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 Piatt 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 within 5 and 10 miles of Piatt.

Cerro Gordo (Piatt County)
The Village of Cerro Gordo (Facility Number 1470100) utilizes two active community water supply wells. Well Nos. 8 and 9 (Illinois EPA Nos. 42145 and 01254, respectively) supply an average of 120,000 gallons per day (gpd) to 625 services or a population of 1500.

The project criterion included Cerro Gordo because of its long history of very sporadic and shallow sand and gravel deposits, and prior to 2000, Cerro Gordo used only one well (No. 8) for its supply and listed two shallow wells (Nos. 6 and 7) as emergency wells. After 2000, the village developed another deep well (No. 9) and used this well in tandem with No. 8 for its supply. Well Nos. 6 and 7 have been sealed. The project criterion included Cerro Gordo as “Adequate” based upon the development of these deep wells.

Historic Information

Background Well Information

Well No. 8
Finished in sand and gravel deposits located in the Section 11, T.17N., R.04E., Piatt County. The well was drilled to a depth of 156 feet in 1975 and, upon completion, was pumped at 310 gallons per minute (gpm) for 5 hours with approximately 22.56 feet of drawdown. Calculated specific capacity from this test was 13.74 gpm/ft. Static water level was reported as 44.12 feet below land surface.

Well No. 9
Finished in sand and gravel deposits located in the Section 01, T.17N., R.04E., Piatt County. The well was drilled to a depth of 252 feet in 1999 and, upon completion, was pumped at 413 gpm for 8 hours with 20 feet of drawdown. Calculated specific capacity from this test was 20.7 gpm/ft. Static water level was reported as 48 feet below land surface.

Background Pumpage Information

![Cerro Gordo Pumpage](image)

Source: ISWS Illinois Water Inventory Program
**Regional Information**

Resources within 5 miles of Cerro Gordo (Figure 1).

*Domestic Groundwater Supplies*

The available regional data indicate that groundwater for domestic and farm use in this area is obtained mainly from large-diameter dug and bored wells finished in the unconsolidated materials above bedrock. These wells tap stringers or lenses of silt, sand, or gravel only a few inches thick contained in the unconsolidated materials above bedrock. They range in depth from about 20 to 65 feet. The yield of this type of well is limited to a few hundred gallons per day and may be only barely adequate for normal household uses.

Several small-diameter (4- to 6-inch) wells have reportedly been drilled to depths of around 160 feet below land surface. Two wells, drilled into the bedrock, were reported to be dry, whereas, one well drilled to 110 feet, reported sand and gravel sufficient for a domestic well.

*Municipal Groundwater Supplies*

There are two towns located within five miles of Cerro Gordo; Milmine to the northeast and Oakley to the southwest in Piatt County. Neither Milmine nor Oakley reports a municipal water supply and it is assumed that the residents use domestic wells for their water needs.

Other municipal water supplies located close to Cerro Gordo reside in the Village of Bement and the Village of Cisco. The Village of Bement currently uses two wells (Nos. 2 & ) located in Sections 24, in T.17N., R.05E., Piatt County. Well No. 2 is finished in sand and gravel at a depth of 163 feet with a capacity of 250 gallons per minute (gpm). Well Nos. 3 are finished in sand and gravel deposits at a depth 143 feet and is rated at 250 gpm, respectively.
The Village of Cisco currently uses two wells (Nos. 3 & 4) located in Sections 14, in T.18N., R.04E., Piatt County. Well No. 3 is finished in sand and gravel at a depth of 213 feet with a capacity of 90 gallons per minute (gpm). Well Nos. 4 is finished in sand and gravel deposits at a depth of 290 feet and is rated at 100 gpm.

Figures 3 and 4 picture the ISWS Potential Yield maps for sand and gravel and bedrock aquifer in Illinois, respectively. The pertinent counties for Cerro Gordo are highlighted. Figure 3 indicates that sand and gravel deposits are consistent throughout most of the Cerro Gordo area. The bedrock map (Figure 4) indicates poor availability of groundwater from the bedrock throughout the area.

Figures 5 and 6 present the probability of occurrence of the sand and gravel and the water-yielding character of the shallow bedrock for the Cerro Gordo area as depicted in the Illinois State Geologic Survey Circular 248, *Groundwater Geology in East-Central Illinois* (Selkregg, et al., 1958). Figure 5 indicates “Fair to Good” variability in the county for sand and gravel deposit development. Figure 6 indicates only small supplies are available from the shallow bedrock units. The domestic well construction records verify these map outlooks.

**Groundwater Availability Summary**

The available information indicates that the sand and gravel deposits that the Cerro Gordo currently uses are capable of supplying the necessary water for the village. The village wells are finished in the southern portion of the Mahomet Buried Bedrock Valley in this area which is capable of large quantities of good quality groundwater. When the village decided to move north into Section 11 and then Section 1, (T.17N., R.4E., Piatt County), they made a very good decision related to a long-term source of groundwater. Should the village need to increase their supply, Section 1 probably offers the best area to develop. The sands are thicker moving to the north and would be capable of supporting another well, if properly spaced from Well No. 9. Test drilling and well testing would be recommended.
Figure 1. 5-mile radius map-Cerro Gordo
Figure 2. 10-mile radius map-Cerro Gordo
Estimated Potential Yields of Sand and Gravel Aquifers in Cerro Gordo Area

Figure 3.
Estimated Potential Yields of Shallow Bedrock Aquifers in Cerro Gordo Area

Figure 4.
References


ISWS publications list for Cerro Gordo and surrounding areas.

* = Publication is out of print.
$ = Payment required.

MACON


MOULTRIE


PIATT


1971 C-107 Groundwater availability in Piatt County. Sanderson. 83p. $3.95.


