

## Central Coast Ranches Pipeline Leak

Oil production in the Central Coast of California has been ongoing for over 100 years. The oil fields are connected to refineries in Nipomo and Bakersfield by a network of pipelines. At various locations along the pipeline network, terminals were built to store crude petroleum for local use or subsequent transportation. Dehydration fluids (saline water in the crude) and some refined petroleum products were also reportedly stored at these terminals.

As the oil field matured, the viscosity of the crude increased making transportation difficult. Therefore, the crude needed to be either heated or cut (mixed) with a refined product to lower its viscosity to ease transport. In many places a middle distillate, kd-diluent, was used. This diluent was stored at terminals and then mixed with the local crude.

Due to the age of the pipeline network, leaks of crude petroleum, diluent, and crude/diluent have occurred at many places along the pipeline network and at the terminals.

At one location, a pipeline crosses a historical 13,000 acre ranch property that was part of an original Spanish land grant. This ranch is used for vineyards, cattle grazing, and for tourist events. Over time, leaks from the pipeline impacted an area over 9,000 feet long, and up to 500 feet wide. The contamination extended from beneath the pipe to groundwater and into the underlying bedrock.

**Aquilologic** was retained by the owners of the two ranches to review the available data on site hydrogeology, the contaminant investigation and remediation activities implemented by the responsible parties, and their proposed remedy. Based upon this review, we evaluated the nature, magnitude and extent of contamination, and the feasibility of various remedial options. In addition, **aquilologic** interacted with the oversight agency, the Central Coast Regional Water Quality Control Board, to direct further investigation and remediation programs.