



Hudson – Mohawk Professional Geologists Association

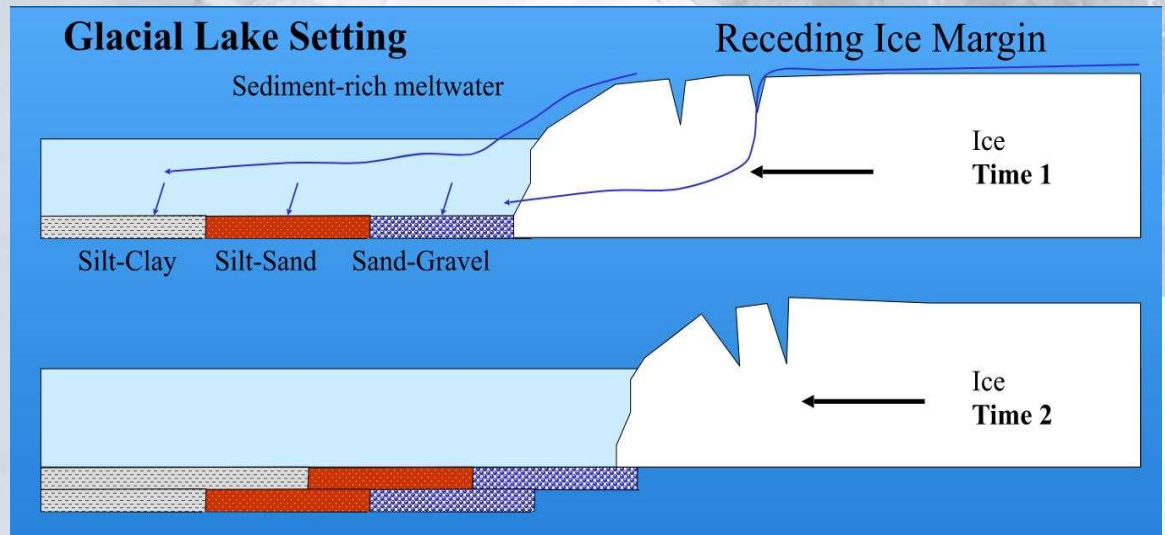
F E B R U A R Y M E E T I N G

www.hmpga.net

Sponsored by Geotech Environmental Equipment

February 15, 2023

**Surficial Geology of Hoosick Falls, NY with
Surficial Geologic Map and
Interpretive Cross Section through Village Well Field**



**Speaker: David J DeSimone, PhD
DeSimone Geoscience Investigations**

This course is pending approval for 1 PDH+

Abstract: Existing data were inadequate to understand the sediments beneath the St. Gobain site & village wells. Taylor (1903) located an ice margin across the valley suggesting the St. Gobain factory was sited on ice contact sand & gravel. Randall (unpublished letter) suggested a recharge area for the aquifer in cemetery sand & gravel east of the wells. Previous work with students (Saffer & Madera, 1994, 1995) indicated a rapid change in the depositional environment of Glacial Lake Bascom as ice retreated through the village. The HFCSO funded my 1:12,000 mapping, geomorphic history study & stratigraphic interpretation of well logs to provide the needed context for remediation & prospecting for new village

A

G

P

M

H

F E B R U A R Y M E E T I N G

Abstract: (cont'd) wells. No ice contact sediment was found in the vicinity of the factory & village wells. The St. Gobain site & adjacent village area was located on stepped fluvial terraces that overlie rock, till or fine lacustrines. The cemetery was similarly sited on fluvial terraces overlying till & lacustrines. Thus, no discrete recharge zone for the village deep aquifer was mapped. Ice retreat from the 900ft Potter Hill Lake Bascom spillway nearly 4mi south of the village wells was accompanied by a transition from deep to shallow water as a series of lower spillways were rapidly uncovered; the lake dropped from 900ft to 700ft to 665ft to 625ft. Ice retreat north of the village wells quickly brought lowering of the lake to 520ft, 450ft & 410ft, effectively ending the lake. Subaqueous fan sand & gravel was deposited on the lake bottom & represents the village "confined" aquifer. However, the deep water silt-clay sediments that overlie & confine the aquifer generally become sandier & thinner northward from the high school 2mi south of St Gobain. This is also evident from well logs across the short distance from the factory to the well field. Consequently, the deep aquifer is no longer confined but can be considered a semi-confined aquifer. Recharge to the village wells likely comes



from directly above through the lacustrine sediment aquitard from the overlying alluvial terraces & floodplain & possibly from the Hoosic River under pumping conditions. Independently, USGS analyses indicated the semi-confined nature of the village aquifer (Williams & Heisig, 2018).

About the Presenter: Dave has spent most of his professional career balancing the multiple responsibilities of teaching, research and consulting work. He spent 16 years as a Lecturer in Geology and Environmental Studies at Williams College pursuing consulting and research during summers. In 2001, Dave entered consulting but kept teaching at RPI where he taught Field Methods for about 6 years. Dave was an adjunct at Saint Rose and Visiting Prof at Bennington College. Dave's consulting work is primarily as a geoarchaeologist working with local cultural resource management and engineering firms. Dave is actively engaged in Pleistocene geology research primarily in New York and Vermont.

The February meeting
is sponsored by:



Peter Murray

Regional Sales Manager

peterm@geotechenv.com

1-800-558-5325

<https://www.geotechenv.com>

Reservations are required by Monday
February 13, 2023

Whether attending the dinner or only the in-person
presentation

Register on-line at www.hmpga.net

Questions? Call or email Jonathan Dippert at
(518) 786-7563 • j.dippert@ctmale.com

Cost: \$10.00 for student members*

\$25.00 for dormant geologists

\$30.00 for members

\$35.00 for non-members

In-person program only: Free

***PDH certificate available for: \$5.00 (member w/
dinner) • \$10.00 (member for program only) •
\$20 (non-member)**

Location: Century House
997 New Loudon Road
Latham, NY 12110

Time:

Social Hour	5:00pm
Dinner	6:00pm
Program	7:00pm