



EXPLANATION

Qyal

Younger alluvium

Unconsolidated clay, silt, sand, and gravel. Underlies the alluvial plain in Napa Valley, the flood plain of Sonoma Creek, and the tidal marshlands north of San Pablo Bay. Yields water freely to wells.

Qf

Terrace and fan deposits

Unconsolidated clay, silt, sand, and gravel, partly thin terrace covers, Qf; partly steep alluvial fans along the margins of Napa Valley, Qf. The deposits are generally above the water table or, where saturated, are of low yield.

Qoal

Older alluvium

Unconsolidated and poorly sorted clay, silt, sand, and gravel. Underlies younger alluvium, or occurs beneath gently rolling plain characterized by hardpan soil. Principal source of water for most wells; yields moderate amounts of water.

Qh

Huichica formation

Unconsolidated poorly sorted generally fine-grained clay and silt and scattered lenses of clay and gravel. Basal 200 to 300 feet consists of clay, silt, reworked pumice and tuff, and some primary tuff interbedded with andesitic gravel or cobbles. Permeability low. Generally yields insufficient water for domestic needs.

QTge

Glen Ellen formation

Unconsolidated poorly sorted clay, silt, sand, and gravel in lenses. Basal beds possibly interbedded with uppermost Sonoma volcanics. Occurs only at north end of Sonoma Valley and is probably in part the equivalent of the Huichica formation. Permeability low. Generally yields insufficient water for domestic needs.

Tsh

St. Helena rhyolite member

Banded rhyolitic flows, welded rhyolitic tuff, and at most places, a basal layer of perlitic obsidian. Not known to be penetrated by water wells. Probably of very low permeability.

Td

Diatomaceous member

Fine-grained massive diatomaceous clay and diatomaceous tuff. Yields water in small amounts; water generally of poor quality.

Tsv

Sonoma volcanics, undifferentiated

Includes diatomaceous and St. Helena rhyolite members north of Yountville and in Sonoma Valley.

Mainly tuff, pumice, tuff breccia, and agglomerate and interbedded flows of andesite and basalt; some scoria. Tuff and pumice yield water freely to wells. Flows generally yield no water.

TKJ

Pre-Sonoma rocks, undifferentiated

Consolidated metamorphic and marine sedimentary rocks comprising Franciscan group through San Pablo group. Generally non-water-bearing; locally yield small quantities of water of usable quality from fractures and permeable lenses. Some water is of poor quality.

- Contact
- Strike and dip of beds
- Approximate dip of beds strike undetermined
- Contact Location doubtful
- Horizontal beds
- Vertical beds
- Fault Dashed where approximately located
- Fault showing direction of horizontal movement Dashed where approximately located
- Axis of anticline showing direction of plunge Dashed where approximately located
- Axis of syncline showing direction of plunge Dashed where approximately located
- Rancho boundary
- Irrigation or industrial well, or well ordinarily producing more than 5000 gallons per day
- Flowing well
- Destroyed well
- Domestic or unused well
- Spring

Base from USGS and AMS topographic maps. Broken land-survey lines not from official Federal surveys but projected for reference only.

MAP AND SECTIONS OF NAPA AND SONOMA VALLEYS SHOWING GEOLOGY AND LOCATION OF WELLS AND SPRINGS, NAPA AND SONOMA COUNTIES, CALIFORNIA

Geologic mapping by Fred Kunkel, 1949-52, in part after C. E. Weaver, 1949.