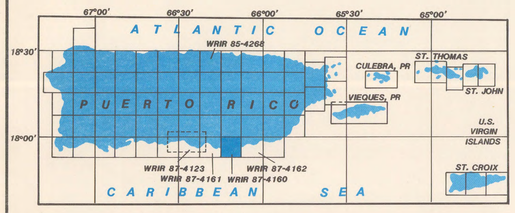
POTENTIOMETRIC SURFACE OF THE ALLUVIAL AQUIFER AND HYDROLOGIC CONDITIONS IN THE CENTRAL AGUIRRE QUADRANGLE, PUERTO RICO, MARCH 1986

U.S. Geological Survey
Water-Resources Investigations
Report 87-4160



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POTENTIOMETRIC SURFACE OF THE ALLUVIAL AQUIFER AND HYDROLOGIC CONDITIONS IN THE CENTRAL AGUIRRE QUADRANGLE, PUERTO RICO, MARCH 1986

By
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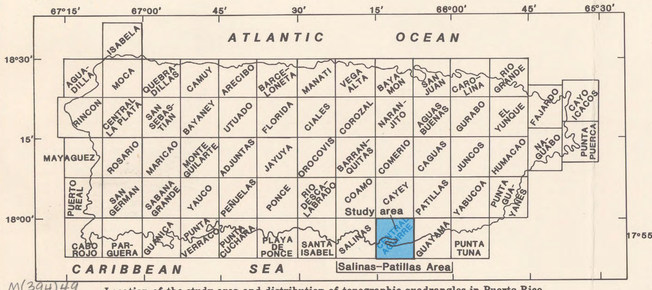
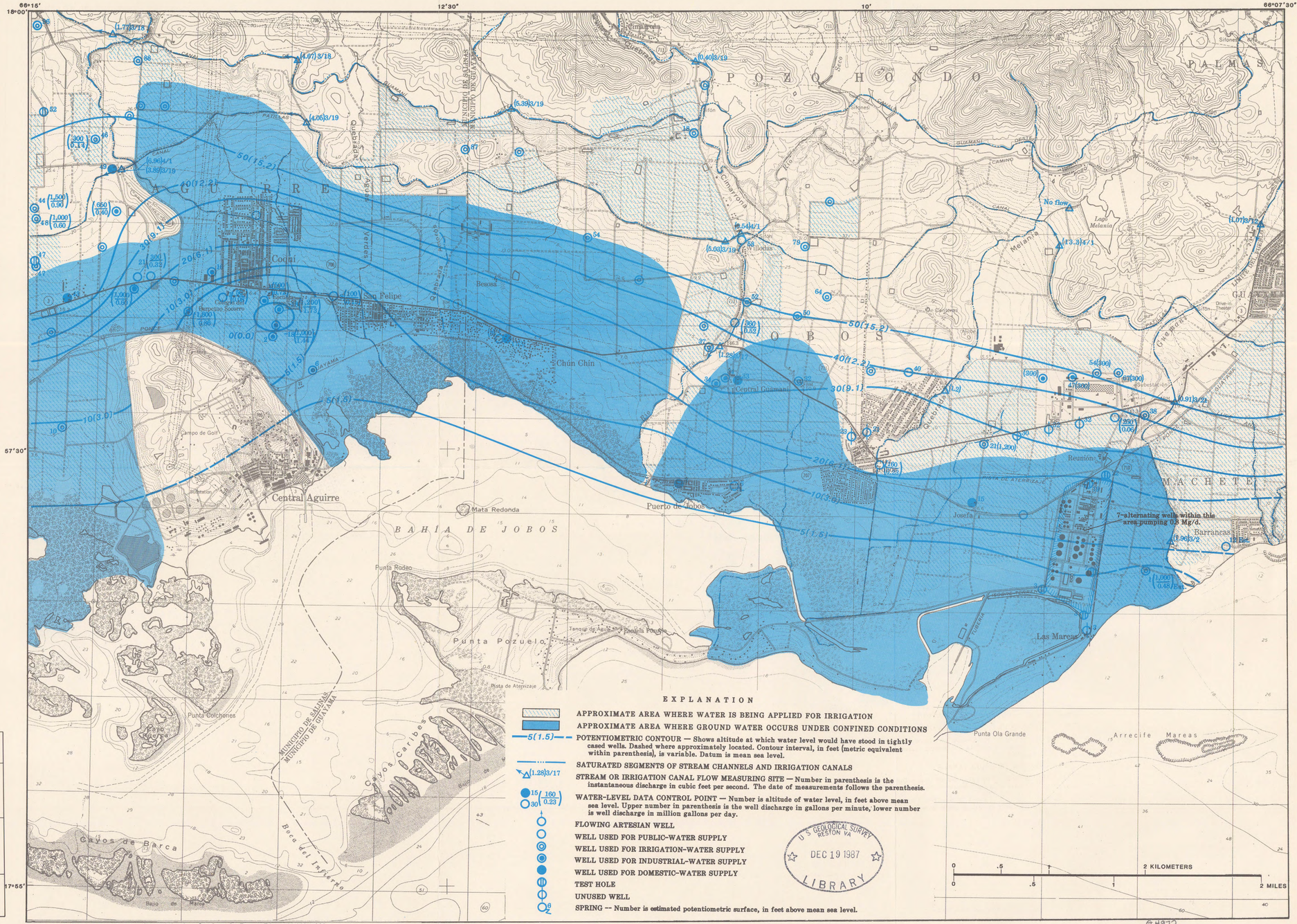
A ground-water level survey and reconnaissance of the hydrologic conditions in the Salinas-Patillas area were performed during March 1986. This map is part of a series of three quadrangles that cover the coastal area between Barrio Jauca of Santa Isabel and Río Grande de Patillas. The potentiometric surface was delineated on the basis of measurements at existing wells and several piezometers. The altitude of the potentiometric surface was referenced to mean sea level datum on the basis of land surface elevations obtained from the 1:20,000 Central Aguirre quadrangle topographic map. Discharge measurements were also made at all operating irrigation wells and daily withdrawal rates were determined for all operating irrigation wells within the area. Flow measurements were made at several points along the major streams and canals. In addition, delineations of saturated segments along intermittent-flowing streams and irrigation canals were made. Surface-water irrigation deliveries to the different alluvial fans were indirectly determined by measuring the flow at several points along the Guamaní and Patillas irrigation canals. Farm areas where irrigation water was applied, either from wells and (or) the irrigation canal system, were also delineated. The map represents conditions when ground-water levels were at a near annual low, stream-flows were near minimum conditions, and well pumpage and canal deliveries were at near maximum rates.

Additional information is available at the U.S. Geological Survey, Water Resources Division, GPO Box 4424, San Juan, Puerto Rico, 00936 - Tel. (809) 753-4414.



Location of the study area and distribution of topographic quadrangles in Puerto Rico.



EXPLANATION

- APPROXIMATE AREA WHERE WATER IS BEING APPLIED FOR IRRIGATION
- APPROXIMATE AREA WHERE GROUND WATER OCCURS UNDER CONFINED CONDITIONS
- 5(1.5) — POTENTIOMETRIC CONTOUR — Shows altitude at which water level would have stood in tightly cased wells. Dashed where approximately located. Contour interval, in feet (metric equivalent within parenthesis), is variable. Datum is mean sea level.
- SATURATED SEGMENTS OF STREAM CHANNELS AND IRRIGATION CANALS
- (1.28)3/17 — STREAM OR IRRIGATION CANAL FLOW MEASURING SITE — Number in parenthesis is the instantaneous discharge in cubic feet per second. The date of measurements follows the parenthesis.
- 15 (160 / 0.23) / 30 — WATER-LEVEL DATA CONTROL POINT — Number is altitude of water level, in feet above mean sea level. Upper number in parenthesis is the well discharge in gallons per minute, lower number is well discharge in million gallons per day.
- FLOWING ARTESIAN WELL
- WELL USED FOR PUBLIC-WATER SUPPLY
- WELL USED FOR IRRIGATION-WATER SUPPLY
- WELL USED FOR INDUSTRIAL-WATER SUPPLY
- WELL USED FOR DOMESTIC-WATER SUPPLY
- TEST HOLE
- UNUSED WELL
- SPRING -- Number is estimated potentiometric surface, in feet above mean sea level.

Base from U.S. Geological Survey, Central Aguirre Quadrangle, Puerto Rico 1:20,000, 1982