U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

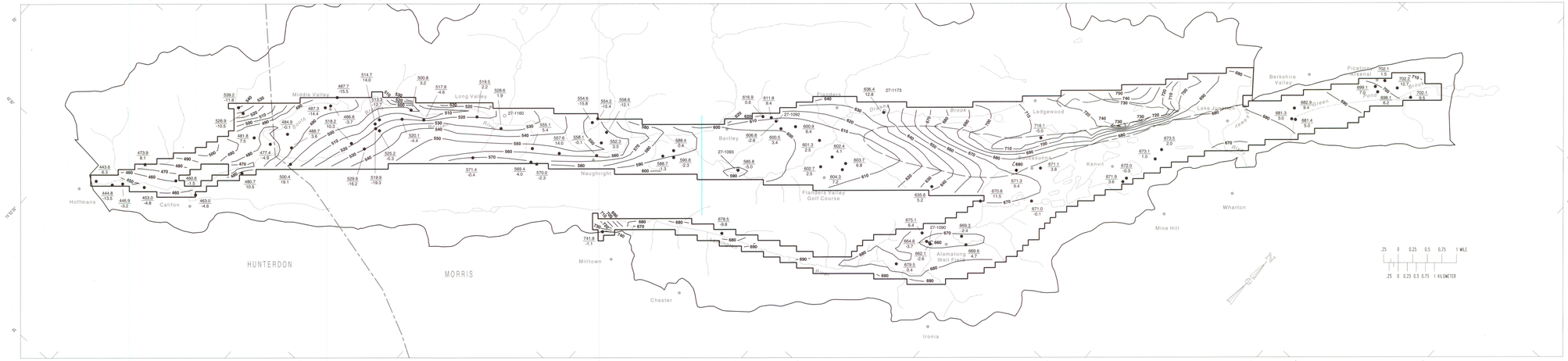
WATER-RESOURCES INVESTIGATIONS REPORT 93-4157
Potentiometric surface of the carbonate-rock aquifer-PLATE 3
Nicholson, R.S., and others, 1996, Hydrogeology of, and ground-water flow in, a valley-fill and carbonate-rock aquifer system near Long Valley in the New Jersey Highlands

EXPLANATION

- **STUDY-AREA BOUNDARY**
- **EXTENT OF CARBONATE-ROCK AQUIFER**
- **EXTENT OF OVERLYING PALEOZOIC CONFINING UNIT**--Hydraulic conductivity of carbonate-rock aquifer expected to be lower here than in surrounding areas
- 440 — **POTENTIOMETRIC CONTOUR**--Shows altitude at which water would have stood in tightly cased wells, in feet above National Geodetic Vertical Datum of 1929. Dashed where approximately located. Contour interval 10 feet
- **GENERALIZED DIRECTION OF GROUND-WATER FLOW**
- 593.1 • **WELL**--Number is water level, in feet above National Geodetic Vertical Datum of 1929
- 27-1092 ○ **PUMPED WELL**--Number is identifier listed in appendix 1

Hydrology by R.S. Nicholson, 1993

3a. Observed average potentiometric surface of and generalized directions of ground-water flow in the carbonate-rock aquifer, 1988-89.



EXPLANATION

- **STUDY-AREA BOUNDARY**
- **EXTENT OF MODEL LAYER 3 REPRESENTING THE CARBONATE-ROCK AQUIFER**
- **EXTENT OF OVERLYING PALEOZOIC CONFINING UNIT**--Hydraulic conductivity of carbonate-rock aquifer expected to be lower here than in surrounding areas
- 450 — **POTENTIOMETRIC CONTOUR**--Shows altitude at which water would have stood in tightly cased wells, in feet above National Geodetic Vertical Datum of 1929. Contour interval 10 feet
- 681.4 / 5.0 • **WELL**--Upper number is simulated water level, in feet above National Geodetic Vertical Datum of 1929. Lower number is simulated water level minus observed water level, in feet
- 27-1092 ○ **PUMPED WELL**--Number is identifier listed in appendix 1

3b. Simulated average potentiometric surface of the carbonate-rock aquifer, 1988-89, and differences between simulated and observed water levels.

AVERAGE AND SIMULATED POTENTIOMETRIC SURFACES OF AND DIRECTIONS OF GROUND-WATER FLOW IN THE CARBONATE-ROCK AQUIFER, 1988-89

By
Robert S. Nicholson, Steven D. McAuley, Julia L. Barringer, and Alison D. Gordon
1996