

**SOURCE WATER ASSESSMENT  
EXECUTIVE SUMMARY  
FOR  
YNP Mammoth Hot Springs**

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**June 30, 2004**

**PROJECT: 424-001**

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**ASSESSMENT COMPLETED BY: TRIHYDRO CORPORATION**

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## **SOURCE WATER ASSESSMENT SUMMARY FOR YNP Mammoth Hot Springs**

### **PWS Source Water Assessment Summary**

The Yellowstone National Park Mammoth Hot Springs is a community surface water supply system located in Yellowstone National Park. The system serves the headquarters community of the Park and the associated, tourist oriented businesses. The system serves 310 people per day through 274 service connections. The system draws water from two surface water intakes. The intakes obtain water from Gardner River, Panther Creek and their tributaries. Facilities include a raw water storage reservoir, a water treatment plant (for flocculation, settling, filtering and disinfection), and the interconnecting transmission system. One intake scored medium and the other scored high with respect to the combined integrity and sensitivity ratings. The system scored high with respect to land use susceptibility and low for point source susceptibility.

### **Delineation Methods**

This water system draws water from surface water. Surface water mapping methods were used to determine contaminant inventory zones 2 and 3.

### **Surface Water Sources**

Yellowstone National Park Mammoth Hot Springs draws water from Gardner River, Panther Creek and their tributaries. Additional information on these intakes is included on the attached Surface Water Information Sheet. As shown on the enclosed source water area delineation map, contaminant inventory zones 2 and 3 were delineated using surface water mapping methods. Zone 2 consists of a 1000 foot buffer zone area along Gardner River, Panther Creek and their tributaries. Zone 2 extends from the surface water intakes upstream to the perennial reaches of each. Zone 3 encompasses the entire Gardner River and Panther Creek drainage basins upstream from the intakes.

### **Integrity Summary**

The intakes were constructed prior to 1983, when less stringent construction standards were required by the State of Wyoming. Records also indicate that the area around both intakes is unrestricted. As shown on the Integrity Summary Table, the Panther Creek intake received an integrity score of 6 and the Gardner River intake received a score of 5. These values directly reflect the intake construction dates and the unrestricted access to the intakes.

### **Water Source Sensitivity Summary**

As shown on the Source Sensitivity Summary Table, the surface water intakes received

sensitivity scores of 10. The intakes received a 10 for two reasons. The first reason is that surface water intakes are more vulnerable to contamination. The second reason is that there are documented chemical detections in the surface water.

### **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, both intakes scored high with respect to land use susceptibility because much of the land surrounding the water sources 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 for both intakes is low due to the lack of contamination sources 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](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 YNP Mammoth Hot Springs  
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