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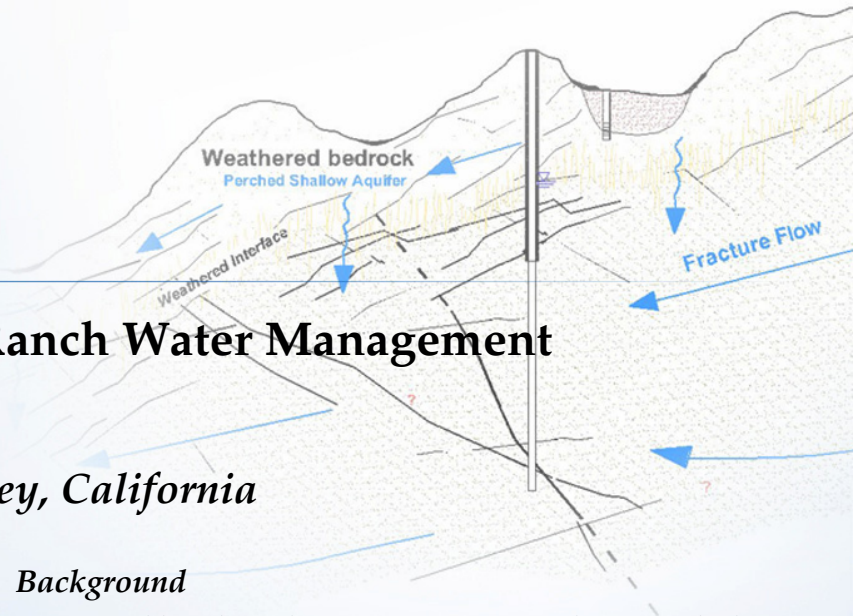


Bedrock Groundwater Supply Ranch Water Management

Well Siting, Design, and Permitting, Hicks Mountain Ranch, Nicasio Valley, California

Project Highlights

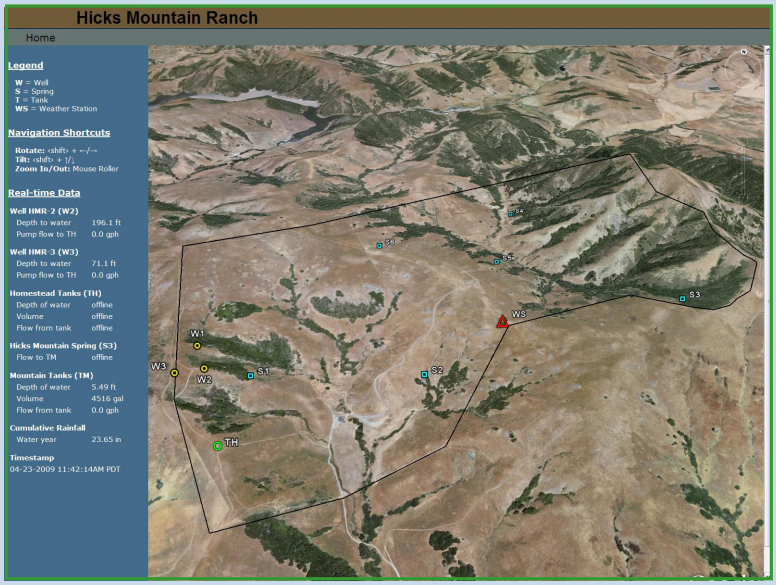
Based on annual flow-recession rates, and on informal mapping of geologic and soil conditions, Balance staff assessed the hydrogeologic setting, the estimated water needs, and recommended drilling sites. Our staff then designed the wells and observed construction during drilling into a fractured massive block of graywacke bedrock. A combined yield from three wells was suitable for the project and established under County standards. Samples of water collected from selected springs. and from the completed wells at the end of the yield tests were analyzed for Title 22 constituents.

Background

Requested by The Solit Interests Group, Balance Hydrologics conducted a hydrogeological assessment of a 856-acre ranch located on the western slopes of Hicks Mountain in west-central Marin County, a known groundwater scarce area. The ranch is managed for livestock and range.

The main project objectives were to:

- develop a water supply for up to four homes with limited agricultural use,
- provide hydrologic and geomorphic support for project planning and stream restoration initiatives, and
- design and install an on-line real-time GIS-based monitoring system.



Project Highlights (continued)

Utilizing a Google Earth plugin for an internet browser such as Microsoft Explorer or Mozilla Firefox, the ranch manager and project team can access real-time water-related data, as well as data from a weather station located in the center of the ranch,. Weather station design followed reference evapotranspiration (ETo) guidelines by the California Irrigation Management Information System (CIMIS).