

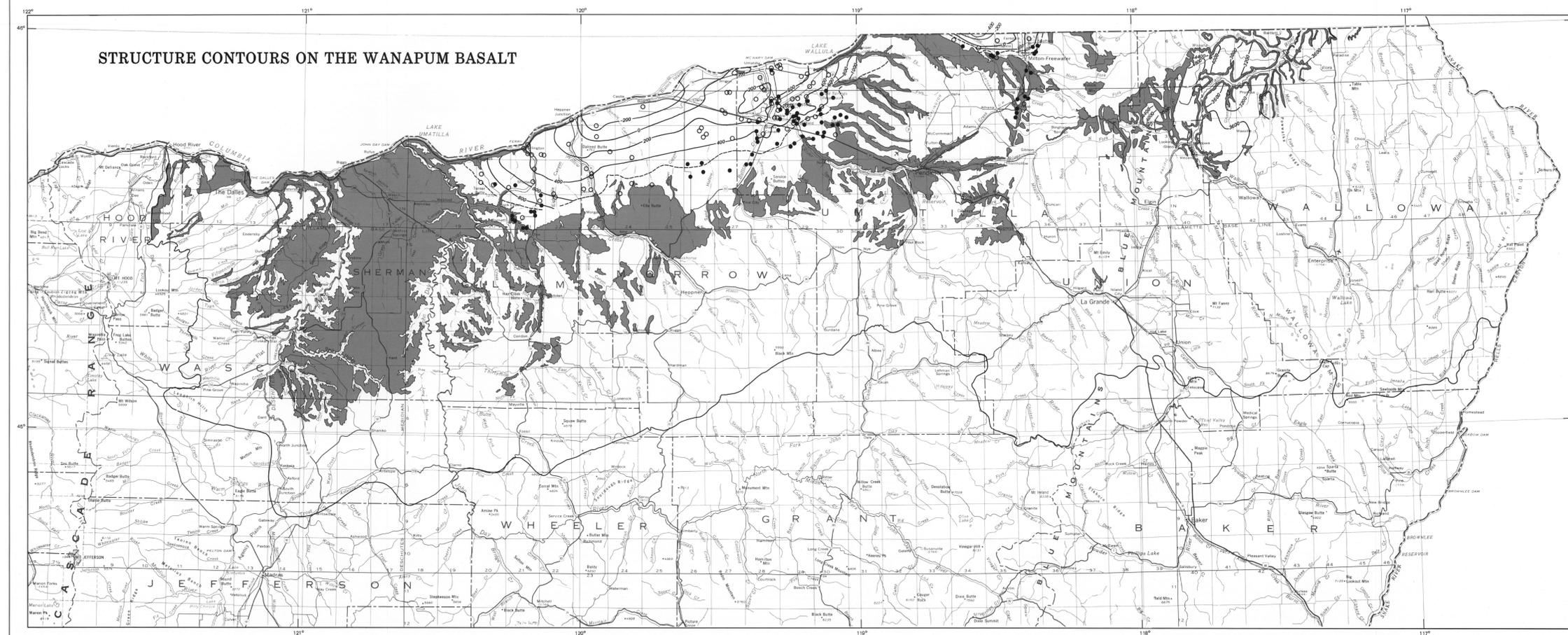
THICKNESS OF THE WANAPUM-GRANDE RONDE INTERBED

The top of the Grande Ronde Basalt is commonly marked by an overlying thin sedimentary interbed or, alternatively, a zone of weathered basalt. This map shows only the thickness of the sedimentary interbed in those areas where it has been identified in driller logs. This sedimentary interbed is probably equivalent to the Vantage Member of the Ellenburg Formation in Washington, a unit which has been mapped in Washington in the western part of the Plateau. The stratigraphic nomenclature of the interbeds between basalt units has not yet been formally defined.

Where the sedimentary interbed is not described in a driller log, determination of the top of the Grande Ronde was very tedious and difficult. In general, cores with material described by the drillers as broken basalt, soft red basalt, soft basalt or other similar terms were generally selected as the top of the Grande Ronde Basalt. The sedimentary interbed is predominantly fine grained and is generally described by drillers as clay shale, "talc", claystone or sticky clay. Occasionally it is described as sand or sandstone; however, there was no apparent pattern in the geographic distribution of coarse-grained materials.

EXPLANATION

- STUDY AREA BOUNDARY
- - - LINE OF EQUAL THICKNESS OF THE WANAPUM-GRANDE RONDE INTERBED—Approximately located, dashed where inferred, contoured where uncertain. Interval 25 feet.
- WELL PENETRATING GRAND RONDE BASALT



STRUCTURE CONTOURS ON THE WANAPUM BASALT

Structure contours on the Wanapum Basalt were compiled from driller well-log data at the data points shown and from the structure map (Sheet 2). For northern Union and western Willamette Counties, east of the Blue Mountains anticline, the map was prepared almost entirely from geologic contacts on the geologic reconnaissance map by Swanson and others (1981). For areas near the Oregon-Washington State boundary, structure contour maps by Swanson and others (1979 and 1980) and by Drost and Whittman (1985) were used to supplement the data points.

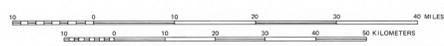
Structure contours are shown only in the area where the Wanapum Basalt is overlain by Saddle Mountains Basalt. In these areas the top of the Wanapum Basalt probably is not diminished in thickness by erosion, as it probably is in areas where it is overlain by overburden.

Structure contours outline a portion of the southern half of the Dalles-Umatilla syncline; the structure is generalized and is undoubtedly more complex than is shown.

Portions of smaller basinal structures are shown in the Milton-Freewater area, in northern Union and western Willamette Counties.

EXPLANATION

- WANAPUM BASALT—At land surface
- STUDY AREA BOUNDARY
- - - STRUCTURE CONTOUR—Shows altitude of top of Wanapum Basalt where overlain by younger basalt formations. Contour interval 200 and 400 feet. Datum is sea level.
- - - CONTACT—Between Wanapum Basalt and younger basalt formations. Location inferred.
- WELL PARTIALLY PENETRATING WANAPUM BASALT
- WELL PENETRATING WANAPUM BASALT



GEOLOGY, STRUCTURE, AND THICKNESS OF HYDROGEOLOGIC UNITS IN PART OF THE COLUMBIA PLATEAU, OREGON

By
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