SOURCE WATER ASSESSMENT
EXECUTIVE SUMMARY
FOR
Wyoming Technical Institute

June 30, 2004

PROJECT: 424-001

ASSESSMENT COMPLETED BY: TRIHYDRO CORPORATION

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PWS Source Water Assessment Summary

The Wyoming Technical Institute is a community public water system located in Albany County. The system serves 257 people through 25 service connections year-round. The system is supplied by two wells that draw water from the Casper formation. The facility also includes a steel raw water storage tank, a water treatment/disinfection unit, six steel treated water storage tanks and the interconnecting transmission system. The water sources scored medium with respect to the combined integrity and sensitivity ratings. The institute scored low with respect to land use susceptibility and point source susceptibility.

Delineation Methods

This water system is a community system that draws water from a fractured sedimentary unit. Hydrogeologic mapping methods were implemented to map the groundwater flow system.

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 Wyoming Technical Institute draws water from the Casper Formation. Recharge to the wells originates from an outcrop of the Casper east of the wells and flows westward toward the wells through conduit flow. Additional information of 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 were delineated using hydrogeologic mapping methods. Zone 2 encompasses the near section of the Casper Formation outcrops, terminating on the south by an unnamed fault, on the north by Roger Canyon and tributaries, and terminating to the west by a geological contact with the Chugwater Formation. Zone 3 encompasses the outcrops of the Casper Formation, terminating to the north by an unnamed fault and terminating to the south by Telephone Canyon and tributaries.

Integrity Summary

The Wyoming Technical Institute uses two wells that are approximately 1,300 and 1,500 feet deep to supply its water. The well, W.T.I #1 was constructed prior to 1983 when less stringent construction standards were required by the State of Wyoming. W.T.I #2 well was constructed between 1983 and 1993 when moderate construction standards were required. Records show that both wells were properly sealed to protect against surface infiltration of potential contaminants and flooding around the wellhead. As shown on the Integrity Summary Table, W.T.I. #1 well received a score of 3 and W.T.I. #2 well received a score of 2, both reflecting their well completion dates.

Water Source Sensitivity Summary

As shown on the Source Sensitivity Summary Table, the wells received a sensitivity score of 10. The wells received the score for two reasons. First, the wells are completed in an aquifer that is known to be vulnerable to contamination because of the unpredictable flow pathways associated with conduit flow. Second, the wells received a score of 5 for chemical sensitivity due to documented detections in 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 Wyoming Technical Institute scores low for land use susceptibility. The overall point source contaminant susceptibility rating is low due to the lack of contamination sources being present within the delineated zones.

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 Wyoming Technical Institute

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