

**SOURCE WATER ASSESSMENT
EXECUTIVE SUMMARY
FOR
ANG-Training Site-Post Wells**

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PROJECT: 424-001

ASSESSMENT COMPLETED BY: TRIHYDRO CORPORATION

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SOURCE WATER ASSESSMENT SUMMARY FOR ANG-Training Site-Post Wells

PWS Source Water Assessment Summary

The Army National Guard-Training Site-Post Wells is a non-transient non-community groundwater system located in Platte County. The system serves 170 people through 60 service connections. The system is supplied by three wells that draw from the alluvium in the North Platte River valley. Facilities also include well chlorinators, storage tanks and a transmission system. The water sources scored medium with respect to the combined integrity and sensitivity ratings., The site scored high with respect to land use susceptibility, point source contaminant susceptibility, and transportation corridor susceptibility.

Delineation Methods

This water system is a non transient non-community system that draws water from a porous sedimentary formation. 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 used well information from the sanitary survey and aquifer parameters were assumed for similar type deposits.

The calculated fixed radius (CFR) method is appropriately used when groundwater flow to the well 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 from which groundwater (and contaminants) can reach the well over a specified time period. Input data requirements are limited, consisting of the pumping rate, open area (screened) interval of the well, porosity of the aquifer, and the selected time of travel (2 years and 5 years).

Groundwater Sources

The Army National Guard-Training Site-Post Wells system draws water from the alluvium in the North Platte River valley. Recharge to the alluvial aquifer comes from the North Platte River, and reaches the wells through porous media flow. Groundwater flow within the alluvium is generally from northwest to southeast. Additional information on these wells is included on the attached Well Information Sheet. As shown on the enclosed source water area delineation map, contaminant inventory zones 2 and 3 are delineated using CFR methods. Zone 2 has calculated radii of 745 feet, 2,994 feet and 4,492 feet. Zone 3 has calculated radii of 1,184 feet, 4,735 feet and 7,102 feet.

Integrity Summary

ANG-Training Site uses three wells that are approximately 75, 77 and 196 feet deep to supply its water. The ARNG #9 and #3 wells were constructed between 1983 and 1993 when moderately stringent construction standards were required by the State of Wyoming. The ARNG #10 well was constructed after 1993 under more strict requirements. Records show that all the wells were properly sealed to protect against surface infiltration of potential contaminants and flooding of the wellhead. As shown on the Integrity Summary Tables, ARNG #9 received a score of 2, ARNG #3 received a score of 4 and the ARNG #10 well received a score of 1.

Water Source Sensitivity Summary

As shown on the Source Sensitivity Summary Table, the wells each received a sensitivity score of 10. The three wells received the score for two reasons. First, the wells draw water through porous media flow from an unconfined alluvial aquifer that is known to be vulnerable to contamination. The second reason is that there are 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, ANG Training Site - Post Wells scored high for land use susceptibility because much of the land surrounding the wells is urban, 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 tanks, underground injection points, wastewater discharge, voluntary cleanup, and sol/haz waste sites being located within the delineated zones of the wells. The wells were assigned a high transportation corridor susceptibility score because multiple pipelines, two state highways, and multiple railroad lines pass through the wells' 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 ANG-Training Site-Post Wells
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	3	N/A
Voluntary Cleanup	N/A	3	N/A
Underground Tank	N/A	N/A	66
Underground Injection	N/A	N/A	3
Sol/Haz Waste Site	N/A	3	N/A

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