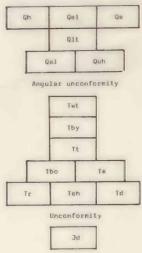


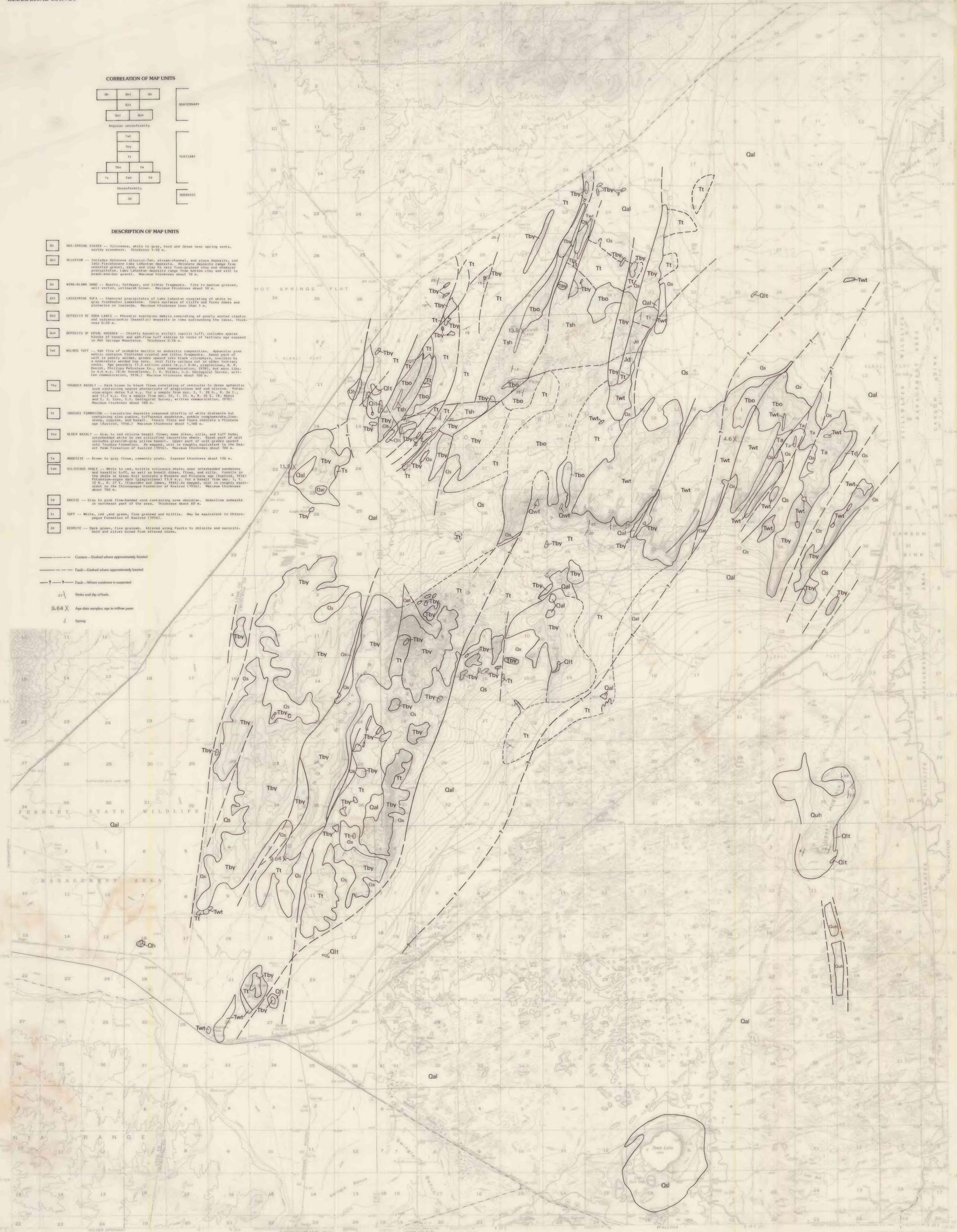
CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

- Qh** HOT-SPRING SILT -- Silty, white to gray, hard and dense near spring vents, earthy elsewhere. Thickness 1-10 m.
- Qal** ALLUVIUM -- Includes Holocene alluvial fan, stream-channel, and playa deposits, and late Pleistocene lake Lahontan deposits. Holocene deposits range from unsorted gravel, sand, and clay to well-sorted clay and chemical precipitates. Late Lahontan deposits range from bottom clay and silt to beach-ridge gravel. Maximum thickness about 10 m.
- Qat** SAND-BLANK SAND -- Quartz, feldspar, and ilitic fragments. Fine to medium grained, well-sorted, yellowish brown. Maximum thickness about 10 m.
- Qul** LACUSTRINE MUD -- Chemical precipitates of Lake Lahontan consisting of white to gray freshwater limestones. Coats surfaces of cliffs and forms oases and pinacles of limestone. Maximum thickness less than 3 m.
- Quh** DEPOSITS OF SODA LAKES -- Phreatic eruption debris consisting of poorly sorted clastic and volcaniclastic (basaltic) deposits in rims surrounding the lakes. Thickness 0-50 m.
- Twt** DEPOSITS OF UPSAL MUDCRACK -- Chiefly basaltic airfall lapilli tuffs; includes sparse blocks of basalt and sub-fine tuff similar to rocks of tertiary age exposed in Hot Springs Mountains. Thickness 0-50 m.
- Tby** WELDED TUFF -- Ash flow of probable dacitic or andesitic composition. Aphanitic pink matrix contains flattened crystals and ilitic fragments. Basal part of unit is poorly welded, grades upward into black vitriclasts, overlain by a moderately welded top zone. Unit fills valleys cut in older tertiary rocks. Age possibly 11.2 million years (see) Lake Lahontan, R. H. Bonis, Phillips Petroleum Co., oral communication, 1978, but more likely 4.6 m.y. (see) Thompson, J. K., Willey, U.S. Geological Survey, written communication, 1978. Maximum thickness about 100 m.
- Tt** YOUNGER BASALT -- Dark brown to black flow consisting of vesicular to dense aphanitic rock containing sparse olivine crystals of plagioclase and not olivine. Potassium-argon dates 3.6 m.y. for a sample from sec. 3, T. 26 N., R. 26 E., and 11.2 m.y. for a sample from sec. 22, T. 22 N., R. 26 E. (see) Moore and E. S. Siro, U.S. Geological Survey, written communication, 1978. Maximum thickness about 100 m.
- Tbo** TRUCKEE FORMATION -- Limestone deposits composed chiefly of white dolomite but containing also granite, tuffaceous sandstone, pebble conglomerate, limestone, quartzite, and basalt. Basal fine sand shows indicate a Pliocene age (Axelrod, 1954). Maximum thickness about 1,160 m.
- Tsh** OLDER BASALT -- Gray to red olivine basalt flows; some dikes, sills, and tuff beds; interbedded white to red silicified lacustrine shales. Basal part of unit includes greenish-gray oolite basalt. Upper part of unit grades upward into Truckee Formation. As mapped, unit is roughly equivalent to the Desert Peak Formation of Axelrod (1954). Maximum thickness about 700 m.
- Tr** ANDESITE -- Brown to gray flows, commonly platy. Exposed thickness about 120 m.
- Tsh** SILICEOUS SHALE -- White to red, brittle siliceous shales; some interbedded sandstone and basaltic tuffs, as well as basalt dikes, flows, and sills. Fossils in the shale at Green Hill indicate a Miocene and Pliocene age (Axelrod, 1954) Potassium-argon date (late Miocene) 13.9 m.y. for a basalt from sec. 3, T. 22 N., R. 27 E. (Frederick and James, 1964) As mapped, unit is roughly equivalent to the Chloroproc Formation of Axelrod (1954). Maximum thickness about 700 m.
- Td** DIABASE -- Gray to pink flow-banded rock containing some olivine. Underlies andesite in northeast part of the area. Thickness about 60 m.
- Tt** TUFF -- White, red, and green, fine grained and brittle. May be equivalent to Chloroproc Formation of Axelrod (1954).
- Jd** DIORITE -- Dark green, fine grained. Altered along faults to chlorite and sericite. Gold and silver mined from altered zones.

- Contact --- Dashed where approximately located
- - - Fault - - - Dashed where approximately located
- ? - ? - ? Fault - ? - ? Where existence is suspected
- z/z Strike and dip of beds
- 9.64 X Age-date samples; age in million years
- Spring



Base from U.S. Geological Survey 1:62,500
Fireball Ridge and Two Tips, 1957; Desert
Peak and Soda Lake, 1951, Nevada

Geology by Nicholas E. Voegtli, 1978

GEOLOGIC MAP OF THE HOT SPRINGS MOUNTAINS, CHURCHILL COUNTY, NEVADA