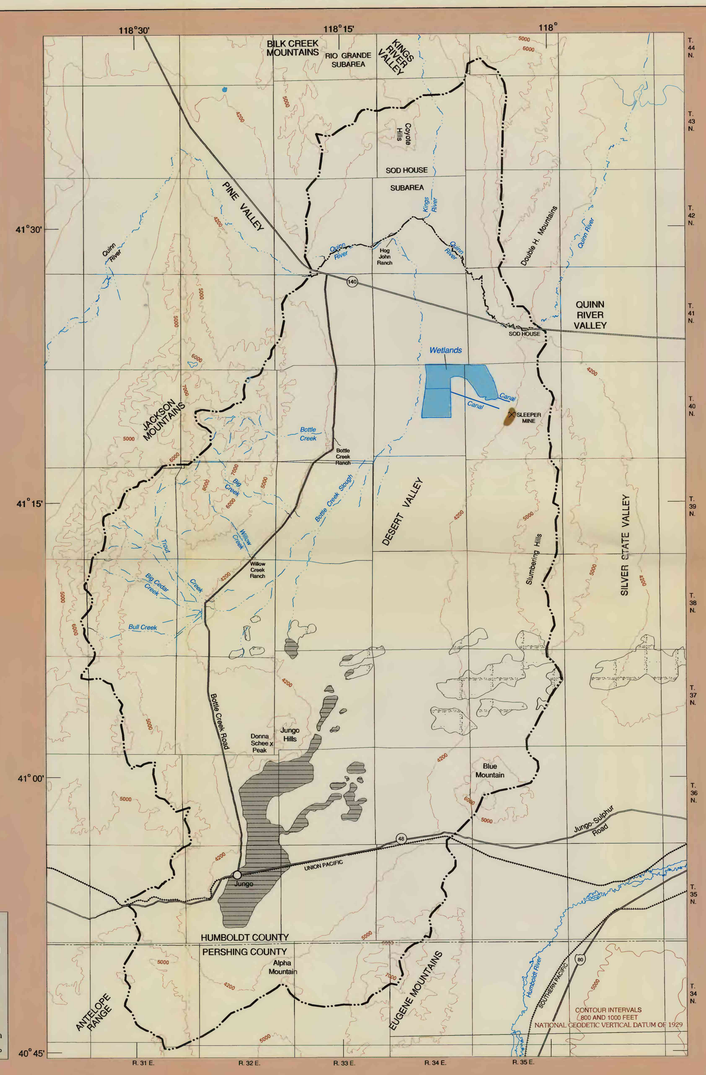
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the
NEVADA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES

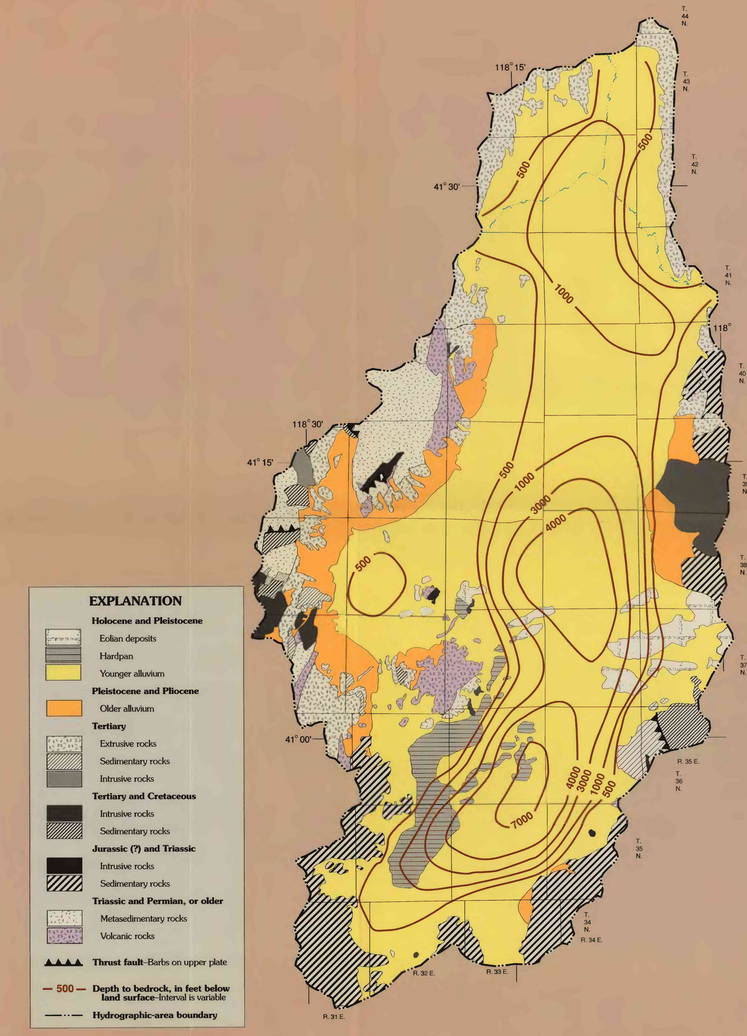
WATER-RESOURCES INVESTIGATIONS REPORT 95-4
Hydrogeology–PLA
Berger, D.L., 1995, Ground-water conditions and effects of mine dewa
Desert Valley, Humboldt and Pershing Counties, northwestern Nevada, 19



EXPLANATION

- **Hardpan**–Relatively hard, impervious, and clayey layer of soil that impedes downward movement of water
- **Sand dunes**
- **Hydrographic-area boundary**–From Rush (1968)
- **Hydrographic-subarea boundary**–From Rush (1968)

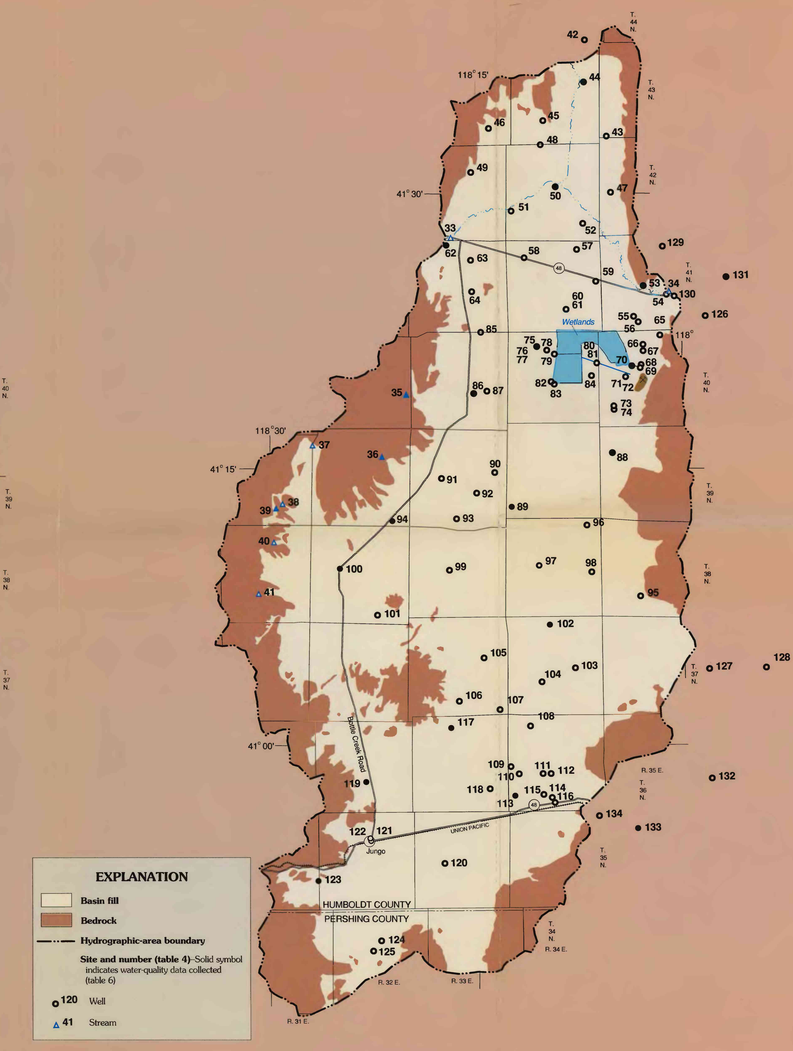
A. Geographic features of study area.



EXPLANATION

- **Holocene and Pleistocene**
  - Eolian deposits
  - Hardpan
  - Younger alluvium
- **Pleistocene and Pliocene**
  - Older alluvium
- **Tertiary**
  - Extrusive rocks
  - Sedimentary rocks
  - Intrusive rocks
- **Tertiary and Cretaceous**
  - Intrusive rocks
  - Sedimentary rocks
- **Jurassic (?) and Triassic**
  - Intrusive rocks
  - Sedimentary rocks
- **Triassic and Permian, or older**
  - Metasedimentary rocks
  - Volcanic rocks
- **Thrust fault**–Barbs on upper plate
- **— 500 —** **Depth to bedrock, in feet below land surface**–Interval is variable
- **Hydrographic-area boundary**

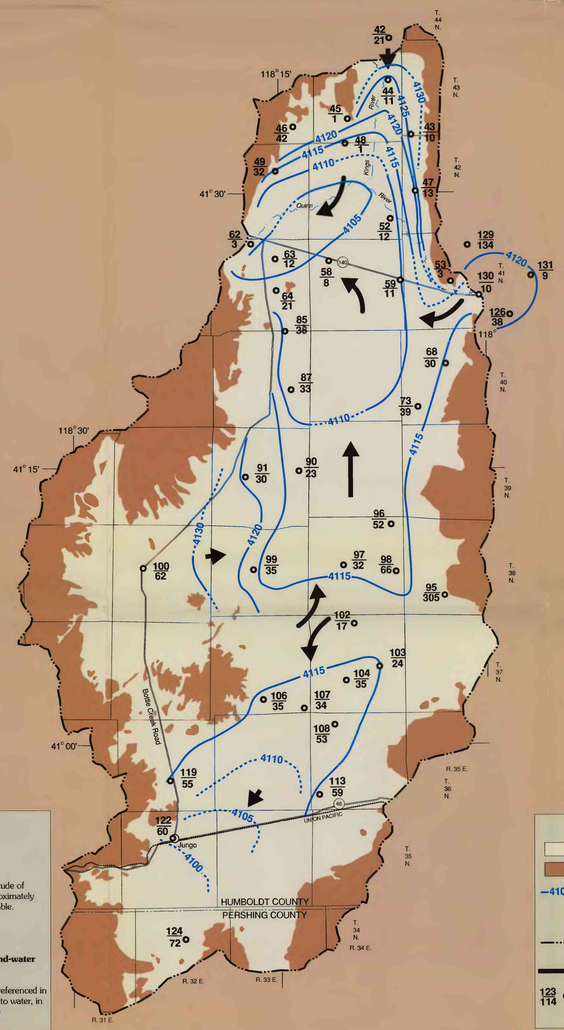
B. Generalized geology.



EXPLANATION

- **Basin fill**
- **Bedrock**
- **Hydrographic-area boundary**
- **Site and number (table 4)**–Solid symbol indicates water-quality data collected (table 6)
- 120 Well
- 41 Stream

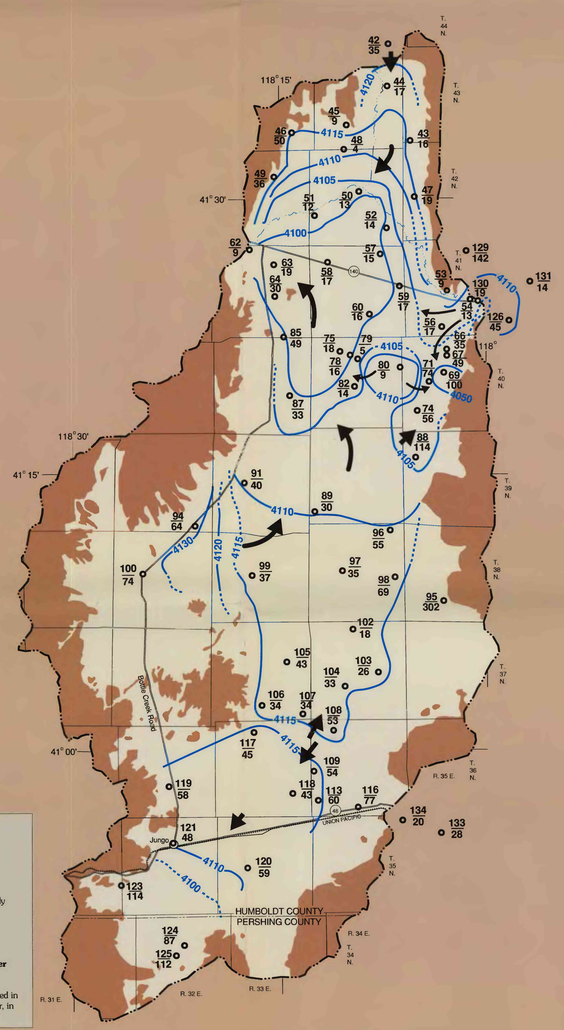
C. Wells, miscellaneous surface-water sites, and water-quality sampling sites discussed in this report.



EXPLANATION

- **Basin fill**
- **Bedrock**
- **—4110—** **Water-level contour**–Shows altitude of water level. Dashed where approximately located. Contour interval is variable. Datum is sea level
- **Hydrographic-area boundary**
- **Generalized direction of ground-water flow**
- **62/3** **Well**–Top number is site number referenced in table 4; bottom number is depth to water, in feet below land surface (table 15)

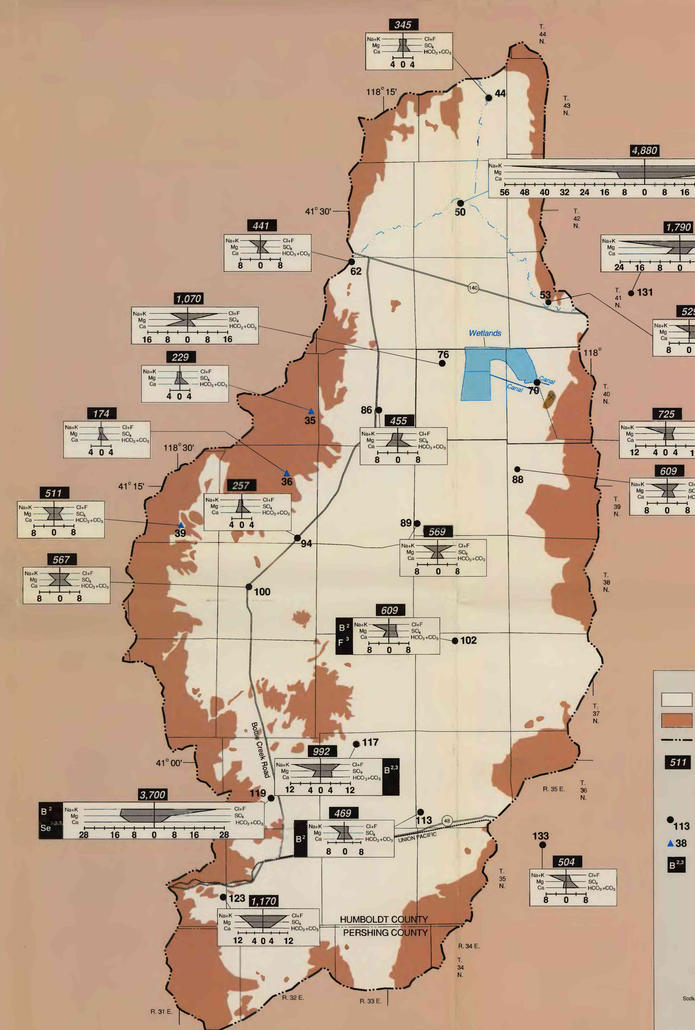
D. Depth to ground water and generalized ground-water levels, predevelopment conditions.



EXPLANATION

- **Basin fill**
- **Bedrock**
- **—4100—** **Water-level contour**–Shows altitude of water level. Dashed where approximately located. Contour interval is variable. Datum is sea level
- **Hydrographic-area boundary**
- **Generalized direction of ground-water flow**
- **123/114** **Well**–Top number is site number referenced in table 4; bottom number is depth to water, in feet below land surface (table 15)

E. Depth to ground water and generalized ground-water levels, Spring 1991.



EXPLANATION

- **Basin fill**
- **Bedrock**
- **Hydrographic-area boundary**
- **511** **Dissolved solids, as sum of constituents, in milligrams per liter**
- **Site and number where water-quality data were collected (table 6)**
- ● 113 Well
- ▲ 38 Stream
- **B[2,3]** **Constituents exceeding standards**–As, arsenic; B, boron; F, fluoride; Fe, iron; Se, selenium

[1] Municipal use
[2] Aquatic life
[3] Irrigation use
[4] Livestock watering

Concentration of constituents

Cations: Sodium + Potassium (Na +K); Magnesium (Mg); Calcium (Ca)
Anions: Chloride +Fluoride (Cl+F); Sulfate (SO_4); Bicarbonate + Carbonate (HCO_3+CO_3)
8 4 0 4 8 Milliequivalents per liter

F. Chemical composition of water samples analyzed.

e from U.S. Geological Survey digital data, 1:250,000
versal Transverse Mercator projection, Zone 11

SCALE 1:250 000
MILES 5 0 5 10 15 20
KILOMETERS 5 0 5 10 15 20 25 30

Geology modified from Willden (1964) and Johnson (19

HYDROGEOLOGY OF DESERT VALLEY AREA, HUMBOLDT AND PERSHING COUNTIES, NEVADA

BY DAVID L. BERGER