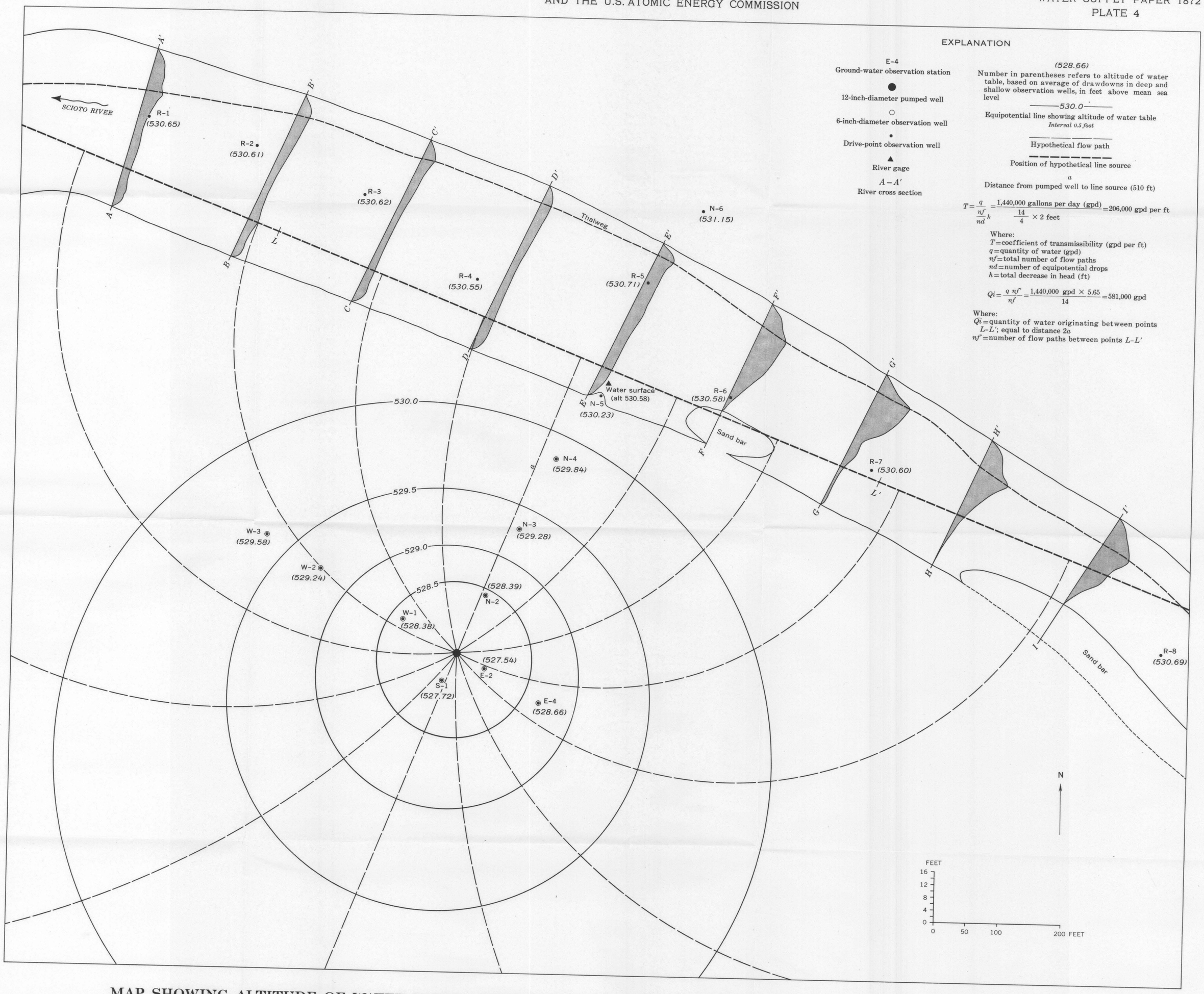
PREPARED IN COOPERATION WITH THE
OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATER
AND THE U.S. ATOMIC ENERGY COMMISSION



EXPLANATION

E-4
Ground-water observation station

12-inch-diameter pumped well

6-inch-diameter observation well

Drive-point observation well

River gage

A – A'
River cross section

(528.66)
Number in parentheses refers to altitude of water table, based on average of drawdowns in deep and shallow observation wells, in feet above mean sea level

530.0
Equipotential line showing altitude of water table
Interval 0.5 foot

Hypothetical flow path

Position of hypothetical line source

a
Distance from pumped well to line source (510 ft)

$$T=\frac{q}{\frac{nf}{nd}h}=\frac{1{,}440{,}000 \text{ gallons per day (gpd)}}{\frac{14}{4}\times 2 \text{ feet}}=206{,}000 \text{ gpd per ft}$$

Where:
T=coefficient of transmissibility (gpd per ft)
q=quantity of water (gpd)
nf=total number of flow paths
nd=number of equipotential drops
h=total decrease in head (ft)

$$Qi=\frac{q\ nf'}{nf}=\frac{1{,}440{,}000 \text{ gpd}\times 5.65}{14}=581{,}000 \text{ gpd}$$

Where:
Qi=quantity of water originating between points L-L'; equal to distance $2a$
nf'=number of flow paths between points L-L'

MAP SHOWING ALTITUDE OF WATER TABLE AND DISTRIBUTION OF FLOW LINES AT END OF NINE-DAY AQUIFER TEST PIKETON AREA, SOUTH-CENTRAL OHIO

322-558 O - 69 (In pocket)