NEVADA BUREAU OF MINES AND GEOLOGY
CARSON CITY AREA MAP 1Bi

NEW EMPIRE QUADRANGLE
EARTHQUAKE HAZARDS MAP

1Bi

# NEW EMPIRE QUAD

# EARTHQUAKE HAZARDS

*The hazards shown on this map are based upon current data available. Shaking characteristics are inferred from interpretations of geologic, seismic velocity, soils engineering, and ground-water information. Surface rupture potentials are inferred from generalized geologic and soils (weathering profile) information.*

*These data are intended to be used only as a generalized guide and will be subject to change as more data become available.*

*Assessment of seismic hazard potential for individual sites must be based upon detailed engineering and seismic studies; such assessments should not be inferred from this map.*

## POTENTIAL FOR GROUND SHAKING DURING EARTHQUAKES

*INCREASING INTENSITY OF SHAKING AND POTENTIAL HAZARD*
*Possibly about 3 units Mercalli intensity scale difference from I to IV*

**I** Greatest severity of shaking. Depth to ground water less than 3 meters (10 ft). Unconsolidated deposits with low rigidity. Possible severe liquefaction locally.

**II** Moderate severity of shaking. Includes units from I above where depth to ground water is greater than 3 meters (10 ft), also includes unconsolidated deposits, with moderate rigidity where depth to ground water is less than 10 meters (33 ft).

**III** Moderate severity of shaking. Includes unconsolidated deposits with moderate rigidity where depth to ground water is greater than 10 meters (33 ft).

**IV** Least severity of shaking. Underlain by bedrock.

**?V?** Variable severity of shaking. Includes older fan deposits, alluvial deposits of Spring Valley, granodiorite, which ranges in degree and depth of weathering, and Tertiary ash-flow tuffs, which exhibit various degrees of alteration, welding and fracture spacing.

## POTENTIAL FOR SURFACE RUPTURE

*Age of youngest fault displacement*

*INCREASING POTENTIAL HAZARD*

- Holocene (<12,000 years); locally less than a few hundred years.
- Late Pleistocene (approximately 12,000 to 35,000 years).
- Mid- to late Pleistocene (approximately 35,000 to 100,000 years).
- Early to mid-Pleistocene (approximately 100,000 years–1.8 m.y.).
- Indeterminate; predominantly bedrock faults with last probable movement of pre-Pleistocene age.
- —?— Questionable fault.
- Fault. Dotted where concealed; dashed where approximately located. Ball on downthrown side.


**John W. Bell and Dennis T. Trexler, 1979**


Depth to ground water based on preliminary general hydrologic map, New Empire quadrangle (T. Katzer, written commun., 1979).

Geology from Bingler (1977) Geologic map, New Empire quadrangle, Nevada Bureau of Mines and Geology Map 59.


Research for this map supported in part by U. S. Geological Survey Earthquake Hazards Reduction Grant No. 14-08-0001-G-494.


Scale 1:24,000

0 0.5 1 KILOMETER
0 1000 METERS
0 0.5 1 MILE
0 2000 4000 FEET

CONTOUR INTERVAL 40 FEET
DOTTED LINES ARE 20-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL


Topographic base from U. S. Geological Survey New Empire 7½' quadrangle, 1968

Cartography by Susan L. Nichols

NEVADA BUREAU OF MINES AND GEOLOGY
UNIVERSITY OF NEVADA
RENO, NEVADA 89557
ORDER MAP NO. 1Bi – [illegible]