

Mayacamás Ranch, an operating 75-acre guest ranch in the Mayacamás Mountains near Calistoga, CA is located in Zone 3 (marginal water availability area) of Sonoma County's water availability zones. The new owners wanted to bring the project into compliance with Sonoma County PRMD Use Permit Conditions which entailed certification of the availability of sufficient groundwater and evaluation of pumping impacts on nearby groundwater supply wells. The owner retained EGS to conduct the required Groundwater Resource and Impact Evaluation in accordance with General Plan Policy WR-2e.

Our scope of work consisted of a preliminary data review to develop a focused scope of work, and consultations with project engineers, planners, and PRMD staff. We completed and filed "*Well Completion Report Release Agreement - Agency*" document and submitted to PRMD for authorization to obtain Confidential DWR well records for properties within a half mile radius of the subject property and reviewed driller's logs, driller's pump tests, and production records. This research was followed by geologic reconnaissance to supplement the USGS published mapping of the area, and provide site specific information to help evaluate the hydrogeologic aspects of the site geology. This part of the evaluation resulted in the establishment of the "*cumulative impact area*", identified the project's planned water requirements and estimated the theoretical water demand if the property was used to the full extent of the permit.

The PRMD's site specific Draft Health Use Permit Conditions, County Procedures for Implementing General Plan Policy WR-2e, and Sonoma County Groundwater Studies Checklist required a dry weather, well pump test for this site which EGS performed. We also collected water quality samples for analysis of bacteria, arsenic and nitrate.

The drawdown and recovery pump test data was analyzed to evaluate aquifer characteristics including estimating the specific capacity of the producing formation(s), hydraulic conductivity, transmissivity, and groundwater yield and storage capacity. Our analysis included the evaluation of site and area geology, hydrology and stratigraphy, off-site well drillers' logs, meteorological data, evapo-transpiration estimates, run-off rates, infiltration estimates, pump test data, and well location and depth data to evaluate the groundwater supply and estimated water supply. Finally, in accordance with Policy WR-2e, we assessed potential impacts to surface waters and aquatic habitats in the local area.