SOURCE WATER ASSESSMENT
EXECUTIVE SUMMARY
FOR
Bighorn NF Leigh Creek RV Dump St.

June 30, 2004

PROJECT: 424-001

ASSESSMENT COMPLETED BY: TRIHYDRO CORPORATION

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PWS Source Water Assessment Summary

The Bighorn National Forest Leigh Creek Dump Station is a non-community groundwater system. Facilities were being constructed and expected to be operational by July 4, 2004, as determined through a phone interview with the system operator. The water source scored low with respect to the combined integrity and aquifer sensitivity ratings. The dumpsite scored low for land use susceptibility, point source susceptibility and medium for transportation corridor susceptibility.

Delineation Methods

This water system is a non-community system that draws water from a fractured igneous formation. Hydrogeologic mapping methods were implemented to estimate the 2-year and 5-year time of travel zones for 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 Leigh Creek Dump Station draws water from the Oldest Gneiss Complex. Recharge occurs by precipitation and surface water infiltration and flows to the well through conduit flow. 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 combined and delineated using hydrogeologic mapping methods. Zone 2 encompasses the Canyon Creek drainage to an elevation approximately equal to well depth.

Integrity Summary

Bighorn National Forest Leigh Creek RV Dump Site uses one well that is approximately 420 feet deep to supply its water. The well was constructed after 1993 when more stringent construction standards were required by the State of Wyoming. Records indicate that the well was properly sealed to protect from surface infiltration of potential contaminants and flooding around the wellhead. As shown on the Integrity Summary Table, the well received a score of 1 based on the well completion date.

Water Source Sensitivity Summary

As shown on the Source Sensitivity Summary Table, the well received a sensitivity score of 5 because it is completed in an aquifer that is known to be vulnerable to contamination due to unpredictable flow pathways associated with conduit flow.

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 Bighorn National Forest Leigh Creek RV Dump Station 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. The well was assigned a medium transportation corridor susceptibility for Zone 2 because Hwy 16 is nearby. Susceptibility ratings for each type of potential contaminant source are summarized on the attached susceptibility tables.

POINT SUSCEPTIBILITY SUMMARY TABLE
FOR Bighorn NF Leigh Creek RV Dump St.

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