

February 24th, 2022

“The Future of Virginia City’s Water”

Respectfully submitted by the Virginia City Planning Board:

Bobbi Dirks, Chair

David Bacon, Vice Chair

Angela Mueller

Greg Jorczyk

Roger Williams

Eric Barsness

David Laufenberg

Our town is in the process of the required review and update to our existing Source Water Protection Plan (SWPP). An SWPP investigates the quantity and quality of municipal water supplies, and helps guide management and planning efforts for a municipality to ensure adequate, potable water for its residents and visitors.

As the Western writer Wallace Stegner once noted, “aridity makes the various Wests one.” Given the current severe drought and concerns regarding climate in the coming decades, it’s important to note that Virginia City is perhaps more sensitive than most other municipalities given the underlying geology of these rocky hills, our significant uptick in seasonal visitation and increased water demand, and the potential for land development in areas that we depend upon for water. Currently, the entirety of our town’s water supply originates from two springs northeast of town.

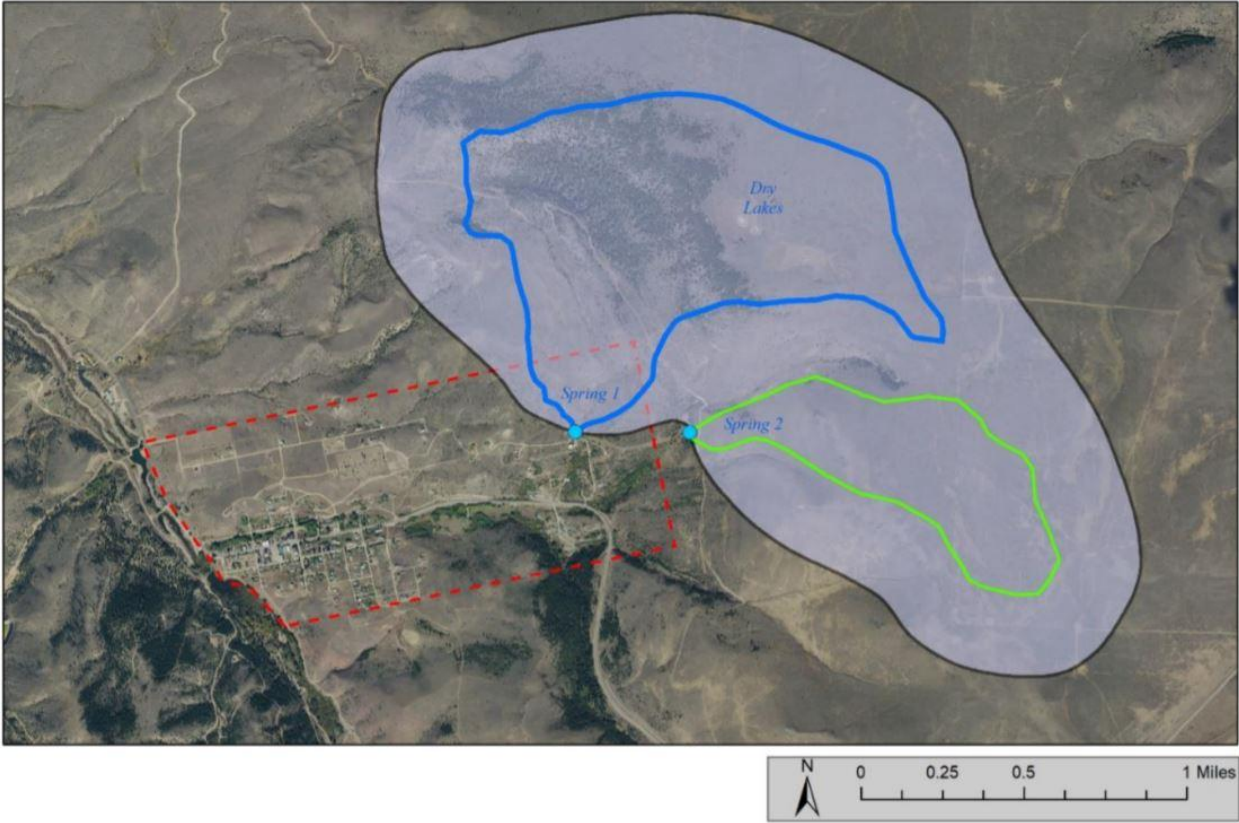
We rely on the Montana Bureau of Mines and Geology (MBMG) to provide the science necessary to make informed water management decisions for our town. Initial efforts of data collection began in 1970, but the first SWPP wasn’t finalized until 2000. Following years of public input and review, an updated document was finalized in 2016. Notably, a major MBMG investigation of our town’s water supply using a number of modern-day methods (LiDAR, Electrical Resistivity Tomography Surveys, VLF Electromagnetic and Seismic Surveys) is nearing completion.

Preliminary results indicate a few important land development and planning considerations:

- Spring 1 provides the vast majority of the town’s water and meets the current water demand for the Town of VC
- Spring source areas (Graphic 1) are highly sensitive to surface activity, wells and/or septic systems given the local geology near springs (Graphic 2)
- Alder Gulch represents the next best opportunities for water development but would be expensive and have risks associated with historic mining practices and water rights
- Additional wells in the area indicate significant arsenic concerns

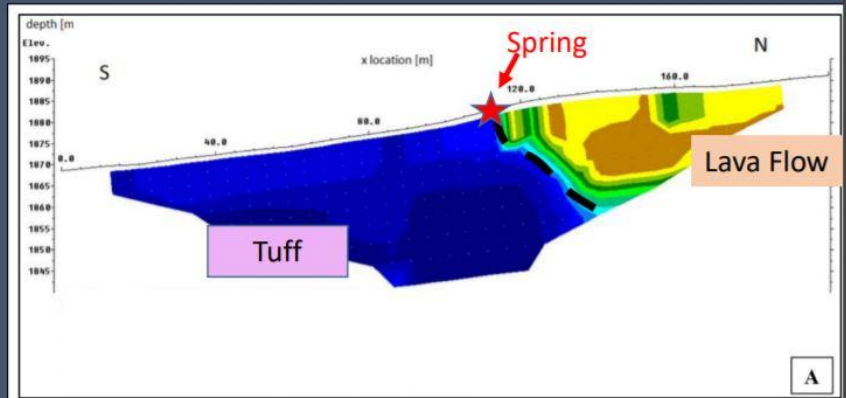
These investigations clarify that our town’s best option is to preserve the integrity of the spring source areas. All other options include significant caveats and uncertainty of water quantity and quality.

Thanks for reading and considering the current state of this old mining town’s water prospects. As always, anyone selling or purchasing land or property should conduct due diligence and become informed about potential regulations or considerations regarding land development. Please stay tuned for a public presentation of the MBMG study in the coming months and visit the Virginia City website for more information.

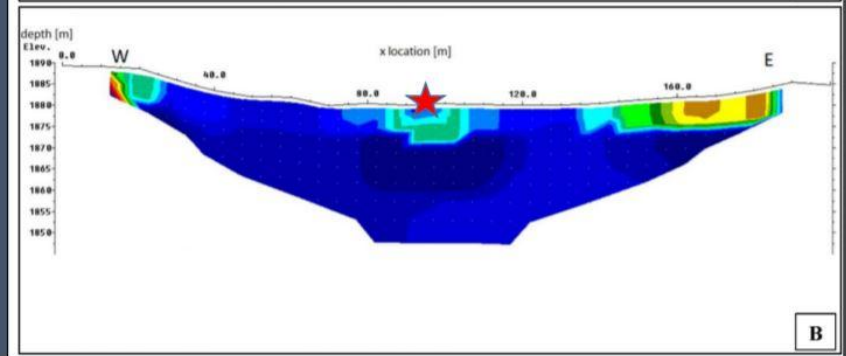


Graphic 1: Town of Virginia boundary is dotted red, Spring 1 source area is blue, Spring 2 source area is green, and the larger, shaded area is a 0.25 mile buffer around the spring source areas. *Source: Montana Bureau of Mines and Geology*

Spring 1
~Perpendicular to Contour



Spring 1
~ Parallel to Contour



Graphic 2: Electrical resistivity tomography survey of Spring 1. Source: Montana Bureau of Mines and Geology