Data Submitted (UTC 11): 6/8/2020 5:06:38 AM
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Comments: Moving forward with exploratory drilling for the Homestake Dam project(s) is not a good idea and one that I oppose on scientific grounds. The Homestake Valley hosts unique geologic features that record a long, 1.7 billion-year history.

Most recently the valley is home to an unusual stepped wetland that developed following the retreat of Pleistocene glaciers. The meandering, zig-zag geometry of these valley-floor wetlands is due to erosional scours and ridges left behind as the ice retreated. These include rare roches moutonnees, whalebacks, and a complex record of striations and grooves carved into the bedrock that record glacial retreat. The glacial history has long been of educational value. In the early 1920s, the U.S. Geological Survey published a topographic map for rail tourists on the Denver and Rio Grande Western line showing the outline of the Homestake Glacier as it would have appeared ~10,000 years ago. The glacial features of the valley were also utilized as a lab exercise published in popular a late 1900's college Physical Geology lab manual, which has been utilized by thousands of students at universities around the world.

The valley also preserves an important record of the Precambrian assembly of western North America 1.7 billion years ago, and preserves the world's longest-known "fossil" earthquake-generated fault system which formed at depths of about 15 km 1.4 billion years ago. These exposures help scientists to understand how earthquakes behave at depth, where they are otherwise inaccessible. The main exposures of this fault system will be flooded by the proposed reservoirs. Others will be impacted by the rerouting of the Homestake Creek road. The site has been visited by hundreds of professional geoscientists and students from around the world over the past two decades. From a scientific and educational perspective, the Homestake Valley is irreplaceable.