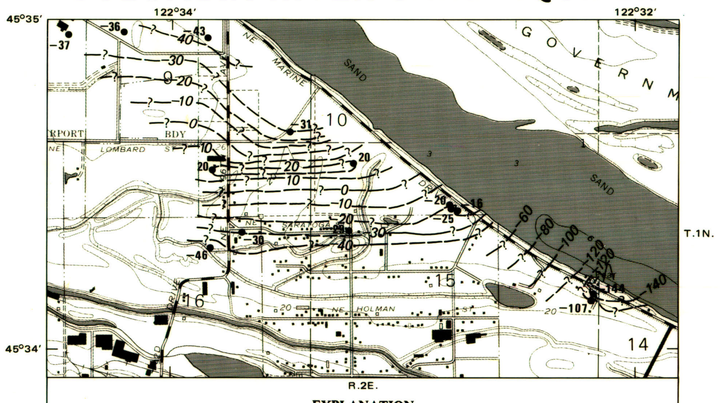
## ALTITUDE OF TOP OF COLUMBIA RIVER SAND AQUIFER

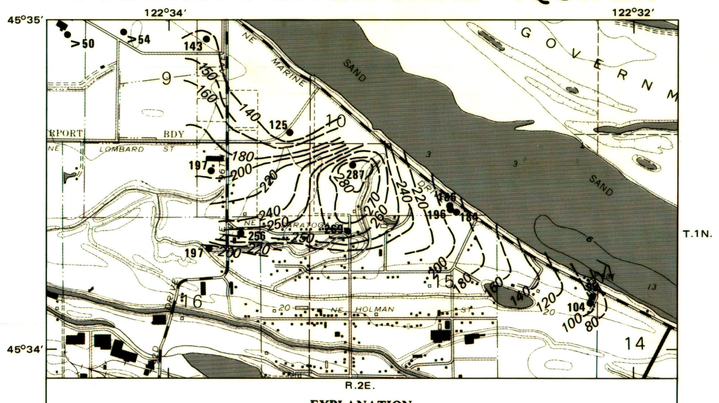



**EXPLANATION**

—— –30 —— —— ?– TOP-OF-AQUIFER CONTOUR–Shows altitude of top of Columbia River Sand aquifer. Dashed where inferred, queried where uncertain. Contour interval, in feet, is variable. National Geodetic Vertical Datum of 1929.

●–16 WELL PENETRATING COLUMBIA RIVER SAND AQUIFER–Number is atitude of top of unit in feet (where 2 or more wells are closely spaced, data was averaged for contouring).

## THICKNESS OF COLUMBIA RIVER SAND AQUIFER

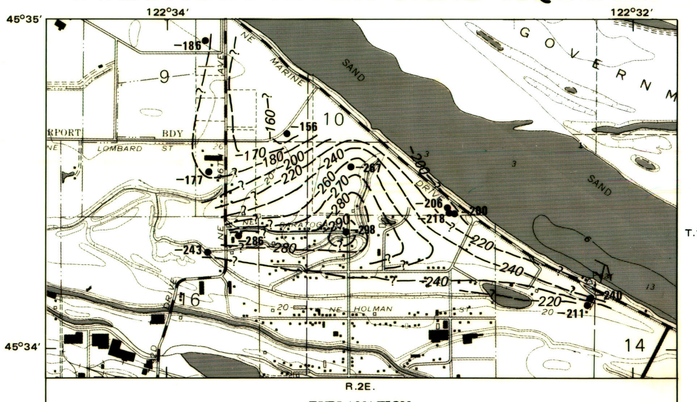



**EXPLANATION**

—— 200 —— —— ?– LINE OF EQUAL THICKNESS OF COLUMBIA RIVER SAND AQUIFER–Dashed where inferred, queried where uncertain. Interval, in feet, is variable.

●196 THICKNESS OF COLUMBIA RIVER SAND AQUIFER PENETRATED BY WELL–> indicates thickness of unit, in feet, is greater than that penetrated by well (where 2 or more wells are closely spaced, data was averaged for determining thickness).

## ALTITUDE OF BOTTOM OF COLUMBIA RIVER SAND AQUIFER

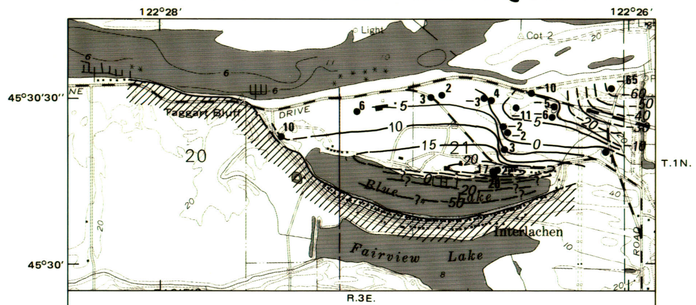



**EXPLANATION**

—— –280 —— —— ?– BOTTOM-OF-AQUIFER CONTOUR– Shows altitude of bottom of Columbia River Sand aquifer. Dashed where inferred, queried where uncertain. Contour interval, in feet, is variable. National Geodetic Vertical Datum of 1929.

●–156 WELL PENETRATING COLUMBIA RIVER SAND AQUIFER–Number is altitude of bottom of unit in feet (where 2 or more wells are closely spaced, data was averaged for contouring).

## ALTITUDE OF TOP OF BLUE LAKE GRAVEL AQUIFER



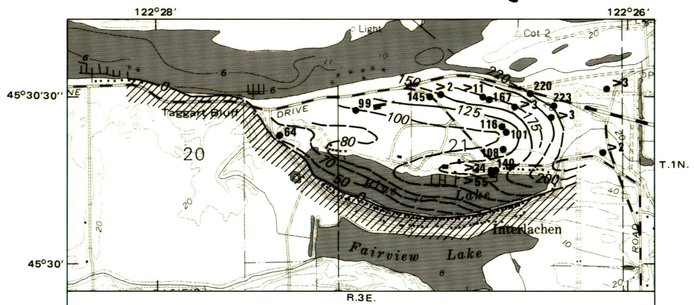

**EXPLANATION**

—— –50 —— —— ?– TOP-OF-AQUIFER CONTOUR–Shows altitude of top of Blue Lake Gravel aquifer. Dashed where inferred, queried where uncertain. Contour interval, in feet, is variable. National Geodetic Vertical Datum of 1929.

●2 WELL PENETRATING BLUE LAKE GRAVEL AQUIFER–Number is altitude of top of unit in feet (where 2 or more wells are closely spaced, data was averaged for contouring).

▨ ?– AREA WHERE UNIT IS NOT PRESENT–Dashed where inferred, queried where uncertain.

## THICKNESS OF BLUE LAKE GRAVEL AQUIFER



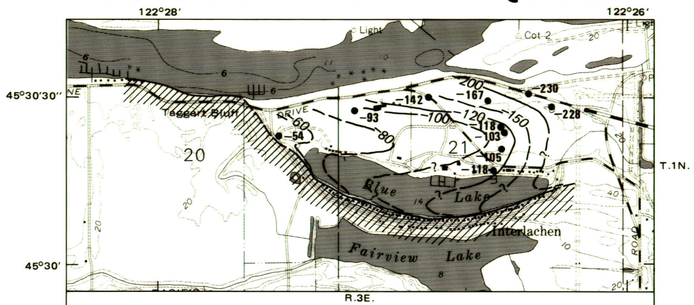

**EXPLANATION**

—— 50 —— —— ?– LINE OF EQUAL THICKNESS OF BLUE LAKE GRAVEL AQUIFER–Dashed where inferred, queried where uncertain. Interval, in feet, is variable.

●140 THICKNESS OF BLUE LAKE GRAVEL AQUIFER PENTRATED BY WELL–> indicates thickness of unit, in feet, is greater than that penetrated by well (where 2 or more wells are closely spaced, data was averaged for determining thickness).

▨ 0 ?– AREA WHERE UNIT IS NOT PRESENT –Dashed where inferred, queried where uncertain.

## ALTITUDE OF BOTTOM OF BLUE LAKE GRAVEL AQUIFER



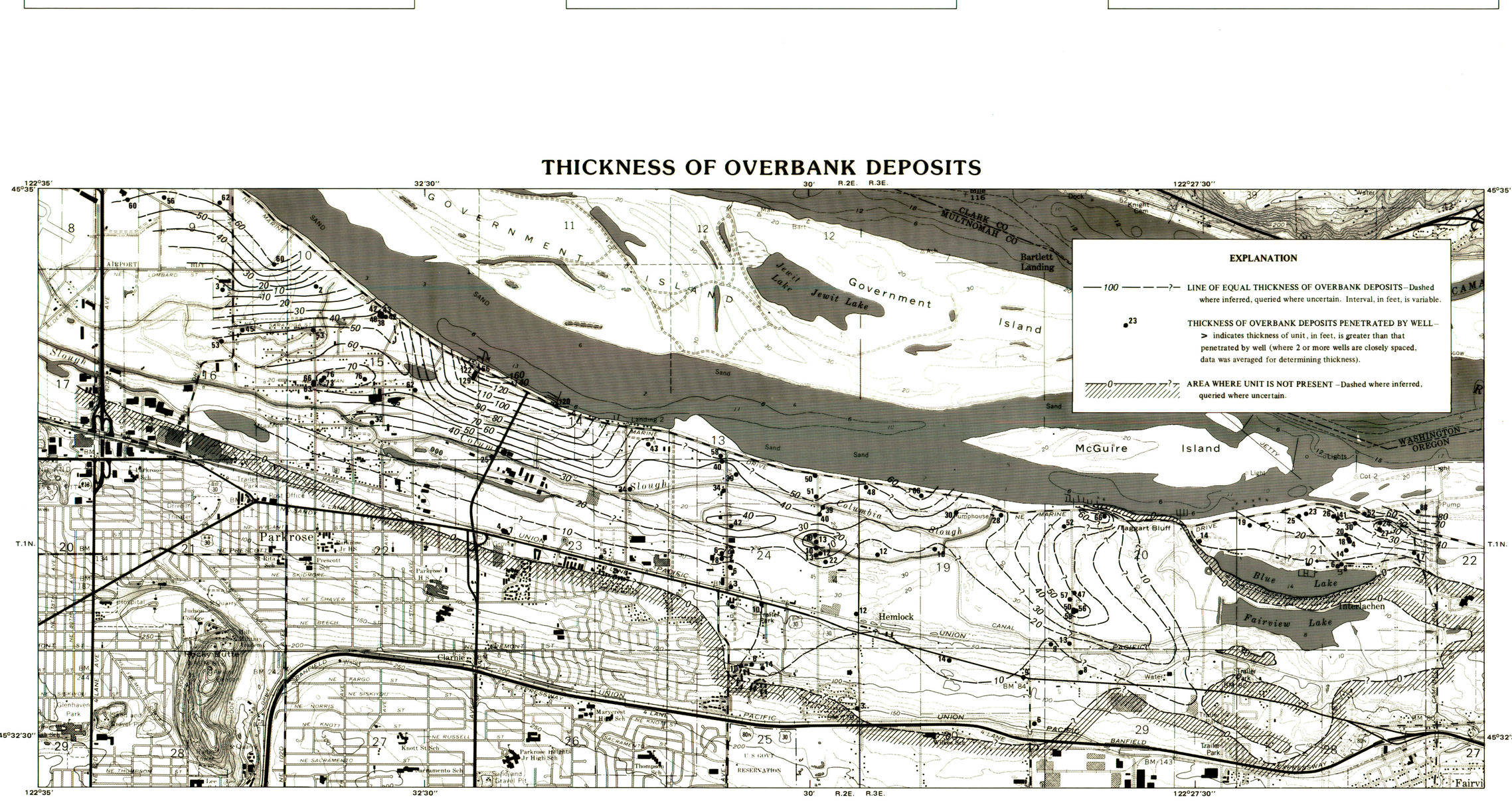

**EXPLANATION**

—— –100 —— —— ?– BOTTOM-OF-AQUIFER CONTOUR–Shows altitude of bottom of Blue Lake Gravel aquifer. Dashed where inferred, queried where uncertain. Contour interval, in feet, is variable. National Geodetic Vertical Datum of 1929.

●–142 WELL PENETRATING BLUE LAKE GRAVEL AQUIFER–Number is altitude of bottom of unit in feet (where 2 or more wells are closely spaced, data was averaged for contouring).

▨ ?– AREA WHERE UNIT IS NOT PRESENT–Dashed where inferred, queried where uncertain.

## THICKNESS OF OVERBANK DEPOSITS




**EXPLANATION**

—— 100 —— —— ?– LINE OF EQUAL THICKNESS OF OVERBANK DEPOSITS–Dashed where inferred, queried where uncertain. Interval, in feet, is variable.

●23 THICKNESS OF OVERBANK DEPOSITS PENETRATED BY WELL–> indicates thickness of unit, in feet, is greater than that penetrated by well (where 2 or more wells are closely spaced, data was averaged for determining thickness).

▨ 0 ?– AREA WHERE UNIT IS NOT PRESENT –Dashed where inferred, queried where uncertain.

SCALE 1:24 000

1 0 1 MILE

1 5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
DEPTH CURVES AND SOUNDINGS IN FEET–COLUMBIA RIVER DATUM

# LITHOLOGY, THICKNESS, AND EXTENT OF HYDROGEOLOGIC UNITS UNDERLYING THE EAST PORTLAND AREA, OREGON

By

Susan V. Hartford and William D. McFarland

1989