

**SOURCE WATER ASSESSMENT
EXECUTIVE SUMMARY
FOR
Ralston Food Mart**

June 30, 2004

PROJECT: 424-001

ASSESSMENT COMPLETED BY: TRIHYDRO CORPORATION

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SOURCE WATER ASSESSMENT SUMMARY FOR Ralston Food Mart

PWS Source Water Assessment Summary

Ralston Food Mart maintains a non-community groundwater supply system, located near Ralston Wyoming. The system supports an average of 75 people daily through two service connections. Facilities include a storage tank and the distribution system. The water source scored medium with respect to the combined integrity and aquifer sensitivity ratings. The Ralston Food Mart scored high with respect to land use susceptibility, point source susceptibility, and transportation corridor contaminant susceptibility.

Delineation Methods

This water system is a non-community system that draws water from porous terrace and alluvium deposits. Calculated fixed radius (CFR) methods were implemented to estimate the 2-year and 5-year time of travel radii for the groundwater flow system. The CFR was calculated using assumed well information and aquifer parameters used in the calculation were assumed from those of similar type deposits.

Calculated fixed radius (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

Ralston Food Mart draws water from one well that is assumed to be shallow. The well draws water from terrace and alluvium deposits along the Alkali Creek. Recharge to the aquifer comes from Alkali Creek and its tributaries, and reaches the well through porous media flow. Groundwater flow within the terrace and alluvium deposits is generally from northwest to southeast. Additional information on this well is included on the attached Well Information Sheet. As shown on the enclosed source water area delineation map, contaminant inventory zones 2 and 3 were delineated using CFR methods. Zone 2 had a calculated radius of 1,123 feet. Zone 3 had a calculated radius of 1,776 feet.

Integrity Summary

The Ralston Food Mart uses one well to supply water to the system. This well was constructed between 1983 and 1993 when moderately stringent construction standards were required by the State of Wyoming. Records show that the well was properly sealed to protect from surface infiltration of potential contaminants. However, it may lack an annular seal and access to the wellhead is unrestricted. As shown on the Integrity Summary Table, the well received a score of 4 due to the well completion date, possible lack of an annular seal, and unrestricted access.

Water Source Sensitivity Summary

As shown on the Source Sensitivity Summary Table, the well received a sensitivity score of 10. The well received this score for two reasons. First, the well received a score of 5 for aquifer sensitivity because it was completed as a shallow well in an unconfined alluvial aquifer. Second, the well received a score of 5 for chemical sensitivity due to documented chemical detections in the groundwater.

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 Ralston Food Mart scored high for land use susceptibility because much of the land surrounding the water source is irrigated cropland. The presence of one underground storage tank within Zone 2 resulted in a high point source contaminant susceptibility. The well was assigned a high susceptibility for railroad and state highway types of transportation corridor contaminants. 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 Ralston Food Mart
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 Tank	N/A	2	1
Storage Tank	N/A	1	N/A

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