester supplies water from one surface water intake. The intake was constructed before 1983, when less stringent construction standards were required by the State of Wyoming. Records indicated that while the area around the intake is unrestricted, the intake is screened and inspected regularly to protect against the infiltration of potential contaminants. As shown on the Integrity Summary Table, the intake received an integrity score of 5. This score primarily reflects the fact that the intake was completed before 1983 and the intake area is unprotected. Additional information on this intake is included on the attached Surface Water Information Sheet.

As shown on the Source Sensitivity Summary Table, the surface water intake received a sensitivity score of 10. The intake received the score for two reasons. The first reason is that surface water intakes are more vulnerable to contamination due to unpredictable flow pathways and their proximity to the ground surface. The second reason is that there are documented chemical detections in the water supply.

Water System Susceptibility Rating

Susceptibility is defined as the potential for a public water supply to draw contaminated water at concentrations that would pose a threat or concern to human health. In general, the Town of Ranchester scores medium for land use susceptibility because much of the land surrounding the water source is irrigated cropland and forested. Forested areas were included to evaluate the potential risks of increased runoff and water quality problems following forest fires. The overall point source contaminant susceptibility rating is high due to the presence of underground storage tanks in close proximity to Tongue River. The water source was assigned a high transportation corridor susceptibility score because its source water zones are in proximity to state highways and pipelines.

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 Ranchester
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	N/A	3
Underground Tank	N/A	N/A	8

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