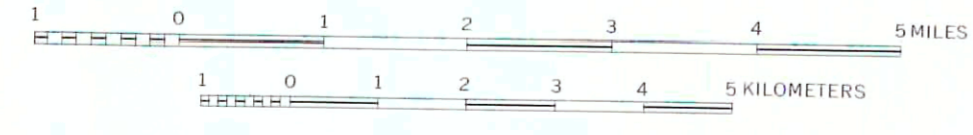


MAP SHOWING LOCATIONS OF WELLS, TEST HOLES, AND SPRINGS
(EASTERN HALF) OF WHITMAN COUNTY, WASHINGTON



EXPLANATION

Recent

Alluvium
Fluvial deposits consisting of some rock fragments (mostly basalt in smaller tributaries, but also various igneous and metamorphic rock types in major drainages), sand, silt and clay (in smaller tributaries, all and clay are mainly rounded boulders). Unit also includes occasional volcanic ash deposits visible in some freshly cut terraces. Includes alluvial terrace deposits of possible Pleistocene age along Snake River upstream from Elberta. Deposits restricted mainly to major flood plains, and range in thickness from a few feet to 150 feet.

Recent and Recent

Recent
Thin to brown deposits of silt and clay-size particles that contain some prominent oolitic cones in western part of county. Individual deposits not differentiated. In part older than scabland deposits. Recent deposits (principally loess) are extensive throughout the county, although erosion has removed considerable quantities in channelized scabland region. Thickness ranges from a few feet to about 200 feet.

Recent

Scabland deposits
Gravel, sand, and silt of glacial origin, deposited by scabland floods. Principal rock type is basalt, but other rock types are present. Fragments, well-rounded to very angular, as large as several feet in diameter. Crossbedding is strikingly apparent in many fresh exposures. Unit also includes fine-grained sediments deposited in upstream tributaries. Deposits are restricted to channelized scabland region in western half of county. Thickness ranges from a few feet to several tens of feet.

Recent

Yakima Basalt and associated sedimentary interbeds overlying the Rosa Member
Includes flows of Price's Rapids Member and flows of possibly younger age. Exposures are dark gray to black and range from massive to medium-bedded, depending on thickness of individual flows. Some vesicular zones are present, but much basalt is very dense. Basalts of this unit are distinguished by lack of megaseismically developed plagioclase phenocrysts. Some flows impinge on slopes of pre-Tertiary crystalline basement rocks that were only slightly covered or were completely buried by basalt flows. Interbeds consist essentially of sand and finer size particles derived mainly from crystalline rocks and granitic detritus. Unit is thousands of feet thick over most of the county; not differentiated in extreme southeast corner, where characteristic Rosa Member apparently pinches out.

Recent

Yakima Basalt and associated sedimentary interbeds, with Rosa Member as uppermost unit
Basalt of Rosa Member chiefly characterized by distinctive plagioclase phenocrysts in matrix ranging from reddish-brown to gray to black. Rosa basalt is variable in vesic content, ranging from sparsely to highly vesicular. Basalt flows underlying Rosa Member are distinguishable in some exposures. Frenchman Springs Member and older Yakima flows are exposed in western part of county. Interbeds consist essentially of sand and finer size particles derived mainly from crystalline rocks and granitic detritus. Unit is thousands of feet thick over most of the county; not differentiated in extreme southeast corner, where characteristic Rosa Member apparently pinches out.

Recent

Yakima and (or) Picture Gorge Basalt and associated sedimentary interbeds
Includes basalt flows that range from thin to thick-bedded. Composition of individual flows appears to vary only slightly within proper area. Individual lithologic units fine- to coarse-grained basalt, porphyritic basalt, flow breccias, interbeds and sedimentary interbeds. Interbeds consist essentially of sand and finer size particles derived mainly from crystalline rocks and granitic detritus. Unit mapped only in middle eastern part of county where apparent absence of Rosa Member and structural deformation complicate differentiation of individual units. Thickness ranges from hundreds to thousands of feet.

Recent

Crystalline rocks
Primarily quartzite, phyllite, schist, gneiss, granite, pegmatite, and granitic igneous rocks. Includes a distinctive granitic body exposed along Snake River at Granite Point. Metamorphic rocks, probably metamorphosed, generally chemically altered, in many places extensively. Unit locally protrudes above all basalt flows in eastern part of county. In other exposures it has been eroded by recent erosion. Thickness unknown.

Recent

Dikes
Dark gray to black, dense, usually porphyritic basalt of undetermined age.

Contact
Contacts are locally incompatible with minor drainage features because of base map deficiencies.

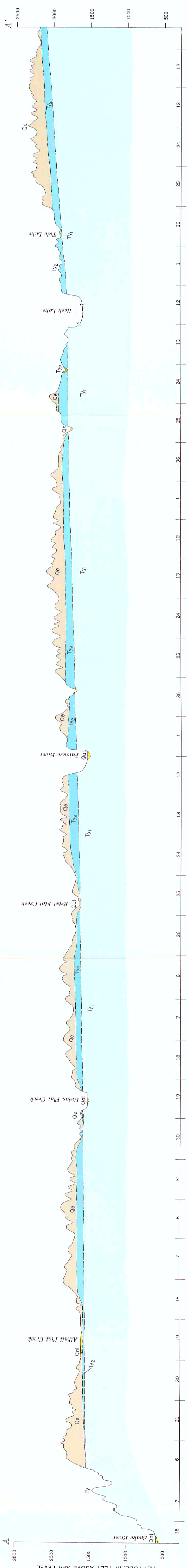
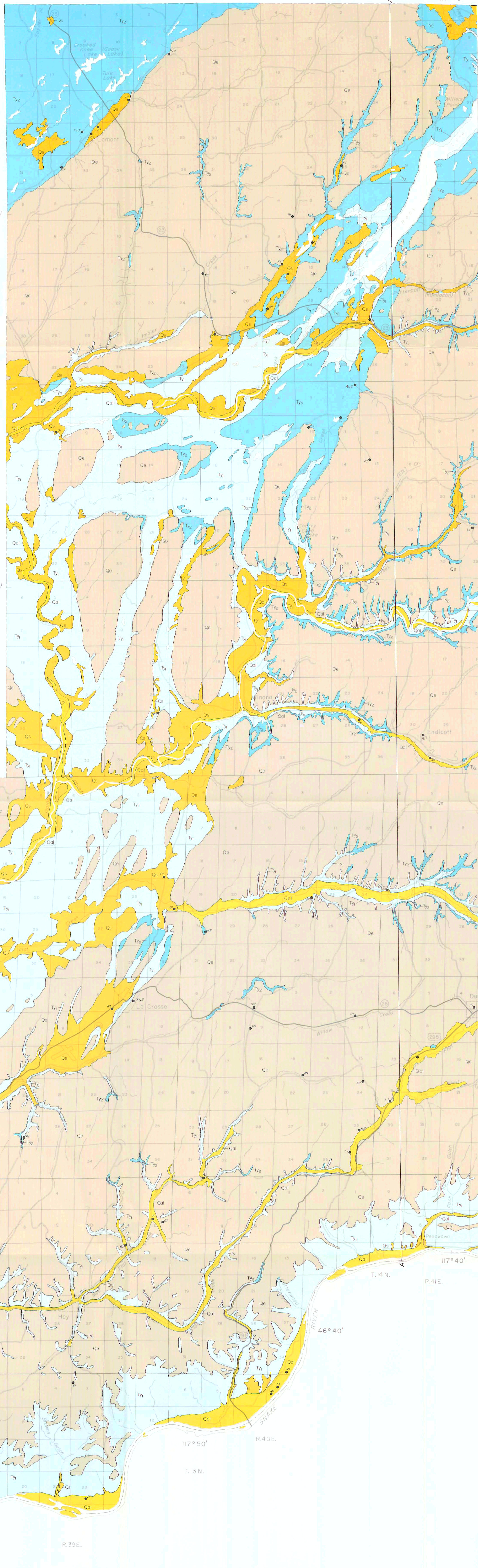
Well with log listed in table 4

- PRINCIPAL RESPONSIBILITY FOR GEOLOGIC MAPPING
1. Bodtett quadrangle: L. M. Gard, Jr., U.S. Geological Survey, written communication, 1963; modified considerably by present authors.
 2. La Crosse quadrangle: L. M. Gard, Jr., U.S. Geological Survey, written communication, 1963; modified considerably by present authors.
 3. Benge quadrangle: L. M. Gard, Jr., U.S. Geological Survey, written communication, 1963; modified slightly by present authors.
 4. Starbuck quadrangle: Gard and Waldron, 1954; modified slightly by present authors.
 5. Hay quadrangle: Waldron and Gard, 1954; modified considerably by present authors.
 6. Penawawa quadrangle: Waldron and Gard, 1955; modified considerably by present authors.
- Remainder of county mapped by present authors.

QUATERNARY

TERTIARY

PRE-TERTIARY



RECONNAISSANCE GEOLOGIC MAP (WESTERN HALF) AND SECTION OF WHITMAN COUNTY, WASHINGTON





**RECONNAISSANCE GEOLOGIC MAP (EASTERN HALF)
OF WHITMAN COUNTY, WASHINGTON**

