

Surficial Geologic Map

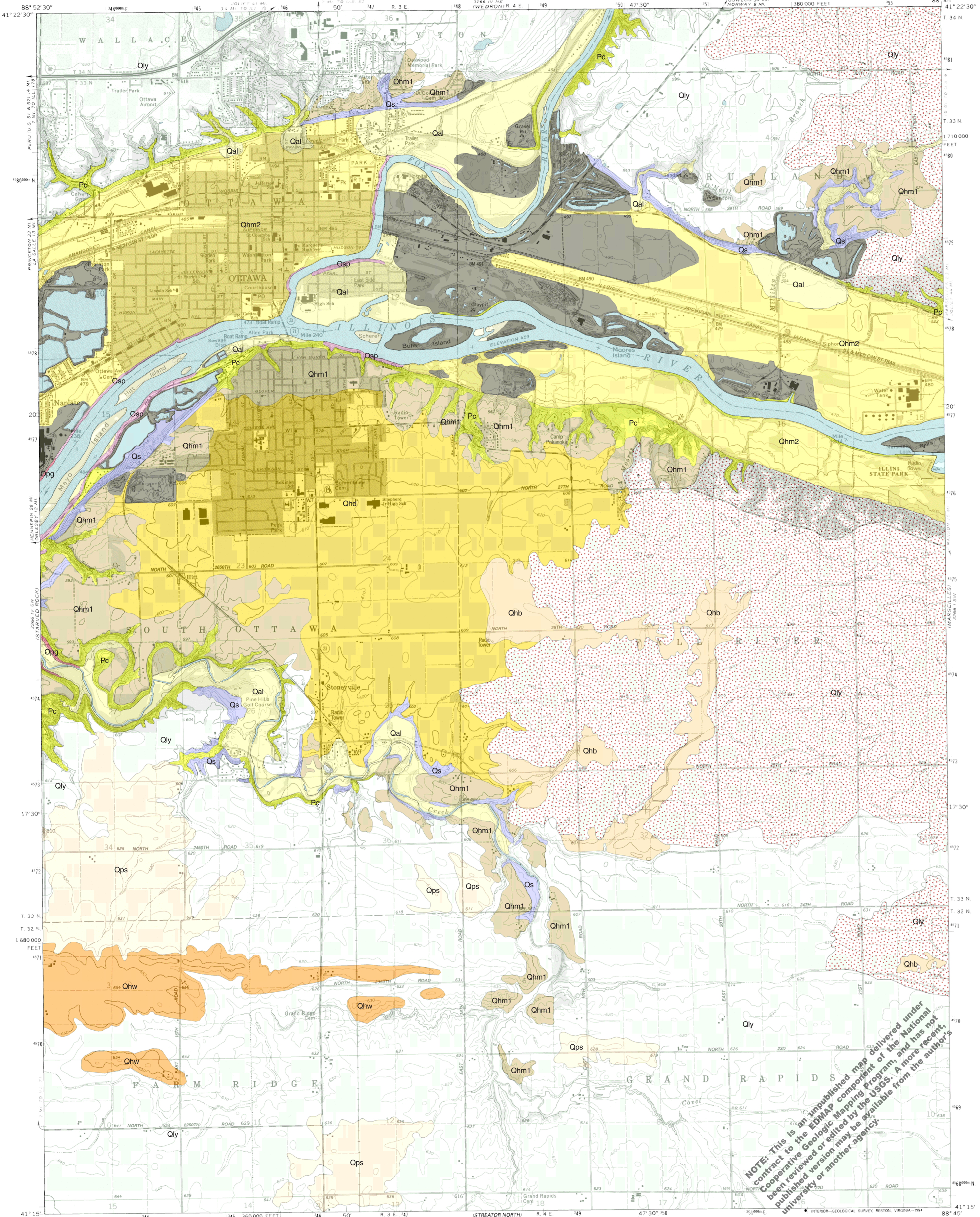
Ottawa Quadrangle, LaSalle County, Illinois

Kara Hart

Surficial Geologic Map

Ottawa Quadrangle, LaSalle County, Illinois

2002



Lithostratigraphic Units and Interpretations

| Material | Unit | Interpretation | |
|--|--|---|---|
| Quaternary Units | Wisconsinan | Qal Cahokia Formation (channel and floodplain deposits of modern streams and rivers) | |
| | | Qs Slump deposits washed down from higher parts of the slopes | |
| | | Mason Group | Qhd Henry Formation Dolton facies (nearshore lake sediments in beaches, bars, spits and/or deltas) |
| | | | Qhm2 Mackinaw facies 2 (outwash on floodplains) |
| | | | Qhm1 Mackinaw facies 1 (a slightly older outwash resulting from a ruptured glacier lake) |
| | | | Qhb Batavia facies (upland outwash plains and alluvial fans) |
| | | | Qhw Wasco facies (ice contact materials in kames, kame terraces and eskers)** |
| | | Qps Peoria Silt (eolian deposits) | |
| | | Wedron Group | Qly Lemont Formation Yorkville Member (till) |
| | | | Paleozoic Units |
| Opg Plattville-Galena Groups (bedrock formed in a marine environment) | | | |
| Osp St. Peter Sandstone (eolian deposited bedrock) Cliff former | | | |
| Other | Disturbed ground Areas of active and/or abandoned quarries, strip mines and gravel pits | | |
| | Water bodies | | |
| Moraine | | | |
| Geologic Contact | | | |

**The Wasco facies of the Henry Formation in the Ottawa Quadrangle was previously mapped as the Covel Creek Esker by H.B. Willman in 1942. It was also mapped as the Covel Creek Ridge by Frank Leverett in 1899. Willman hand augered into the esker to find that at about 8 feet down the silty soil started becoming sandy. Leverett asked some local farmers what material their water wells went through to find that they were sandy at the bottom. Very few well logs along the topographic ridge have geologic descriptions of the Quaternary units. The well logs that were present described sand and gravel 30 feet thick, 5 to 10 feet below land surface. The lateral extent of the sands and gravels is unknown. Topographic relief was used to determine the geologic contact.

Alexander, J.D., and J.E., Paschke, 1972. Soil Survey of LaSalle County, Illinois: Illinois Agricultural Experiment Station with U.S.D.A. Soil Conservation Service, 140 p.

Cady, G.H., 1919. Geology and Mineral Resources of the Hennepin and LaSalle Quadrangle: Illinois Geological Survey Bulletin 37, 136 p.

Hansel, A.K., and W.H. Johnson, 1996. Wedron and Mason Groups: Lithostatic Reclassification of Deposits of the Wisconsin Episode, Lake Michigan Lobe Area. Illinois State Geological Survey Bulletin 104, 116 p.

Leverett, F., 1899. The Illinois Glacial Lake: United States Geological Survey Monograph 38, 817 p.

Lineback, J., 1979. Quaternary Deposits of Illinois: Illinois State Geological Survey Map, Scale 1:500,000.

Nelson, W.J., 1995. Structural Features of Illinois, Illinois State Geological Survey Bulletin 100, 144 p.

Nelson, R.S., D.H. Malone, R.J. Jacobson, and W.T. Frankie, 1996. Guide to the Geology of the Buffalo Rock and Mathieson State Parks Area, LaSalle County, Illinois: Illinois State Geological Survey Field Trip Guidebook 1996C, 62 p.

Willman, H.B., and J.C. Frye, 1970. Pleistocene Stratigraphy of Illinois: Illinois State Geological Survey Bulletin 94, 261 p.

Willman, H.B., and others, 1967. Geologic Map of Illinois: Illinois State Geological Survey Map, Scale 1:500,000

Willman, H.B., and others, 1975. Handbook of Illinois Stratigraphy: Illinois State Geological Survey Bulletin 95, 261 p.

Willman, H.B., and D.R. Kolata, 1978. The Plattville and Galena Groups in Northern Illinois: Illinois State Geological Survey Circular 502, 75 p.

Willman, H.B., and J.N. Payne, 1942. Geology and Mineral Resources of the Marseilles, Ottawa, and Streator Quadrangles: Illinois Geological Survey Bulletin 66, 388 p.

* The author wishes to thank Barb Stiff for teaching her how to use ArcGIS 8 workstation and for all of Barb's patience. The author also wishes to thank David Grimley for his help interpreting soils maps.*

Produced by the United States Geological Survey
 Control by USGS and NGS/NDA
 Topography by photogrammetric methods from aerial photographs taken 1967. Field checked 1970. Revised from aerial photographs taken 1988. Field checked 1993. Map edited 1994.
 Projection and 10,000-foot grid ticks: Illinois coordinate system, east zone (transverse Mercator)
 1000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue
 1927 North American Datum (NAD 27)
 North American Datum of 1983 (NAD 83) is shown by dashed corner ticks
 The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are given in USGS Bulletin 1875
 There may be private showings within the boundaries of the National or State reservations shown on this map

1:12 18 MILES
 1:25 2.5 KILOMETERS

CONTOUR INTERVAL 10 FEET
 DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
 FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092

ROAD CLASSIFICATION
 Primary highway, all weather, Light duty road, all weather, hard surface, improved surface
 Secondary highway, all weather, Unimproved road, fair or dry hard surface, weather
 Interstate Route U.S. Route State Route

OTTAWA, ILL.
 NE 1/4 OTTAWA 15 QUADRANGLE