SOURCE WATER ASSESSMENT
EXECUTIVE SUMMARY
FOR
Dornans Moose Enterprises

June 30, 2004

PROJECT: 424-001

ASSESSMENT COMPLETED BY: TRIHYDRO CORPORATION

1252 Commerce Drive, Laramie, WY 82070

SOURCE WATER ASSESSMENT SUMMARY
FOR Dornans Moose Enterprises

PWS Source Water Assessment Summary

Dornan's Moose Enterprises is a non-community groundwater system located in Teton County. The system serves 100 people through 11 service connections. The system is supplied by two wells that draw water from the alluvium along the Snake River valley. Facilities also include two storage tanks and the interconnecting transmission system. The combined system scores for integrity and sensitivity for Well #1 and Well #2 are medium and high, respectively. Dornan's Moose Enterprises scored high for land use susceptibility, high for point source contaminant susceptibility, and high for transportation corridor contaminant susceptibility.

Delineation Methods

This water system is a non-community system that draws water from porous alluvium. 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 well information in the sanitary survey. Aquifer parameters used in the calculation were assumed for those of similar type deposits.

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

Dornan's Moose Enterprises draws water from the alluvium along the Snake River valley, and reaches the well through porous media flow. Recharge to the aquifer occurs in the alluvium along the Snake River and generally flows from northeast to southwest under artesian conditions. Additional information on these wells is included on the attached Well Information Sheets. As shown on the enclosed source water area delineation map, contaminant inventory zones 2 and 3 were delineated using CFR methods. Well #1 had a Zone 2 calculated radius of 2,367-feet and a Zone 3 calculated radius of 3,743-feet. Well #2 had a Zone 2 calculated radius of 2,117-feet and a Zone 3 calculated radius of 3,348-feet.

Integrity Summary

Dornan's Moose Enterprises uses 2 groundwater wells. Well #1, Dornan's #1, is approximately 75-feet deep. This well was constructed prior to 1983, when less stringent construction standards were required by the State of Wyoming. Well #2, ME-D-1, is approximately 90-feet deep. This well was constructed between 1983 and 1993, when moderate construction standards were required. Records indicate 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, ME-D-1 well received a score of 5 and Dornan's #1 well received a score of 6. Both scores were based on the well completion dates and lack of surrounding flood protection.

Water Source Sensitivity Summary

As shown on the Source Sensitivity Summary Table, the wells both received a sensitivity score of 10. The wells received the maximum sensitivity score for two reasons. First, the wells obtain water from an unconfined alluvial aquifer. Second, the wells 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 Dornan's Moose Enterprise scores high for land use susceptibility because much of the land surrounding the wells is 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 underground injection sites and a groundwater contamination site being located within zones 2 and 3 of the wells. The wells were assigned a high transportation corridor susceptibility score because a state highway passes through Zone 2 and 3. 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 Dornans Moose Enterprises

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 Injection	N/A	N/A	4
Groundwater Contamination	N/A	1	1

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