

Midwest Technology Assistance Center  
Groundwater Resource Assessment for Small Communities

**Groundwater Availability  
At  
Keensburg, Illinois  
(Wabash County)**

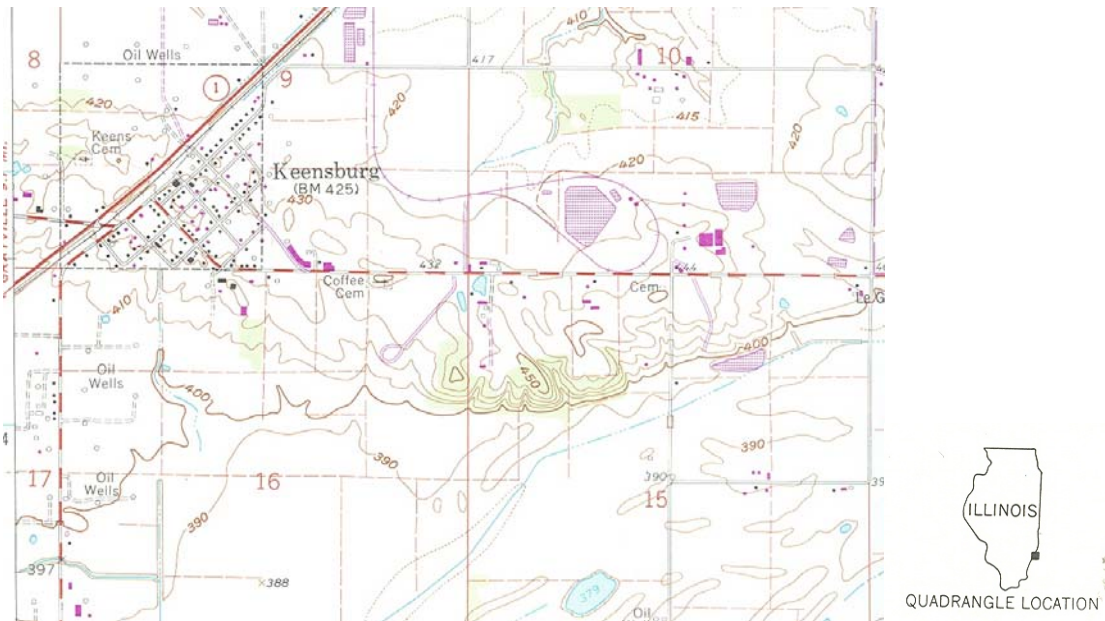
**Project Overview**

This project is an outgrowth of the Public Service Program of the Center for Groundwater Science (CGS) at the Illinois State Water Survey. For over 50 years, the CGS has provided groundwater information to any requesting individual, commercial facility or public water facility. Groundwater resource assessments have been an integral part of this public service and have been undertaken for thousands of individuals and facilities throughout its history. Community groundwater supplies that have been identified as potentially “deficient” are the targets for this project. The criterion used for determining community deficiency were; 1) Water Supply and Demand (operating time), 2) Aquifer Limitation, 3) Well Specific Capacity, and 4) Facility History. The Village of Keensburg has been identified as a target community for groundwater assessment through this project.

**Project Goal**

To provide a resource tool of pertinent groundwater information to each target facility. This document describes a summary of historic information, current conditions and the potential for expansion of the water supply of Keensburg.

**Keensburg (Wabash County)**



The Village of Keensburg (Facility Number 1850150) utilizes two active community water supply wells. Wells Nos. 1A and 2 (Illinois EPA Nos. 01370 and 01044, respectively) supply an average of 17,000 gallons per day (gpd) to 115 services or a population of 246.

Keensburg was determined to be “Adequate” by the project criteria and this report serves as a summary of information should they need to increase their current supply. The shallow depth of their wells (50 and 42 feet) included this facility within the study.

**Historic Information**

Background Well Information

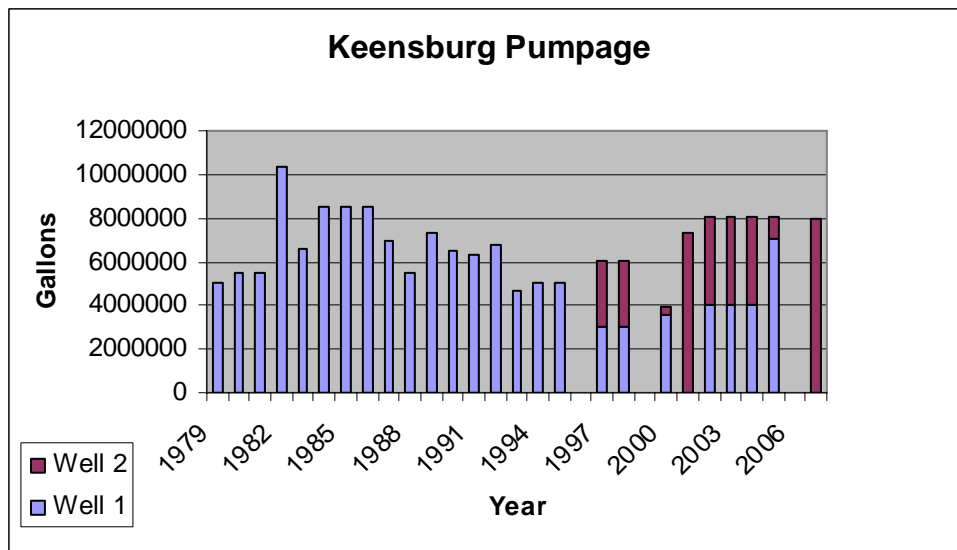
Well No. 1A

Constructed in sand and gravel to a depth of 50 feet in 1958, this well is located in Section 16, T.2S., R.13W., Wabash County. One year after completion, approximately 1 foot of drawdown was observed while pumping 100 gallons per minute (gpm) for 1 hour from a nonpumping water level of 5.72 feet below land surface. The calculated specific capacity of this well at the time of its construction was 100.0 gpm/ft. This well is currently pumped at about 60 gpm.

Well No. 2

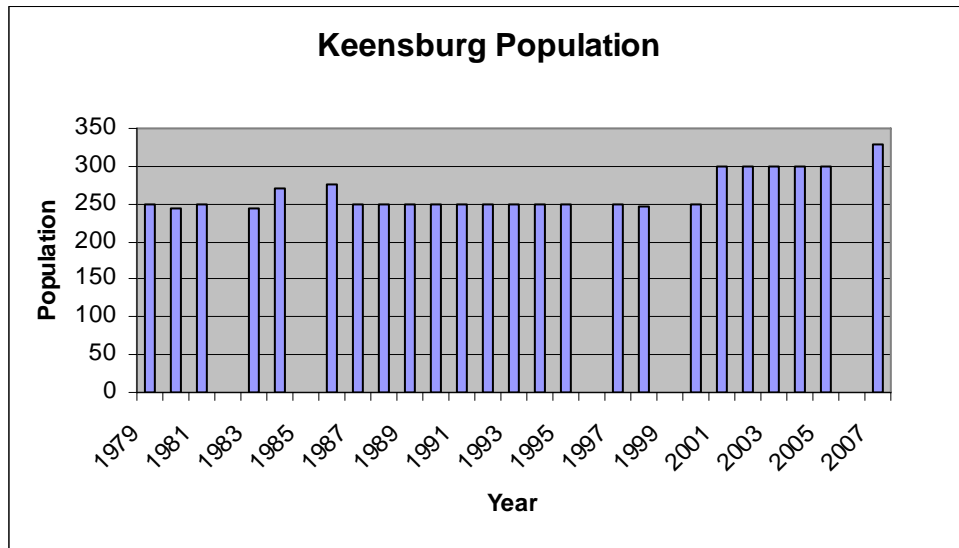
Constructed in sand and gravel to a depth of 47 feet in 1994, this well is located in Section 16, T.2S., R.13W., Wabash County. At the time of construction, the driller estimated the well capable of producing over 600 gpm. This well is currently pumped at about 90 gpm.

Background Pumpage Information



Source: ISWS Illinois Water Inventory Program

## Historic Population Information



Source: ISWS Illinois Water Inventory Program

## **Regional Information**

### Resources within the Keensburg area

#### *Domestic Groundwater Supplies*

The available regional data indicate that groundwater for domestic and farm use in this part of Illinois is obtained from mainly small-diameter drilled wells tapping the underlying bedrock formations. These wells are finished in thin sandstone and shale beds and range in depth from 147 to 293 feet and usually have nonpumping water levels ranging from about 20 to 135 feet below land surface. These wells were pumped at rates ranging from 5 to 50 gpm for short periods of time.

#### *Municipal Groundwater Supplies*

The Keensburg wells are located in sand and gravel deposits within the floodplain of the Wabash River. Only one nearby town has wells that pump at rates greater than the Keensburg wells, the City of Mt. Carmel. Mr. Carmel uses three wells finished within the sand and gravel deposits associated with the Wabash River, located in Section 32, T.1S., R.12W., Wabash County. These wells range in depth from 67 to 70 feet deep and produce groundwater at rates ranging from 410 to 470 gpm for their supply.

Figures 1 and 2 picture the ISWS Potential Yield maps for sand and gravel and bedrock aquifers in Illinois, respectively. The pertinent counties for Keensburg are highlighted. Figure 1 indicates that sand and gravel deposits are present and

high-yielding to the southeast of Keensburg. The potential increases toward the Wabash River. The bedrock map (Figure 2) indicates poor potential for development from the bedrock throughout the area. Figures 3 and 4 present the probability of occurrence of the sand and gravel and the water-yielding character of the shallow bedrock for the Keensburg area as depicted in the Illinois State Geologic Survey Circular 212, *Groundwater Geology in Southern Illinois* (Pryor, 1956). Figure 3 indicates “Fair to Good” variability in the local Keensburg area and “Good to Excellent” south and east moving toward the Wabash River. Figure 4 indicates only small supplies are available from the shallow bedrock units. The domestic well construction and test drilling records in this area verify these map outlooks.

### **Groundwater Availability Summary**

The available information indicates that the sand and gravel deposits within the Keensburg well field area are capable of providing for the water needs of the village now and into the future. Should the town need to expand their system, an accessible location toward the river and away from the village would seem prudent in an effort to protect the source from potential contamination. All available information indicates higher potential toward the Wabash River. In any new development, care should be taken in properly spacing any new well away from the current wells to ensure drawdown interference is minimal.

### **References**

Pryor, Wayne A. 1956. Groundwater Geology In Southern Illinois, A preliminary Geologic Report. Illinois State Geological Survey Circular 212.

## Estimated Potential Yields of Sand and Gravel Aquifers in Keensburg Area

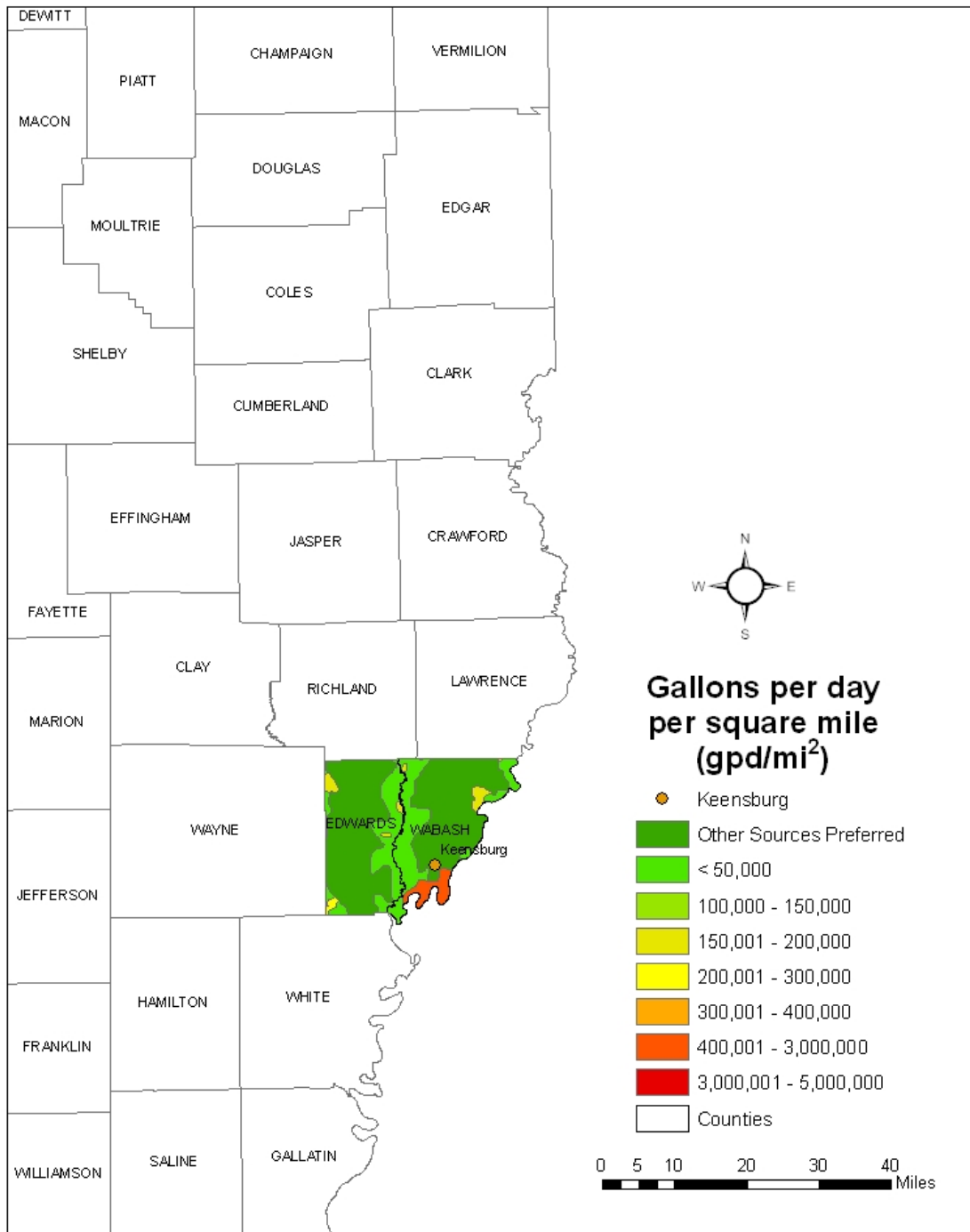


Figure 1.

# Estimated Potential Yields of Shallow Bedrock Aquifers in Keensburg Area

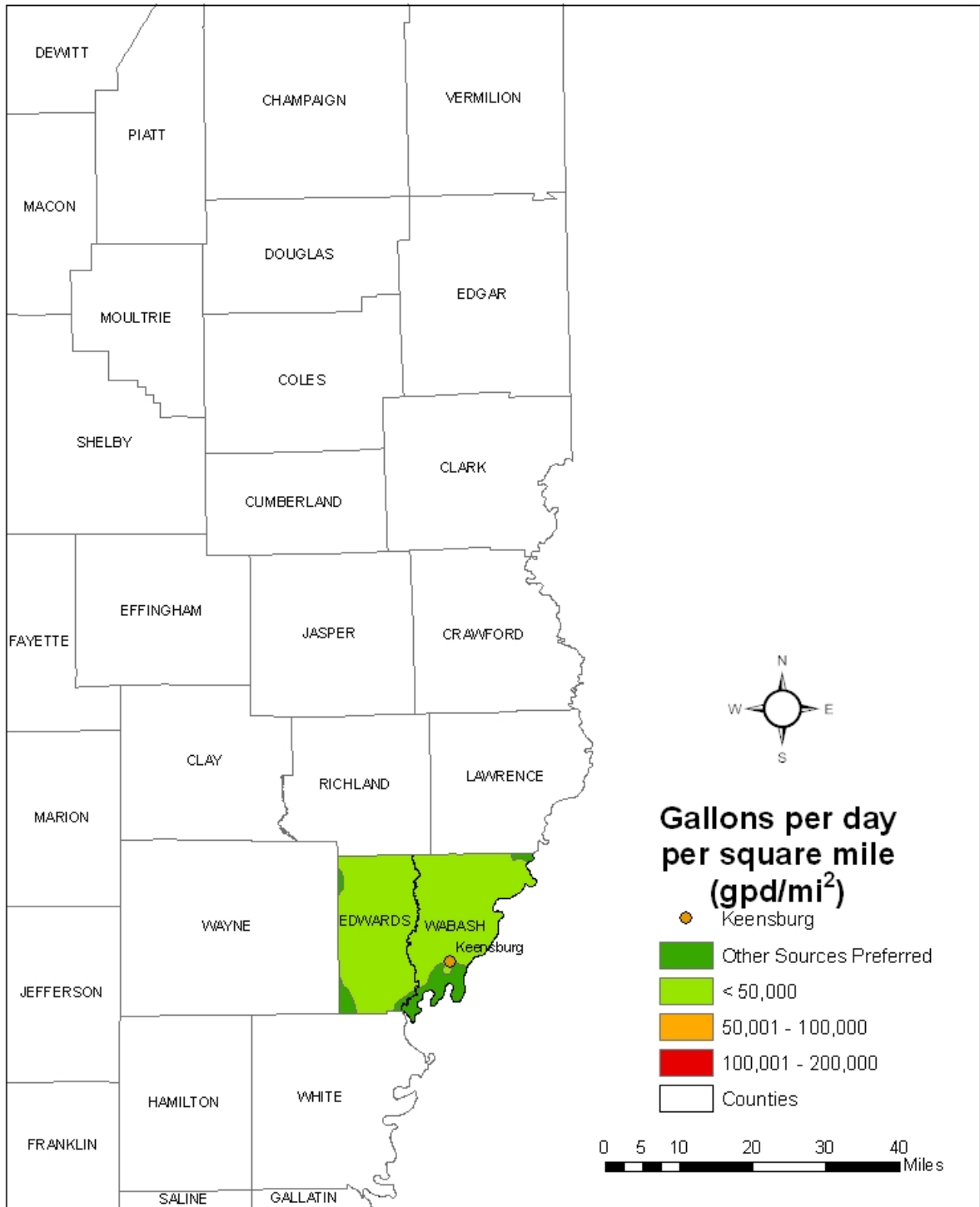


Figure 2.



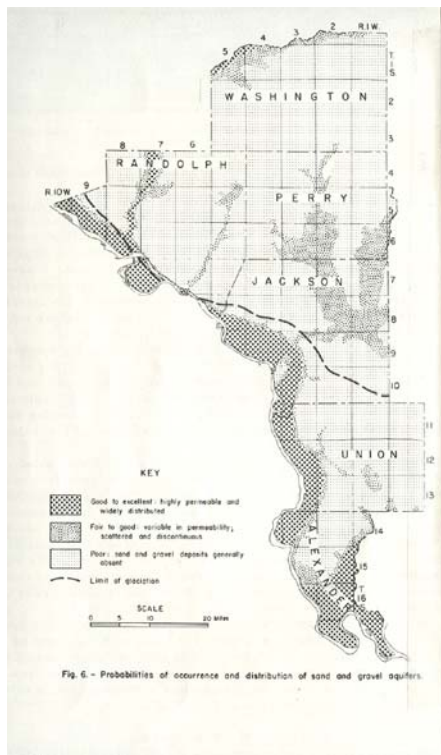


Figure 3.

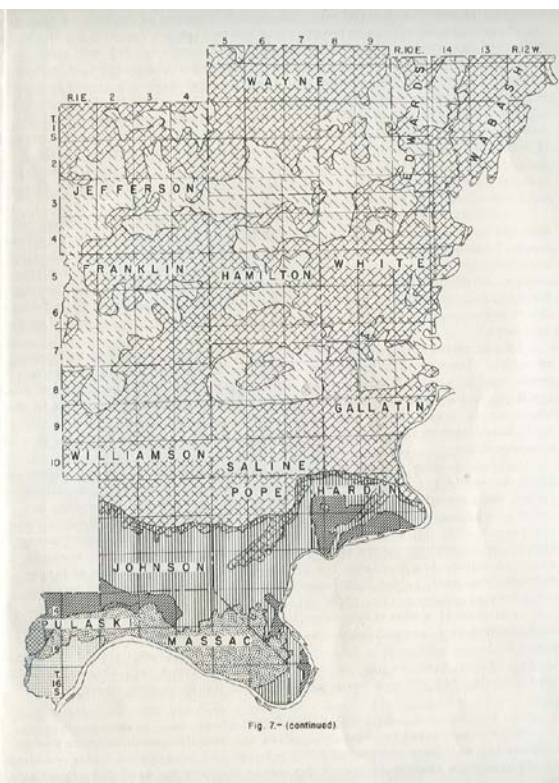
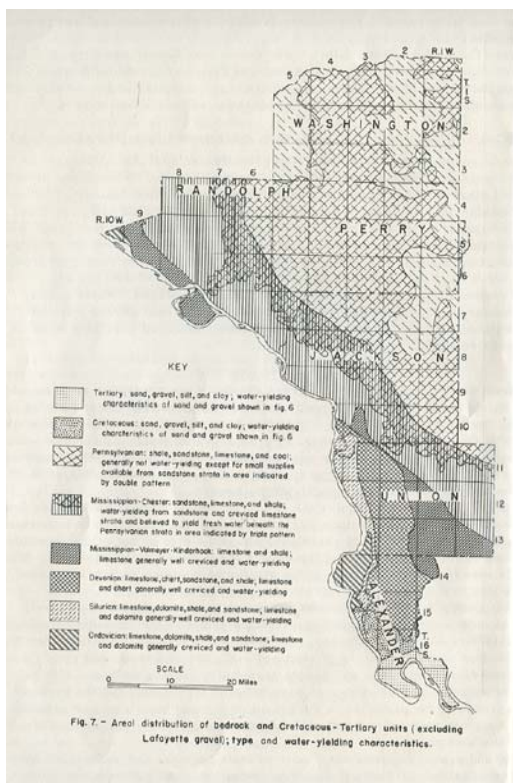


Figure 4.

## ISWS publications list for Keensburg and surrounding areas.

\* = Publication is out of print.

\$ = Payment required.

### EDWARDS

1978 B-60-21 Public groundwater supplies in Edwards County.  
Woller-Sanderson. 8p.

### WABASH

\*1966 RI-55 Yields of wells in Pennsylvanian and Mississippian rocks in  
Illinois. Csallany. 42p.

\*1978 CR-199 Reconnaissance study of final cut impoundments. Gibb-Evans.  
101p.

\*1985 B-60-31 Public groundwater supplies in Wabash County. Woller-Olson.  
12p.

1994 CR-578 Ground-Water Investigation at Mount Carmel, Illinois. Visocky-  
Sanderson. 186p.