UTAH GEOLOGICAL SURVEY
a division of
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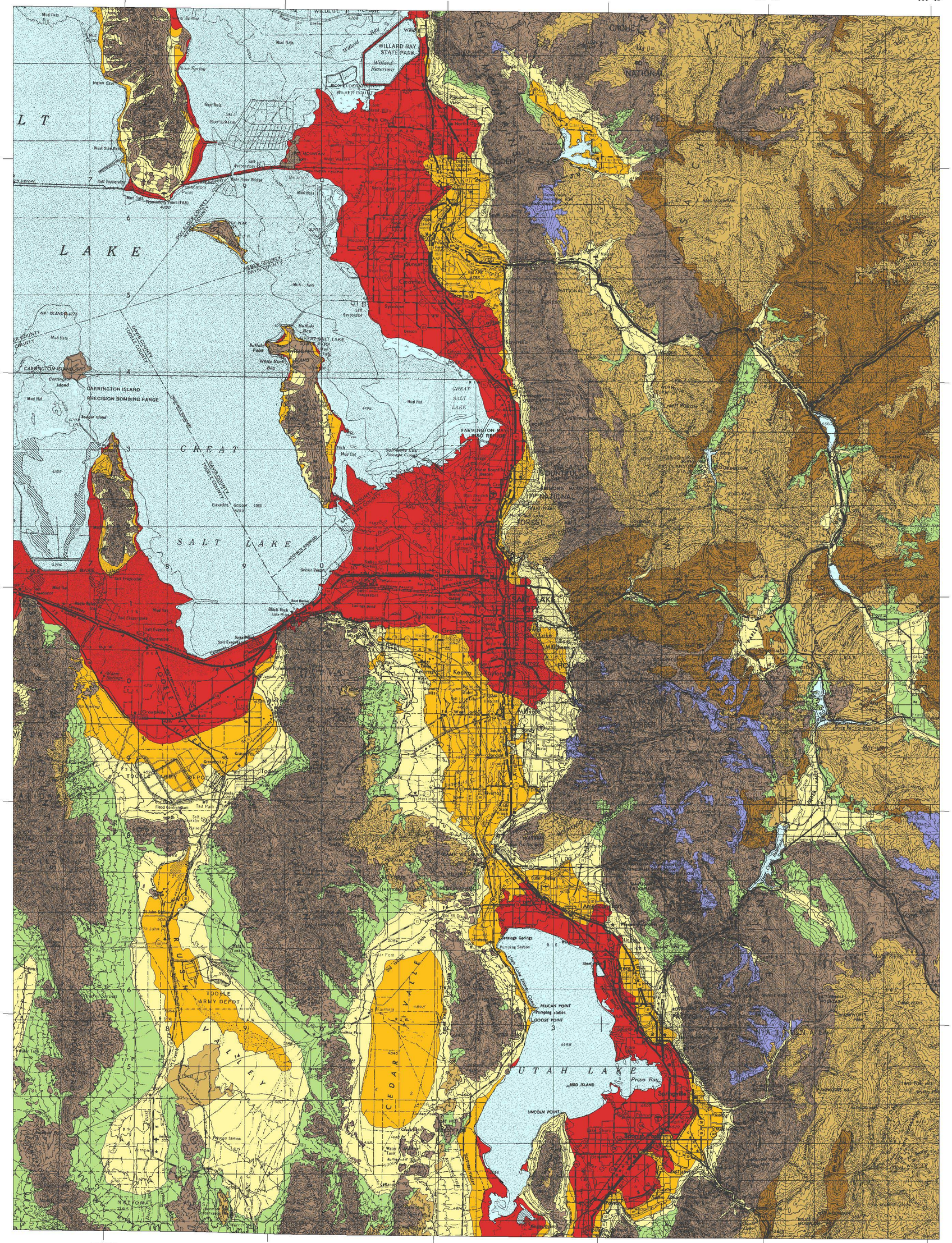

Detailed Site-Response Map of the Wasatch Front Urban Corridor

by

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2001

UTAH GEOLOGICAL SURVEY

N
MN
13.5 degrees
2001 Magnetic North Inclination
at Center of Salt Lake Valley

Scale: 1:250,000

10 0 10 Miles

10 0 10 20 Kilometers

Mean shear-wave velocity (Vs30) and description of site-response units in the Wasatch Front urban corridor.

Unit	Vs30[1] (m/sec)	Description
Q01	199	Lacustine and alluvial silt and clay; alluvial or marsh deposits typically overlie lacustrine deposits.
Q02	301	Lacustrine sand, lacustrine silt and clay, latest Pleistocene to Holocene alluvial-fan deposits.
Q03	387	Lacustrine and alluvial gravel.
Q04	437	Pre-Bonneville alluvial-fan deposits.
Q05	486	Glacial deposits including till and outwash.
T	1023	Tertiary sedimentary and volcanic rocks, and tufa-cemented soils (near Midway); excludes Tertiary intrusive rocks.
M	1449	Mesozoic sedimentary rocks.
P	2197	Paleozoic and older sedimentary, igneous, and metamorphic rocks; and Tertiary intrusive (igneous) rocks.

[1] Logarithmic mean

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LOCATION OF PREHISTORIC LAKE BONNEVILLE

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This map is intended primarily for use in implementing ShakeMap in the Wasatch Front urban corridor of Utah. The information presented on this map provides earthquake engineers and scientists some understanding of site response during earthquake ground shaking. However, the map should not be used as a substitute for site-specific geotechnical investigations conducted by qualified professionals. Some variation in shear-wave velocity exists, particularly in site-response unit Q01. The applicability of the mean Vs30 values for Quaternary units (Q01-Q03) is uncertain outside the limits of Lake Bonneville. The mean Vs30 values for units Q04, Q05, and P were estimated using published shear-wave velocity data from similar units.