A Multilevel Monitoring System Provides New Insights into a Bedrock Aquitard in Southeastern Minnesota

**ABSTRACT**

A multilevel monitoring system is an important tool for characterizing underground water resources. Our instrumented system demonstrates enhanced performance at a bedrock site in southeastern Minnesota. The instrumented well is located in Afton State Park, Washington County. The site was chosen in part due to low hydraulic conductivity and the presence of a large bedrock aquitard. This bedrock aquitard is an important factor in the development of a large bedrock aquifer system. The instrumented well includes a series of discrete positions within a single well. This approach allows for the collection of high-resolution data on fluid pressure and collection of fluid samples from multiple aquifers.

**Analysis of water chemistry**

The instrumented well is located in Afton State Park, Washington County. The site was chosen in part due to low hydraulic conductivity and the presence of a large bedrock aquitard. This bedrock aquitard is an important factor in the development of a large bedrock aquifer system. The instrumented well includes a series of discrete positions within a single well. This approach allows for the collection of high-resolution data on fluid pressure and collection of fluid samples from multiple aquifers.

**Photographs taken during installation**

Photographs taken during installation showing setup for taking pressure profile measurements during fall and winter conditions in Minnesota.

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