The following was presented at DMT'11
(May 22-25, 2011).

The contents are provisional and will be
superseded by a paper in the
DMT'11 Proceedings.

See also earlier Proceedings (1997-2010)
http://ngmdb.usgs.gov/info/dmt/

Publishing
Surficial Geologic Maps
of Delaware

Lillian Wang

Delaware Geological Survey

University of Delaware

Philadelphia

Pennsylvania

Maryland

New Jersey

PIEDMONT

COASTAL PLAIN

Baltimore

Fall Zone

Delaware

Chesapeake Bay

Delaware Bay

Washington DC

Atlantic Ocean

DGS Geologic Mapping

- Early years (1970-1995)

  DGS (hand-colored paper map mockup)
  printing co. (cartography/mechanicals/prints map)

- Transition years (2000-2003)

  DGS (digital geology polygons/text)
  printing co. (cartography/mechanicals/digital files/prints map)

- Modern years (2004-present)

  DGS (cartography, digital map)
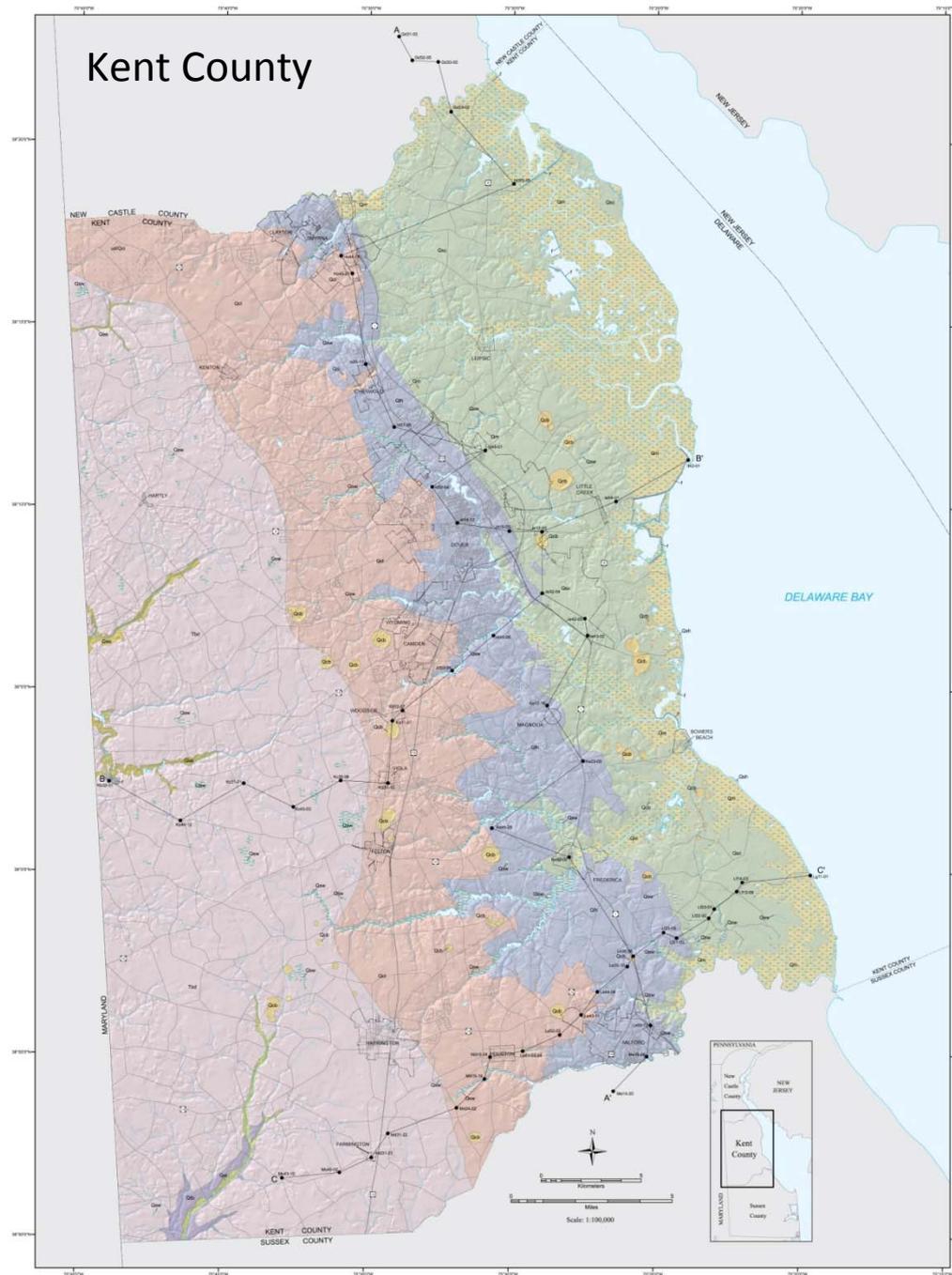 printing co. (prints map)

DELAWARE GEOLOGICAL SURVEY
University of Delaware, Newark
John H. Talley, State Geologist

DELAWARE GEOLOGICAL SURVEY
GEOLOGIC MAP OF NEW CASTLE COUNTY, DELAWARE
GEOLOGIC MAP SERIES NO. 13

Descriptions of Map Units

PIEDMONT (from Schenck, Plank, and Srogi, 2000)

Iron Hill Gabbro (Silurian)

Bringhurst Gabbro (Silurian)

Arden town Granitic Suite (Silurian)

Perkins Run Gabbronorite Suite (Silurian)

Brandywine Blue Gneiss (Ordovician)

Rockford Park Gneiss (Ordovician)

Mill Creek Metagabbro (Ordovician)

Mount basin Metagabbro (Ordovician)

Barley Mill Gneiss (Ordovician)

Christianstead Gneiss (Ordovician)

Faulkland Gneiss (Ordovician)

Windy Hill Gneiss (Ordovician)

Pegmatite (lower Paleozoic)

Wissahickon Formation (Cambrian to Ordovician)

Metagreywacke, metapelites, and Serpentinite (undifferentiated) (Cambrian to Ordovician)

Cockeysville Marble (Cambrian to Ordovician)

Setters Formation (Cambrian to Ordovician)

Baltimore Gneiss (Precambrian)

COASTAL PLAIN

Fill

Dredge Disposal Deposits

Alluvial Deposits (Holocene)

Swamp Deposits (Holocene)

Marsh Deposits (Holocene)

Undivided Depression Deposits (upper Pleistocene to lower Holocene)

Delaware Bay Group (undifferentiated) (upper Pleistocene)

Scotts Corners Formation (upper Pleistocene)

Lynch Heights Formation (upper Pleistocene)

Columbia Formation (middle Pleistocene)

Old College Formation (middle Pleistocene)

Bridgeton Formation (Miocene)

Beaverdam Formation (Miocene)

Vincentown Formation (Paleocene)

COASTAL PLAIN (cont.)

Hornerstown Formation (Upper Cretaceous and Paleocene)

Mt. Laurel Formation (Upper Cretaceous)

Potomac Formation (Cretaceous)

CROSS-SECTION UNITS (not shown on map)

Quaternary (undifferentiated)

Calvert Formation (Miocene)

Shark River Formation (Eocene)

Manasquan Formation (Eocene)

Navesink Formation (Upper Cretaceous)

Marshalltown Formation (Upper Cretaceous)

Englishtown Formation (Upper Cretaceous)

Merchantville Formation (Upper Cretaceous)

Magothy Formation (Upper Cretaceous)

DISCUSSION

DISCUSSION (cont.)

DISCUSSION OF CROSS SECTIONS

REFERENCES

Correlation of Geologic Units

Holocene

Pleistocene — QUATERNARY

Miocene — TERTIARY

Eocene

Paleocene

Upper Cretaceous — CRETACEOUS

Lower Cretaceous

SILURIAN

ORDOVICIAN

ORDOVICIAN - CAMBRIAN

PRECAMBRIAN

Geologic Map of New Castle County, Delaware

by

Kelvin W. Ramsey

2005

Cross sections A–A', B–B', C–C', D–D'

New Castle County

Kent County

Georgetown Quadrangle
swiss hillshade method
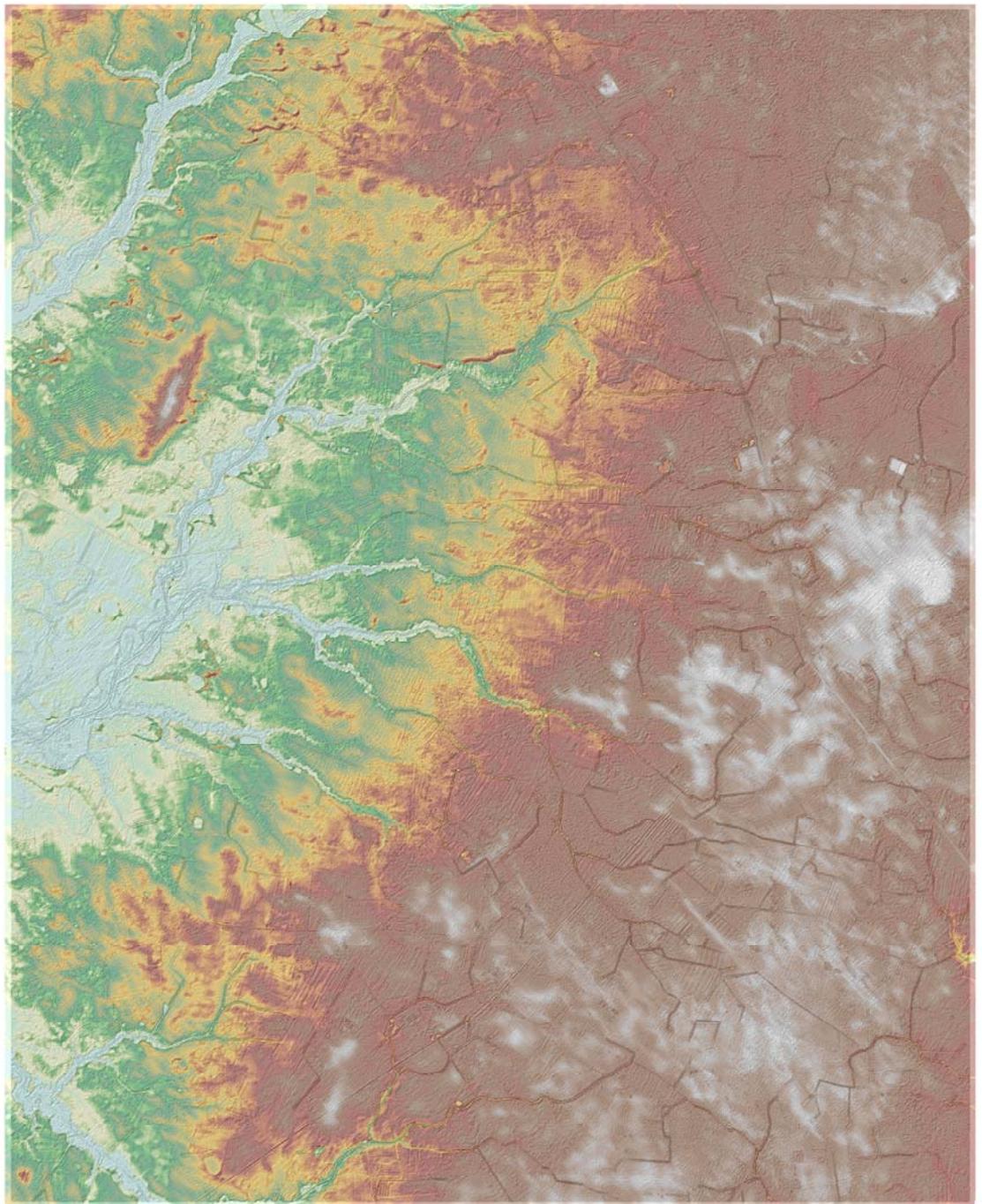
- ESRI Spatial Analyst
- LiDAR DEM
- hillshade

Final display datasets
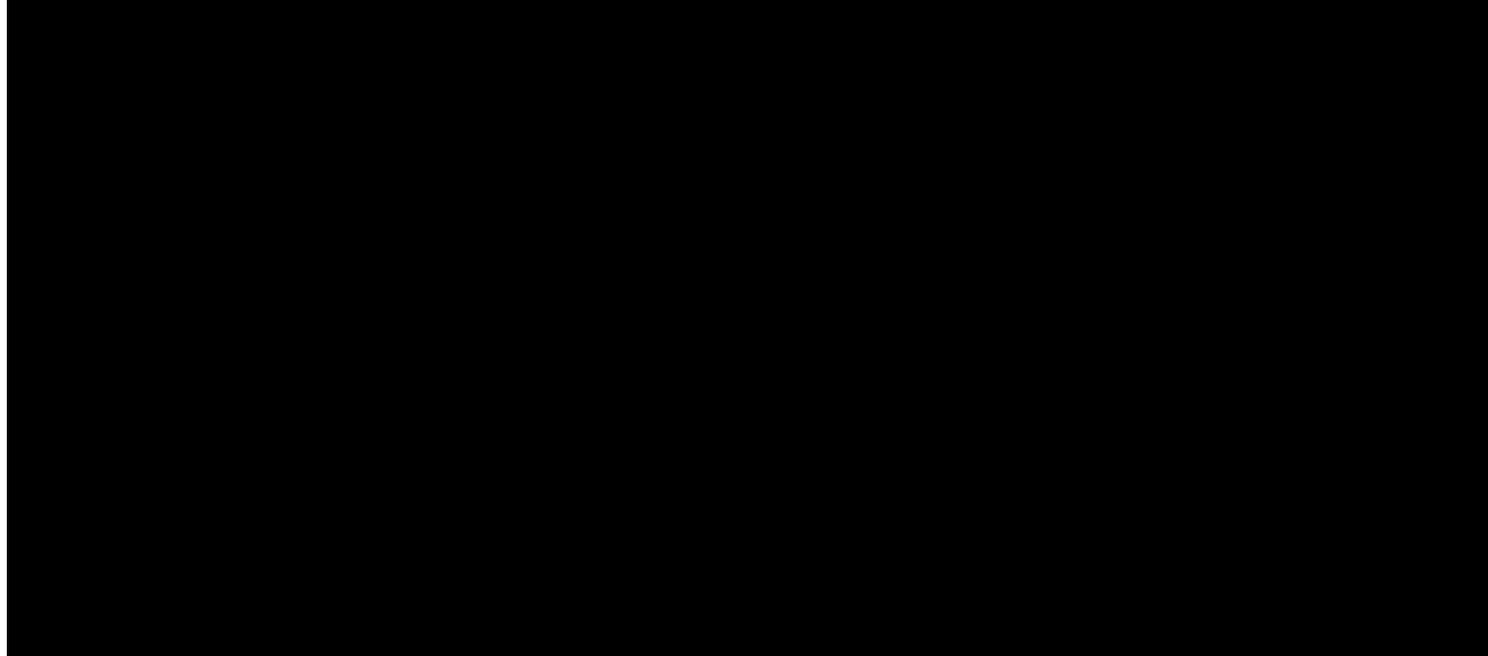
- LiDAR DEM
- median filter grid
- raster calculator grid

http://mappingcenter.esri.com
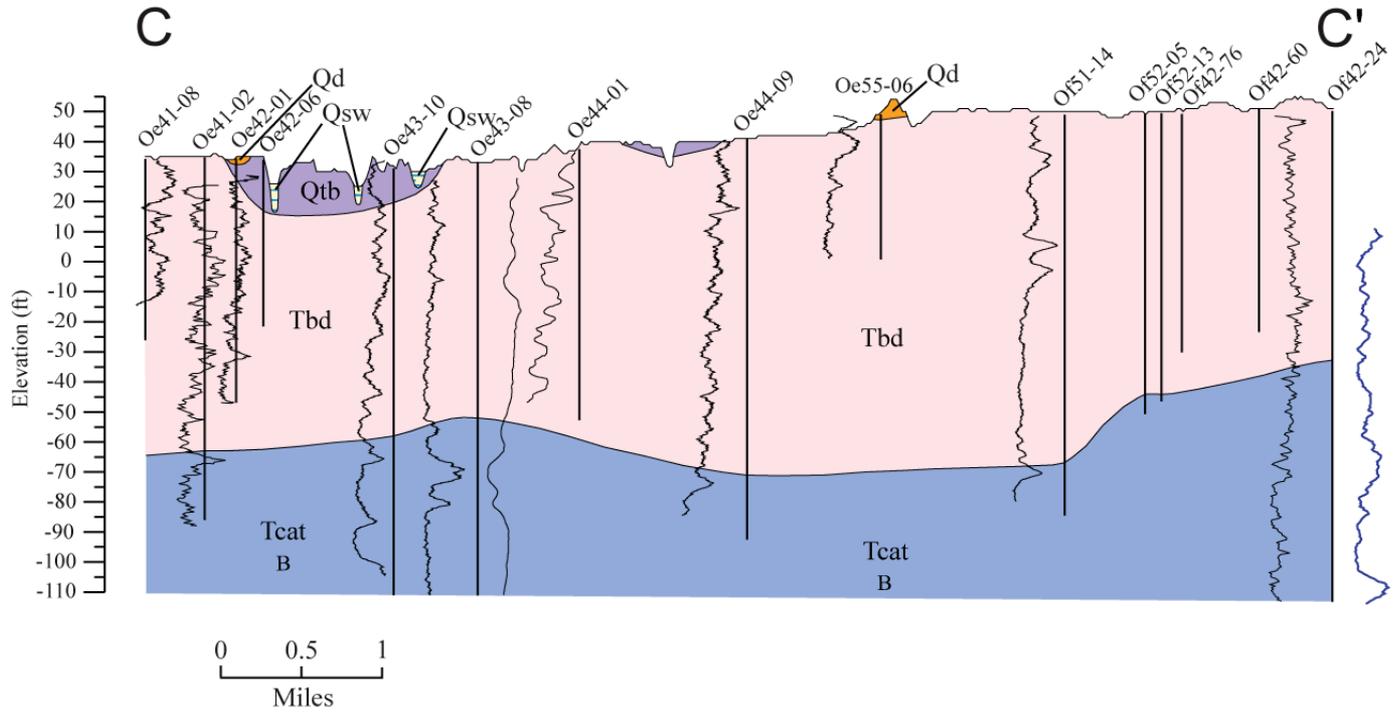Search "swiss hillshade 2007"

Tbd

Redden State Forest

Of31-18

Georgetown

Georgetown - Vaughn

en State Forest   41   Cem

Ditch

Delaware Tech and Comm College

Of41-02

48

C'

Of42-24

Ditch

Qd

Georgetown

53

Of42-60

Cem

Cem

Georgetown

Of42-76

Of52-13

Oe55-06   Cem   Qd

49

Of52-05

ASBURY RD

Qsw

50

Of51-14

McGee

50

Oe55-04

New   Ditch

Georgetown

WARRINGTON RD

Alms

House

Ditch

Qsw
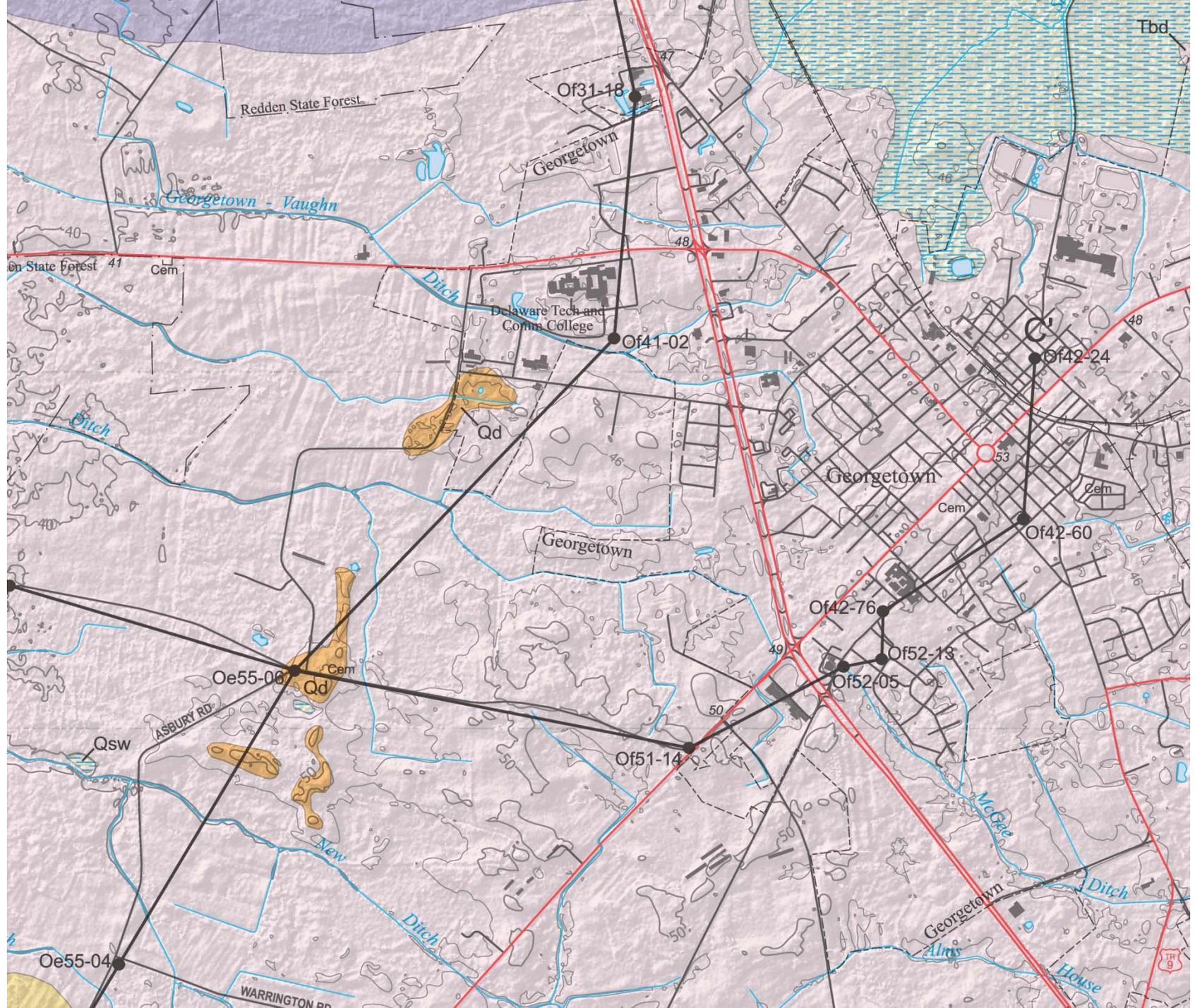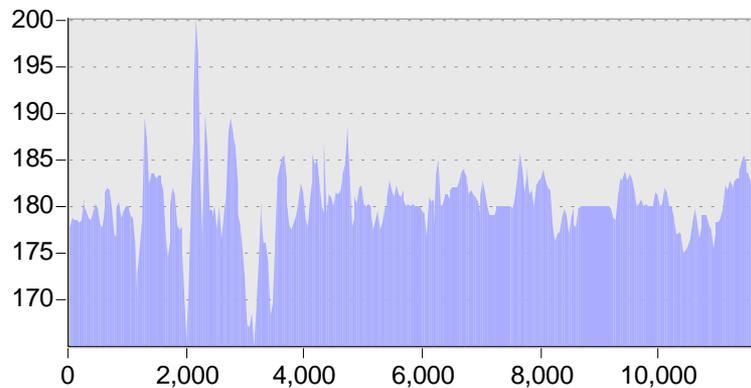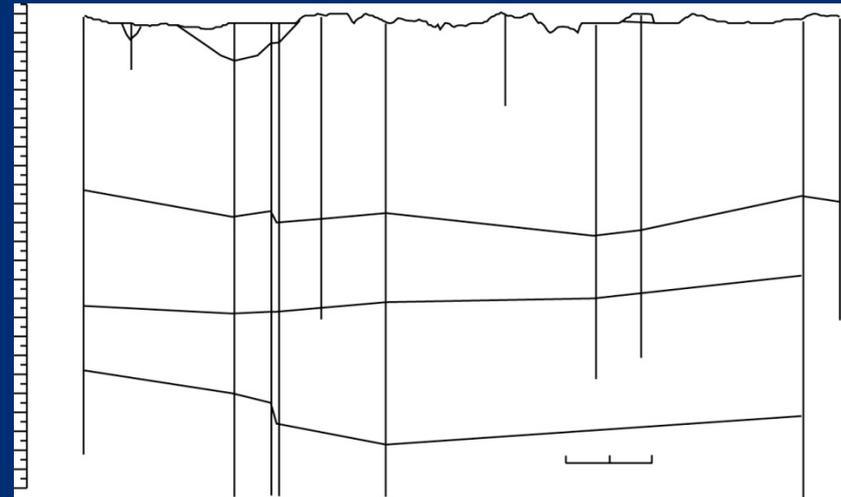
hand drawn
cross section

digital
cross section

Digital Cross Sections

- ArcMap - 3D Analyst
  - (well locations, DEM)
- Profile Graph exported as data table
- Data table imported to Grapher
- Cross-section figure is exported to Adobe Illustrator
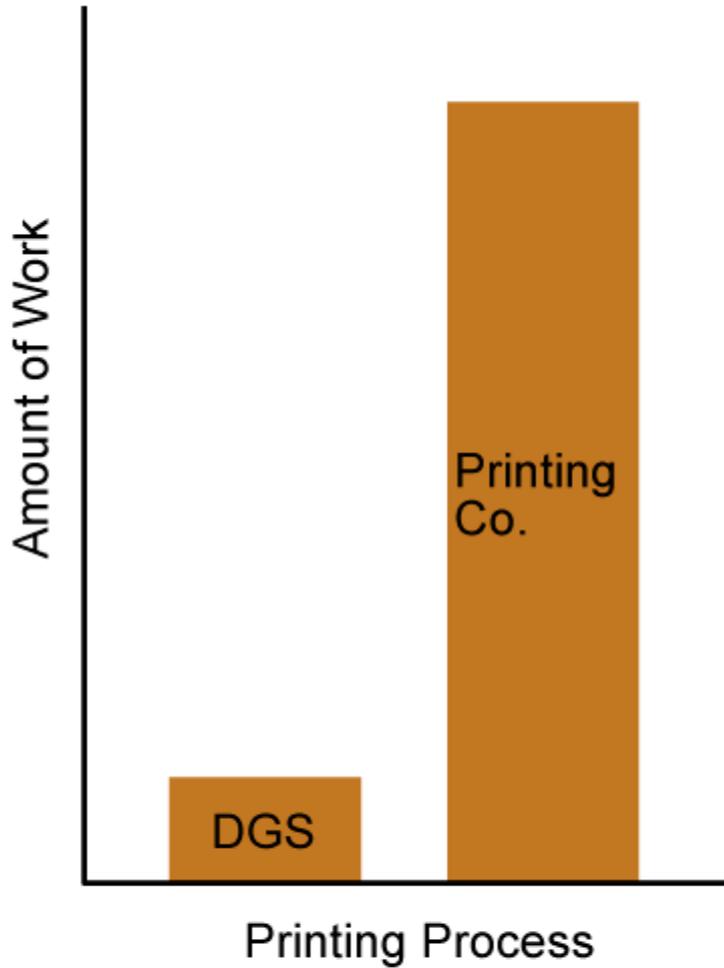

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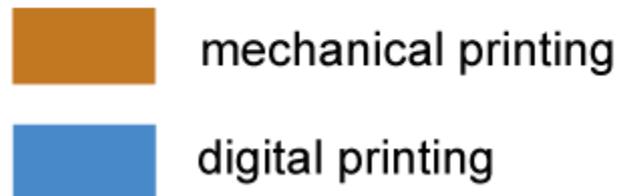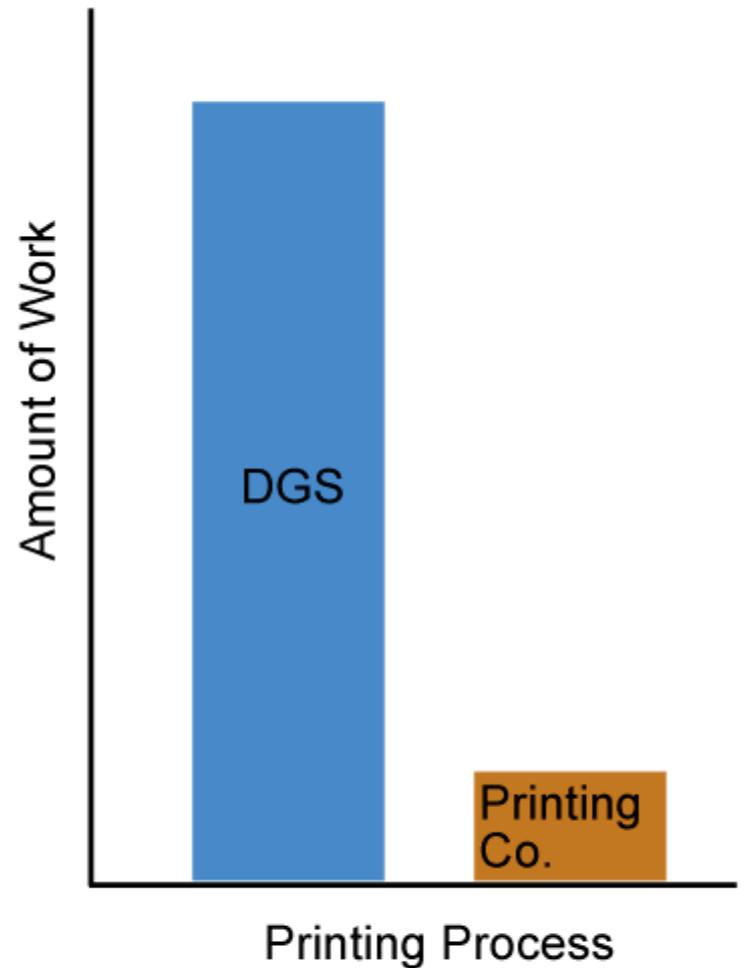
Profile Graph Subtitle

DELAWARE GEOLOGICAL SURVEY
University of Delaware, Newark
John H. Talley, State Geologist

DELAWARE GEOLOGICAL SURVEY
GEOLOGIC MAP OF THE FAIRMOUNT AND REHOBOTH BEACH QUADRANGLE, DELAWARE
GEOLOGIC MAP SERIES NO. 16

ATLANTIC OCEAN

REHOBOTH BAY

(Q underlies Rehoboth Bay)

EXPLANATION

Discussion

FILL

NEARSHORE DEPOSITS *offshore*

FINGER SHOAL DEPOSITS *offshore*

SHOAL DEPOSITS *offshore*

SHEET SAND DEPOSITS *offshore*

QUIET-WATER DEPOSITS *offshore*

SHORELINE DEPOSITS

BARRIER WASHOVER DEPOSITS

SPIT DEPOSITS

SWAMP DEPOSITS

MARSH DEPOSITS

LAGOON DEPOSITS *on cross-section*

DUNE DEPOSITS

CAROLINA BAY DEPOSITS

SCOTTS CORNERS FORMATION (YOUNGER)

SCOTTS CORNERS FORMATION (OLDER)

LYNCH HEIGHTS FORMATION

BEAVERDAM FORMATION

References Cited

GEOLOGIC MAP OF THE FAIRMOUNT AND REHOBOTH BEACH QUADRANGLES, DELAWARE

by

Kelvin W. Ramsey

2011

SCALE 1:24,000

10-Foot Index with a 5-Foot Intermediate Contour Interval
10-Foot Bathymetric Contour Interval
Soundings in feet
2-Foot contour data are available for this map from the Delaware DataMIL at http://datamil.delaware.gov
NORTH AMERICAN DATUM OF 1988 (NAD 88)

LITHOLOGIC SYMBOLS *(on cross sections)*

- pebble
- silt
- silt lamination
- clay
- clay lamination
- fining-up bed
- plant fragments
- burrows
- shell
- wood (oyster clam)
- sand (oyster clam)
- interlaminated clay and sand
- sand
- gamma log

SYMBOLS *(on map)*

- Well or borehole
- State Forest and Park Areas
- Municipal Boundary
- Contact
- Inferred Contact
- Radiocarbon date
- Offshore extension of Beaverdam Formation lagoon at depth
- Offshore extension of Lynch Heights Formation lagoon at depth

Quadrangle Location

early years at DGS

modern years at DGS

Amount of Work

Printing Process

Printing Co.

DGS

DGS

Printing Co.

mechanical printing

digital printing

My office for a day