



NOVEMBER 2013

The Newsletter of the Pennsylvania Association of Professional Soil Scientists
PO Box 871, Mechanicsburg, PA 17055

Inside:

2 Tutorial – Soil Data Viewer

4 Annual Business Meeting Report

5 Book Review – *The Earth Moved*

6 Senate Bill 1173

PAPSS Tours Coal Refuse Reclamation Sites

On September 20, 2013, PAPSS members were treated to a tour of the Ebensburg Power Company cogeneration plant in Cambria County. The plant began operation in 1991 using an innovative fluidized boiler system to burn waste coal that is not combustible using conventional technology. The boiler system circulates ash to maintain a temperature sufficient to burn the waste coal. Steam and electricity are produced and sold locally. Attendees donned hardhats and safety goggles for a guided walk through the operating plant.



Since 1991, the plant has taken waste from multiple gob piles in the area, including a large pile near Revloc. The coal waste is hauled to the plant and the ash is hauled back where it is regraded, covered with soil, and seeded. The Revloc pile has gone from a barren, black eyesore to a green plateau slated for commercial building development. Ebensburg Power Company manager Gary Anderson led the tour of the plant, the active reclamation site in Nanty Glo, and the completed site in Revloc.



Mr. Dean Baker of the PADEP Bureau of Abandoned Mine Reclamation provided a lunchtime talk on the State's abandoned mine program, funding sources, types of projects, and future work. The Bureau is charged with investigating and addressing hazards associated with mining activities generally completed before 1977. Prior the passage of the Surface Mining and

Reclamation Act, mining companies had no responsibility for restoring mined lands and have no responsibility for addressing public health hazards associated with past mining activities. Given the current funding levels and the number of abandoned mine sites, the Bureau has many years of work ahead of it.

On a nearby horse farm, Alex Dado and Yuri Plowden led an afternoon session looking at several test pits in various drainage classes. Thanks to our presenters and to all who attended. ■

What is the Soil Data Viewer?

by Nancy Sansoni

This article is intended to provide a basic understanding of the Soil Data Viewer program so that soil scientists know what it is and how it is used. Although many soil scientists will never directly use the Soil Data Viewer, soil scientists with a basic understanding of the program could be helpful to ArcGIS (ArcMap) users that need to use soils data.

The Soil Data Viewer is a free software download available from the USDA NRCS that simplifies the SSURGO soil database for use within the ArcMap program. The Soil Data Viewer in ArcMap is very similar to the Web Soil Survey except that in ArcMap, other layers can be added to soil maps and data can be queried and displayed per the user's needs. A demonstration of these points is provided.

The following demonstration example is based on a soils teacher that wants to start planning a field trip with soil test pits. The teacher hopes to find test pit locations meeting the following objectives:

1. The goal is to locate the pits within red Triassic shale and loess parent materials, since they were discussed in soils lessons.
2. The test pits have to be located in the same township as the school and in a public place that could potentially be willing to allow pit excavation and student access.

The process of field trip planning commences in the office on a desktop computer. The teacher had previously downloaded the SSURGO soil database for the county and has both the Soil Data Viewer and ArcMap programs installed on the computer desktop. The Soil Data Viewer is activated within ArcMap and the Parent Material Name is selected from a Folder.

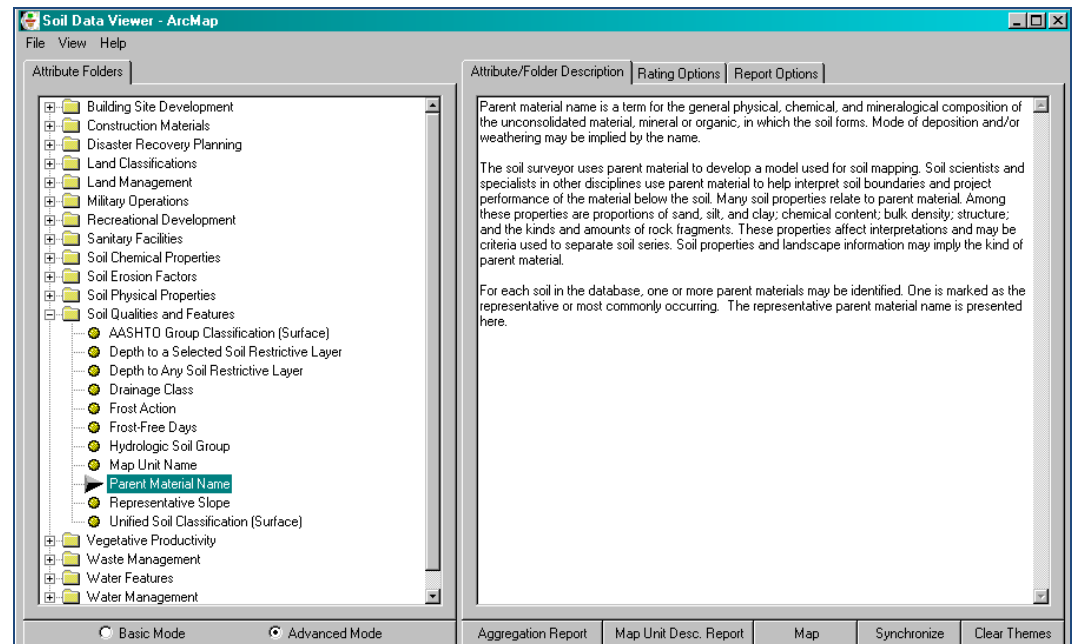


Figure 1: Parent Material Information in Soils Data Viewer

After reading the description and making rating selections, the option 'Map' is selected. A map is generated that shows parent material for all mapping units in the Township. These are the same results that would be obtained from the Web Soil Survey. ▼

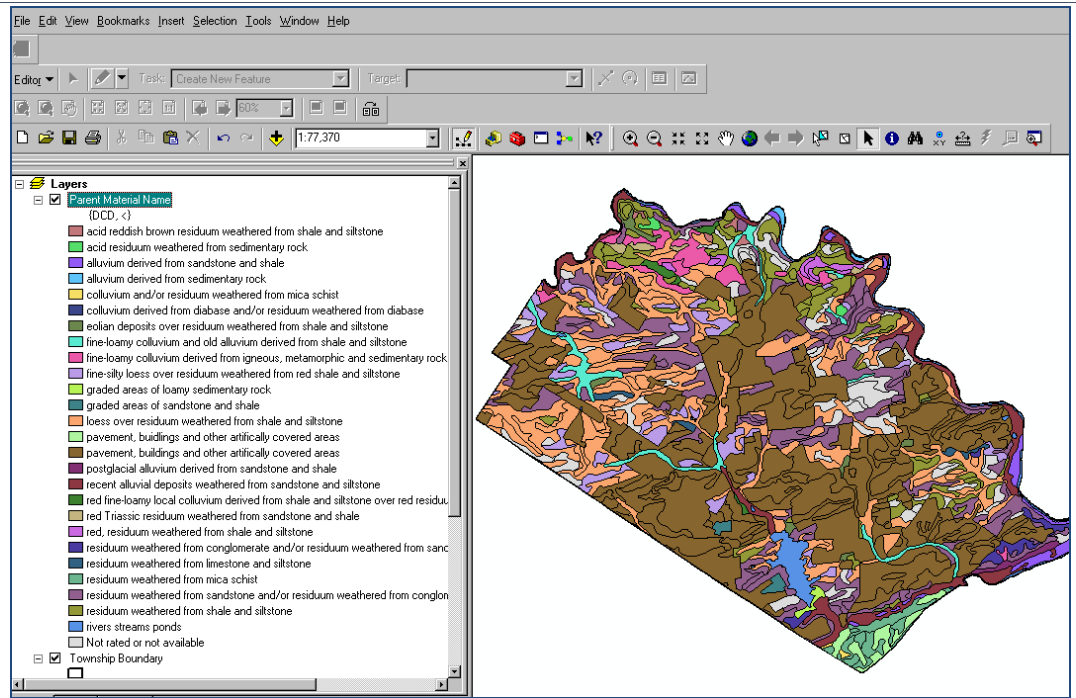


Figure 2: Parent Material Soils Thematic Map produced by Soil Data Viewer in ArcMap

The use of Soils Data Viewer is now finished in this example and the Arc Map program is used to further evaluate the results. Two individual queries are run in ArcMap to produce layers for the parent materials. The first query selects the parent material 'loess over residuum weathered from shale and siltstone', results presented in a tan color; and the second query shown below selects 'red Triassic residuum weathered from sandstone and shale', results presented in red.

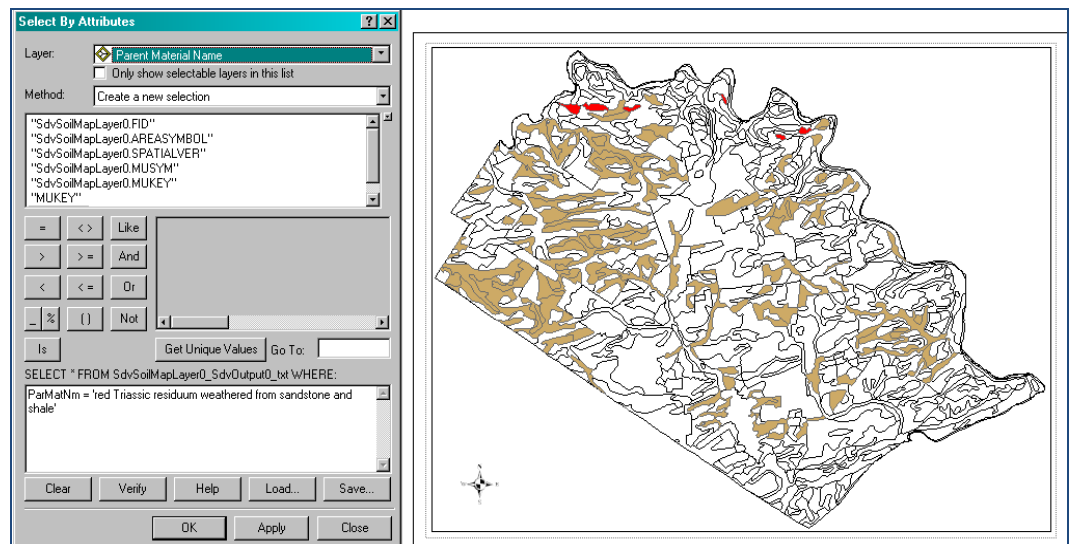


Figure 3: Soils Thematic Map showing just the Loess and Red Triassic Parent Material Soils in ArcMap

The teacher then adds a state park boundary layer (shape file) to ArcMap, which reveals that soils meeting both parent material criteria are mapped within a State Park located in the same township as the school. At this point, the teacher is satisfied that areas meeting the field trip objectives have been preliminarily identified. ▼

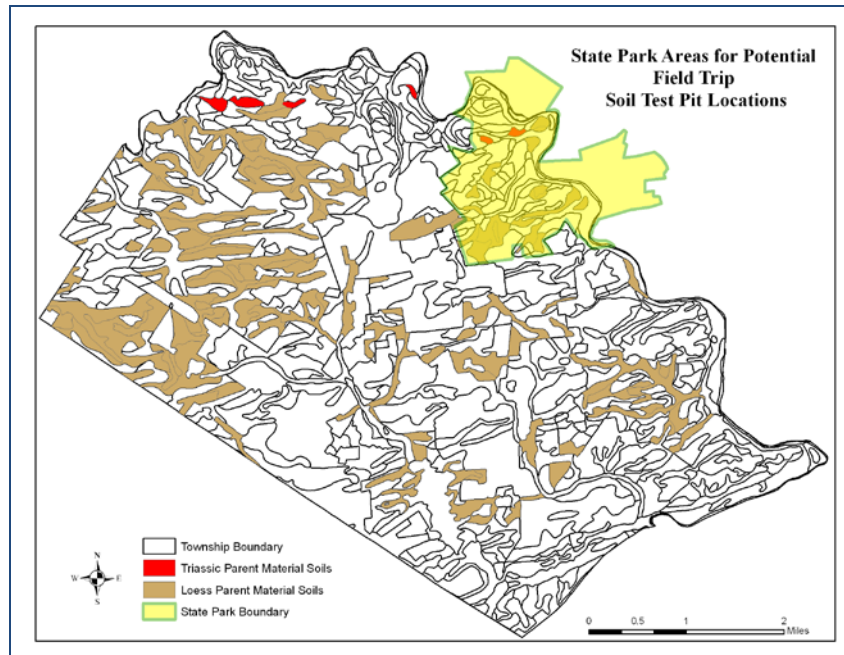


Figure 4: Soils Thematic Map showing Loess and Triassic Parent Material Soils within a State Park Boundary in ArcMap

In summary, this article demonstrates that the Soil Data Viewer is a tool for ArcMap users to simplify the soils database and help users with soils interpretations. Once a soils interpretation is completed using Soil Data Viewer, the ArcMap program can then further edit, analyze and integrate data in a wide variety of formats. ■

Annual Business Meeting Report

by Michael Lane

In 2013, PAPSS incorporated as a 501(c)6 tax exempt organization. This tax status permits PAPSS to lobby for activities that support our organization's goals, but does not allow for tax deductible donations. The PAPSS Treasurer will be required to generate 1099 forms for those paid by the organization and will need to file with the IRS each year to maintain the tax exempt status.

PAPSS continues its contract with Phillips Associates for the purpose of promoting soil science licensing legislation. To that end, fundraising efforts will be focused on continuing to provide hydric soil training with the help of trainers from the NRCS and the Army Corps of Engineers. Scott Petri in the House of Representatives and Judy Schwank in the Senate have each introduced a bill to institute professional licensure for soil scientists and PAPSS solicits members' assistance in reaching out to the legislature to move the bills through committee.

The national soil judging competition is being hosted by Del Val College and the program committee is considering a PAPSS seminar around the event in April of next year. A \$500 scholarship will be awarded to Del Val to assist with the competition. The program committee will be looking into other sessions for the summer and fall, possibly including a session in the northwest. ▼

Bruce Willman, PAPSS representative on the Sewage Advisory Committee, provided a report on the antidegradation analysis procedures used by DEP and on the act of the legislature stating that such analyses are not required for projects in high quality or exceptional value watersheds that propose the use of onlot sewage disposal systems. The DEP is also proposing to eliminate the published version of the alternate systems listing and go solely with an internet-based listing.

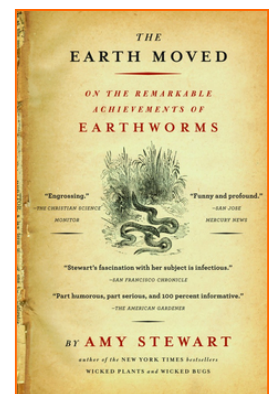
The 2014 Board comprises:
Chris Whitman (President)
Cathy Sorace (Vice President)
Yuri Plowden (Secretary)
Michael Lane (Treasurer)
Steve Dadio
Bill Davis
Patrick Drohan

Following incorporation, PAPSS needs to enact bylaws. A mail or email balloting will be announced for all members to participate. The bylaws can be viewed on the PAPSS website. ■



*The Earth Moved:
of the Remarkable Achievements of
Earthworms, Amy Stewart*

Written in 2004, but found in 2013 in the New Nonfiction section at the local library, *The Earth Moved* predates Amy Stewart's more widely read *Wicked Plants* and her new offering *The Drunken Botanist*. The Prologue to *The Earth Moved* sums up the sentiment of the book when it says, "To know the land for what it is, to find its heartbeat, to expose its soul, you have to go underground where it lives and breathes."



In her backporch vermicompost bin and her backyard garden, Stewart comes to appreciate the services of the lowly earthworm. She spends a great number of pages recounting Charles Darwin's meticulous research on the behavior and adaptability and usefulness of earthworms. She also interviews leading researchers around the country and around the world and incorporates the interviews into various chapters on decomposition, composting, invasive species, agriculture, and waste treatment.

At times, Stewart goes off on a tangent unrelated to earthworms and soil, such as her description of a tour of a sewage treatment plant near San Francisco. However, her digressions are short and arguably necessary when she finally returns to the subject.

All told, the book is entertaining and enlightening. As Brian Eno is credited with saying that the first Velvet Underground album may have sold only 30,000 copies in its early years, but everyone who bought one of those copies started a band, so I say that *The Earth Moved* may have taken 9 years to make it onto the New Nonfiction shelf, but everyone who read it started their own worm composting bin. ■

Visit PAPSS online

www.papss.org

Web Soil Survey

websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

NRCS Digital Soil Survey App

<http://casoilresource.lawr.ucdavis.edu/drupal/node/886>

Comments or contributions?

mlane@brickhouse-environmental.com

Senate Bill 1173 Introduced

On November 15, Senate Bill 1173 was formally introduced by Senators Judy Schwank (D-Berks) and Mike Brubaker (R-Lancaster) to clearly define what a professional soil scientist is and to require registration and credentialing of professional soil scientists. Link to the text follows:

<http://www.legis.state.pa.us/CFDOCS/Legis/PN/Public/btCheck.cfm?txtType=HTM&ses sYr=2013&sessInd=0&billBody=S&billTyp=B&billNbr=1173&pn=1566>

ACTION ITEMS

* PAPSS members should thank bill sponsors.

* Regardless of whose district you are in, send a special thank you to Senators Schwank and Brubaker for their leadership in advancing the bill.

PRINTER'S NO. 1566

THE GENERAL ASSEMBLY OF PENNSYLVANIA

SENATE BILL

No. 1173 Session of
2013

INTRODUCED BY SCHWANK, BRUBAKER, COSTA, PILEGGI, TEPLITZ,
ARGALL, GREENLEAF, YUDICHAK, RAFFERTY, VULAKOVICH, YAW,
SMITH, LEACH, EICHELBERGER, WHITE, SOLOBAY, DINNIMAN, FERLO,
BREWSTER AND VOGEL, NOVEMBER 15, 2013

REFERRED TO CONSUMER PROTECTION AND PROFESSIONAL LICENSURE,
NOVEMBER 15, 2013

List of sponsoring Senators and their emails follow.

If writing, send to: Honorable (name), Main Capitol, Harrisburg, PA 17120

Judy Schwank (Berks) senatorschwank@pasenate.com

Michael Brubaker (Lancaster) mbrubaker@pasen.gov

Jay Costa (Allegheny) costa@pasenate.com

Dominic Pileggi (Delaware) dpileggi@pasen.gov

Rob Teplitz (Dauphin) rteplitz@pasenate.com

David Argall (Schuylkill) dargall@pasen.gov

Stewart Greenleaf (Montgomery) sgreenleaf@pasen.gov

John Yudichak (Luzerne) yudichak@pasenate.com

John Rafferty (Montgomery) jrafferty@pasen.gov

Randy Vulakovich (Allegheny) rvulakovich@pasen.gov

Gene Yaw (Lycoming) gyaw@pasen.gov

Matt Smith (Allegheny) SenatorSmith@pasenate.com

Daylin Leach (Montgomery) leach@pasenate.com

John Eichelberger (Blair) jeichelberger@pasen.gov

Don White (Indiana) dwhite@pasen.gov

Tim Solobay (Washington) tsolobay@pasenate.com

Andrew Dinniman (Chester) andy@pasenate.com

Jim Ferlo (Allegheny) ferlo@pasenate.com

James Brewster (Allegheny) brewster@pasenate.com

Elder Vogel (Beaver) evogel@pasen.gov ■