Ground Water Resources of GUERNSEY COUNTY

by

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1 0 1 2 Miles

1 0 1 2 Kilometers

CONTOUR INTERVAL 20 FEET

County Line

Township Line

Incorporated City Limit

Chemical Analysis Table

Well Site	A	B	C
Calcium (Ca)	46.00	—	89.00
Chloride (Cl)	10.00	35.00	33.00
Fluoride (F)	0.20	0.40	0.30
Hardness ($CaCO_3$)	—	126.00	300.00
Iron (Fe)	0.88	4.00	2.90
Magnesium (Mg)	12.20	—	24.00
Manganese (Mn)	0.18	0.61	0.00
Sodium (Na)	24.00	—	78.00
Sulfate (SO_4)	20.00	149.00	8.00
Dissolved Solids	210.00	608.00	525.00

Chemical constituents as milligrams per liter (mg/l)

Well Yields

★ Unusually large yields have been obtained from wells drilled into abandoned, flooded coal mines in Jackson, Center and Valley townships. The mines are in the Upper Freeport (Number 7) Coal and contain water under artesian pressure. Wells encountering sandstones, which are hydraulically connected to flooded mines, also may produce large supplies in these areas.

AREAS IN WHICH YIELDS IN EXCESS OF 25 GALLONS PER MINUTE MAY BE DEVELOPED

Interbedded and interfensing deposits of sand, gravel, silt and clay may yield small industrial supplies of ground water. The thickness of these valley fill deposits ranges from 50 feet to 175 feet. Exploratory drilling may be needed to locate coarser deposits. Yields from the underlying bedrock are described below.

AREAS IN WHICH YIELDS OF 10 TO 25 GALLONS PER MINUTE MAY BE DEVELOPED

Valley fill containing sand and gravel deposits of limited thickness and extent may supply yields of as much as 25 gallons per minute. These unconsolidated deposits generally range from 40 feet to 140 feet in thickness. Wells not encountering significant sand and gravel deposits are drilled into the underlying bedrock.

AREAS IN WHICH YIELDS OF 3 TO 10 GALLONS PER MINUTE MAY BE DEVELOPED

Wells are developed in sandstones and sandy shales of the Pennsylvanian system. Wells range from 70 feet to 200 feet in depth and are generally adequate for domestic supplies.

Fill along stream valleys consists largely of clay with occasional thin lenses of sand and gravel which may yield domestic water supplies. Otherwise, wells must be drilled into the underlying bedrock.

AREAS IN WHICH YIELDS SELDOM EXCEED 3 GALLONS PER MINUTE MAY BE DEVELOPED

Very limited supplies are available from wells drilled into alternating layers of shale and thin sandstones. Although wells vary from 40 feet to 325 feet, the average depth is around 120 feet.

Well supplies are meager whether they are developed in the shallow fill of stream valleys or in the underlying sandstone and shale bedrock.

Well Site Symbols

WELL INFORMATION (SEE NOTE)

AQUIFER TYPE
Water bearing formation.

DEPTH (ft.)
Total depth of well in feet.

YIELD (gpm)
Amount of water a well produces in gallons per minute.

WELL SITE
Approximate location of a well.

75-SS-20
26

DEPTH TO BEDROCK (ft.)
Depth to bedrock in feet.

WELL TYPES

- ● Well Site
- ▲ Well Site H_2S Noted
- ○ Municipal-Industrial Well
- ★ Mine Outflow
- **A** Chemical Analyses

AQUIFER TYPES

S - Sand
G - Gravel
SG - Sand and Gravel
SS - Sandstone
SH - Shale
LS - Limestone

Note

The ground water characteristics have been mapped regionally, based upon interpretations of water well records and the area's geology and hydrology. Mapped well sites were selected as typical for the areas shown.
Information regarding specific sites may be obtained from the Division of Water.

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