

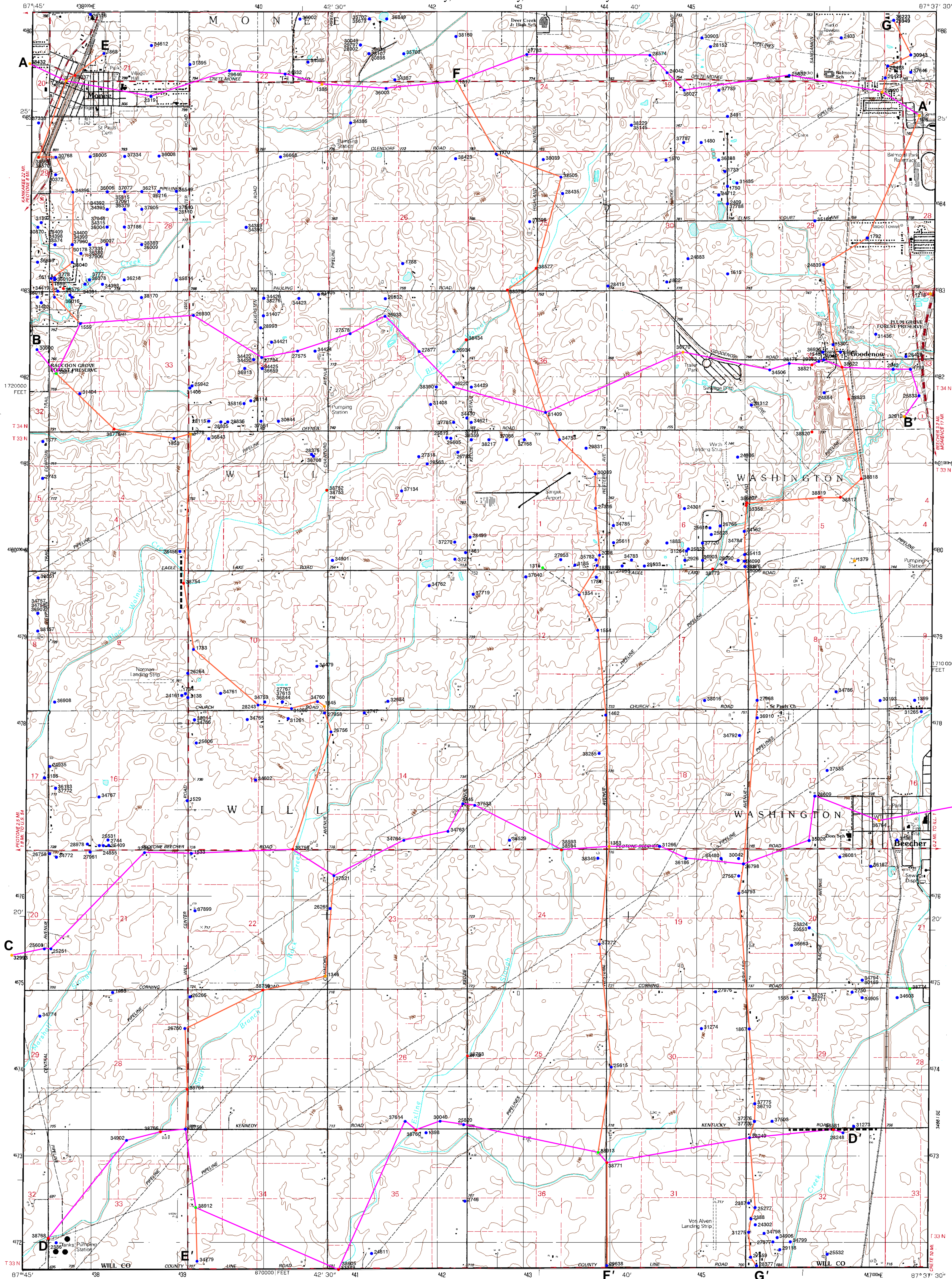
George H. Ryan, Governor
Department of Natural Resources
Brent Manning, Director
ILLINOIS STATE GEOLOGICAL SURVEY
Illinois Geological Quadrangle Map: IGQ Beecher West-Steger-DP
William W. Shills, Chief
2001

DATA POINT LOCATION MAP

Selected Water Wells, Test Borings, and Electrical Earth Resistivity Transects,

Northern Beecher West and Southern Steger 7.5-minute Quadrangles, Will County, Illinois

B. Brandon Curry, D. A. Grimley, and D. M. Kulczycki



This map shows the locations for the borings and electrical earth resistivity transects that provided the data used to map the surficial geology (Curry and Grimley 2001), and the bedrock topography and drift thickness (Grimley et al. 2001) of the northern Beecher West and southern Steger 7.5-minute Quadrangles. Also shown are the lines of the cross sections for the surficial geology map (Curry and Grimley 2001). Numbers by each data point are unique identification numbers, part of the API number assigned to each unique data point, for the records of borings on file at the Geological Records Unit at the Illinois State Geological Survey (ISGS). "API" is the acronym for American Petroleum Institute.

Blue dots show the locations of water wells with drillers' descriptive logs in the well records. Most water wells in this region pump water from the upper bedrock; the glacial drift is generally cased off. The locations of the wells were not verified in the field, but, in many cases, the locations were confirmed by street address.

Orange dots show the locations of water wells with sets of samples of the geologic materials on file at the Geological Samples Library of the ISGS. Sample sets are washed cuttings collected every 5 feet and at every significant change in lithology. Each sample set was examined, and the description of the samples is on file in the ISGS Geological Records Unit

Red dots denote the locations of engineering borings. The logs of engineering borings are typically very detailed and often include data such as moisture content, blow counts, and unconfined compressive strength. Most engineering borings were drilled for bridge construction and for piezometer construction at the Beecher facility, a landfill in the village of Goodenow (Section 32, T. 34 N., R. 14 E., and Section 5, T. 33 N., R. 14 E.). With their laboratory test results, carefully surveyed locations, and detailed descriptions of materials, the quality of the information from engineering borings is superior to the descriptive information available from most water wells.

The highest quality geologic data, shown by the green dots, come from stratigraphic test holes that are drilled, sampled, and described by geologists of the ISGS. Results of particle-size distribution analyses and of mineralogical analyses of the < 2-µm sediment fraction are available for samples from these borings. Two such stratigraphic test holes, 1315 and 1317, were drilled for the Northeastern Illinois Planning Commission (Lund 1966). They are located in Section 1, T. 33 N., R. 13 E., and Section 23, T. 34 N., R. 13 E., respectively. The other three detailed stratigraphic test holes, 38912, 38913, and 38914, were drilled expressly for this study. These borings are located in Section 34, T. 33 N., R. 13 E.; Section 36, T. 33 N., R. 13 E.; and Section 33, T. 34 N., R. 13 E., respectively.

Electrical earth resistivity (EER) surveys were done along two transects. The thickness and distribution of sand and gravel deposits were determined from the results of these surveys. Reynolds (1997) describes EER surveying techniques.

References

- Curry, B.B., and D.A. Grimley, 2001, Surficial geology map, northern Beecher West and southern Steger 7.5-minute Quadrangles, Will County, Illinois: Illinois State Geological Survey, Illinois Geological Quadrangle Map IGQ-Beecher West-Steger-SG, scale, 1:24,000.
- Grimley, D.A., B.B. Curry, and D.M. Kulczycki, 2001, Bedrock topography and drift thickness maps of the northern Beecher West and southern Steger 7.5-minute Quadrangles, Will County, Illinois: Illinois State Geological Survey, Illinois Geological Quadrangle Map IGQ-Beecher West-Steger-BT, scale, 1:24,000.
- Lund, C.R., 1966, Data from controlled drilling program in Will and southern Cook Counties, Illinois: Illinois State Geological Survey, Environmental Geology Notes 10, 56 p.
- Reynolds, J.M., 1997, An introduction to applied and environmental geophysics: Chichester, John Wiley and Sons, 796 p.

Acknowledgments

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Types of data points

- Water wells
 - Water wells with sample sets
 - Engineering borings
 - Stratigraphic borings with particle-size and other data
- Electrical earth resistivity (EER) transects (2)
- Lines of north-south cross sections
- Lines of east-west cross sections

Data points are labeled with county API numbers, unique numbers that identify records of water wells and borings available at the Geological Records Unit at the Illinois State Geological Survey. The locations of the water wells and sample sets were not field verified, but many locations were confirmed by street address.

Base map produced by the United States Geological Survey
Control by USGS and NOS/NOAA
Topography by photogrammetric methods from aerial photographs taken 1987. Field checked 1988. Map edited 1990 (Steger Quad.); taken 1987. Field checked 1988. Map edited 1990 (Beecher West Quad.).
Projection and 10,000-foot grid ticks: Illinois coordinate system, east zone (Transverse Mercator)
1000-meter Universal Transverse Mercator Grid, zone 16
1927 North American Datum
Fine red dashed lines indicate selected field and lines which generally visible on aerial photographs. This information is unchecked.

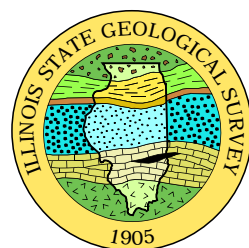
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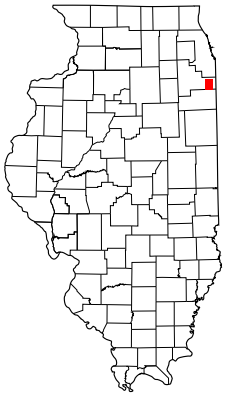
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UTM GRID AND 1990 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

Scale 1:24,000
0 2000 feet
0 2 kilometers
2 miles

Base map compiled at the Illinois State Geological Survey (ISGS)
from digital data provided by the U.S. Geological Survey and the ISGS

1	2	3
4	5	6
7	8	9
10	11	12

- 1 Tinley Park
- 2 Harvey
- 3 Calumet City
- 4 Frankfort
- 5 Steger
- 6 Dyer
- 7 Peotone
- 8 Beecher West
- 9 Beecher East
- 10 Bradley
- 11 Momence
- 12 Illiana Heights

IMPORTANT INFORMATION ON THE USE OF THESE MAPS AND OTHER MATERIALS

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This document provides a large-scale conceptual model of the geology of the area on which to base further work. Any map or cross section included herein is not intended for use in site-specific screening or decision-making. Use of this document does not eliminate the need for detailed studies to fully understand the geology of a specific site. The Illinois State Geological Survey, the Illinois Department of Natural Resources, and the State of Illinois make no guarantee, expressed or implied, regarding the correctness of the interpretations presented in this document and accept no liability for the consequences of decisions made by others on the basis of the information presented here.

ADJOINING 7.5-MINUTE QUADRANGLES