

Recent USGS Data Support MCWD's Concern that Geothermal Pumping Could Impact Mammoth Lakes' Water Supply

New Monitoring Wells are Essential to Protect Mammoth Lakes' Drinking Water before Geothermal Production is Increased

New monitoring data indicate geothermal liquids are intermingling with the shallow aquifer, reported Jim Howle of the United States Geologic Survey ("USGS") at the Mono County Board of Supervisors' meeting on July 19th. Recent monitoring of two new sets of wells found heated water at 600 feet where cold water was expected. In addition, the two new wells, in and adjacent to the geothermal production area, and two Mammoth Community Water District ("MCWD") wells contain chemical components linked to the deeper geothermal reservoir.

Howle explained that the presence of hot water from the geothermal production zone in the shallow aquifer increases concern over potential impacts to MCWD's groundwater supply. This has been a concern of MCWD expressed consistently from the beginning of the study of the Casa Diablo IV Project ("CD IV Project"). CD IV will considerably expand geothermal production in the area. He said: "What we learned is not what we thought it was back in 2013." He also stated that based on the new information "...the potential for thermal water to intermingle with cold groundwater production is now a higher possibility."

To protect the MCWD water supply, an early detection system consisting of additional monitoring wells is critical to ensure impacts are not moving horizontally towards MCWD production wells. Howle emphasized that these concerns are based on a limited data set and additional data over 1 ½ to 2 years need to be collected to better inform decision makers about the geothermal system and potential impacts that increased geothermal production could cause.

The US Bureau of Land Management ("BLM") office has been informed by the USGS about the latest data from the new monitoring wells and water quality program test results. As a permitting agency for the Project, the BLM is working with MCWD and the Project proponent, Ormat, to complete a Monitoring and Response Plan for the Project. The Great Basin Unified Air Pollution Control District is also a permitting agency for the CD IV Project.

The need for additional deep monitoring wells, monitoring of new wells and existing MCWD wells is the result of controversy over the potential impacts to Mammoth Lakes' water supply from the CD IV Project. The Project would expand the capacity of Ormat's geothermal plant by introducing new production and injection wells closer to MCWD's shallow groundwater production wells.

The environmental documents for the CD IV Project concluded there would be no potential impacts to MCWD's groundwater supplies based on a conceptual model that included an impermeable geologic layer between the shallow aquifer and the deep geothermal reservoir. With the new information "**...the conceptual model is out the window...**" said Howle.

The Mono County Board of Supervisors concluded the workshop by requesting status reports on information pertaining to the CD IV Project.