

THE

Pedestal



2014 Winter Meeting

Indiana Association of Professional Soil Classifiers (IAPSC)

Indiana Association of Professional Soil Classifiers Winter Meeting

**Location: Camp Camby Conference
Center in Camby, Indiana.**

UTM Zone 16, 0557343E, 4390627N, NAD 83

When: January 23th, 2014

Agenda (Eastern Daylight Savings Time)

- 9:00 -10:00 **Registration:** Paul McCarter
IAPSC Secretary/Treasurer
(Continental Breakfast and
coffee will be served)
- 10:00-10:15 **Welcome and Introductions:**
Dr. Darrell Schulze, IAPSC President
- 10:15-10:45 **Dr. Phillip Owens:** Digital Soil
Mapping in the Llanos of Columbia,
- 10:45 -11:00 **Break**
- 11:00-11:15 **Gary Struben** State Soil Scientist:
NRCS Report
- 11:15-11:30 **David Ortel:** ISDH – State Board of
Health Report.
- 11:30 - 12:15 **Business Meeting**
- 12:15 - 1:15 **Lunch** (Lunch served by Camp Camby)

1:15 – 2:00 **Janet Ayres, *When Strangling Is Not
an Option... Improving Your
Communication Skills.***

This session will focus on improving your communication skills in an increasingly diverse workplace where people hold different values and perspectives, distrust each other, do not communicate clearly or appropriately. Specific topics will include modes of communication and basic skills including listening, speaking clearly, and managing misunderstandings.

Dr. Ayres is a professor and Extension specialist in the Dept. of Agricultural Economics at Purdue University. Her work focuses on building the capacity of rural leaders, and state and federal professionals who work in rural areas.

2:00 – 2:15 **Break**

2:15 - 3:00 **Janet Ayres, continued.**

3:00 – 3:15 **Announce Election Results, and
Meeting Wrap Up**

3:15 **Ajourn**

New business:

- 1) Voting for President Elect and Vice President.
The candidates are:
President Elect – Tim Porter, and Joanne Mosher
Vice President - David Ortel, and Tom Eickholtz
Secretary-Treasurer - Dena Marshall
- 2) Nominate committee for Northwest Fall Tour.

**The Indiana Association of Professional Soil
Classifiers (IAPSC)** is a not-for-profit organization of
soil scientists who are interested in the field study and
evaluation of soils.

Dr. Darrell Schulze, President
Tim Monaghan, Past President
John Allen, President Elect
Dena Marshall, Vice President
Paul McCarter, Jr., Secretary-Treasurer
Norm Stephens, Pedestal Editor

<http://www.isco.purdue.edu/irss/iapsc.html>

Indiana Registry of Soil Scientists
(As written on the IRSS web site.)

The Indiana Registry of Soil Scientists is a program that establishes ethical standards and education, examination, and work experience criteria for Indiana Registered Soil Scientists.

<http://www.isco.purdue.edu/irss/>

Pedestal

We need your stories and photographs for the Pedestal. Please email them to:

norm.stephens@in.usda.gov

Or mail them to:

Norm Stephens
NRCS-USDA
6013 Lakeside Blvd.
Indianapolis, Indiana, 46278

See the Pedestal in color:

Electronic copies of Pedestal can be found at:
<http://www.indianasoils.com/pedestal.htm>

Membership Email Addresses

If you did not get an email notification of the electronic Pedestal it means we no longer have a valid email address for you. Please submit your current email address to Norm Stephens:

norm.stephens@in.usda.gov

Email is the most cost effective way the IAPSC can keep you informed of any last minute changes in meeting plans, or time sensitive notifications of importance to the group.

Winter Meeting Location:
Camp Camby

The Winter Meeting will be held again at Camp Camby located southwest of Indianapolis. Camp Camby is just a 20 minute drive from downtown Indianapolis and just a few minutes southwest of the new Indianapolis Airport facility. The meeting facility is located about a mile west of Highway 67 on county road 700 South, or West Camby Road.

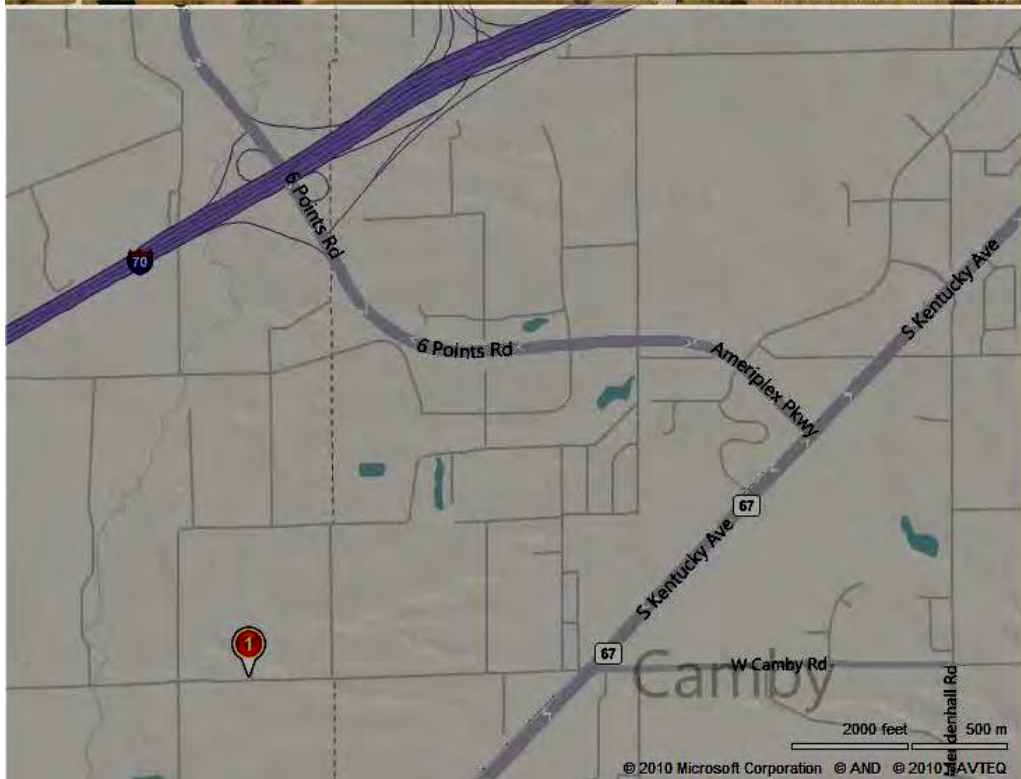


Conference Center (above)



- Hotel rooms are available call (317) 223-3504 for price and to reserve.
- Note: This is a Nazarene church camp and there is to be no alcohol or tobacco use on the property.

Camp Camby Map



10740 E County Road 700 S (or West Camby Road), Camby, IN 46113 (317) 856-6055

<http://campcamby.com>

In Search of Jimmy Hoffa

From NCSS Newsletters: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/partnership/?cid=nrcs142p2_054340

Importance of Ground-Penetrating Radar Outside Soil Survey

NRCS specialists in GPR often provide assistance outside of the agency for projects unrelated to conservation. GPR has been used in archeology studies (to locate grave sites and artifacts), in forensic crime scene investigations (to locate buried evidence), and in paleontology studies (to locate buried bones).

NRCS Crime Scene Investigations: Forensic Analysis Using Ground-Penetrating Radar

By Debbie Surabian, state soil scientist, Tolland, CT, and Jim Doolittle, research soil scientist, National Soil Survey Center.

Within USDA-NRCS, ground-penetrating radar (GPR) is commonly used to assist archaeologists in assessing sites that will be impacted by conservation projects. The installation of conservation practices, such as nutrient management systems, filter strips, streambank stabilization, and terraces, involve soil disturbance. Due diligence is required by NRCS to identify archaeological features located within areas that will be impacted by these earth-moving projects. As part of NRCS's reasonable and good faith efforts, GPR is often used to rapidly and methodically determine whether any significant archaeological features are located within areas that will be impacted by conservation projects.

Though infrequent, it is not uncommon for NRCS soil scientists who operate GPR systems to also become involved in forensic and crime scene investigations.



Figure 1.—Debbie Surabian and Jim Turenne discuss GPR survey strategies with a Rhode Island Bureau of Criminal Identification detective in the basement of a South Providence building. At right is the elevator shaft where human bones had been discovered by construction workers. (Photograph courtesy of The Providence Journal.)

Ground-penetrating radar is often used by crime scene investigators and evidence recovery specialists to provide quick, comprehensive subsurface coverage of crime scenes, reduce search areas, and locate clandestine burials and buried evidence. In several investigations, NRCS soil scientists have been called upon to render soil and geophysical assistance at crime scenes. The soil scientist's knowledge of soils and interpretive GPR skills are often indispensable to crime scene investigators and evidence recovery specialists in their search for clandestine burials and buried evidence. Recently, NRCS soil scientists responded to two separate requests to assist crime scene investigations in southern New England.

During recent reconstruction of a building in South Providence, Rhode Island, workers uncovered human skeletal remains buried in the basement beneath the concrete floor of an elevator shaft. The concrete floor had been laid during the early 1980s. After 3 days of slow and methodical sifting through the shallow grave, investigators found an identification card, an old pack of cigarettes, shoes, a jacket with a fur collar, and a bullet. Detectives and crime scene investigators needed to know if there were additional human bones buried beneath the concrete floor.

Knowing of NRCS's work with GPR in southern New England, the Director of the Rhode Island State Crime Laboratory and the Providence Police Department requested GPR assistance. As a public service, Debbie Surabian and Jim Turenne (soil scientist, Warwick, RI) were dispatched to the crime scene. Both Debbie and Jim are experienced radar operators and have each assisted various police departments in searching for clandestine burials. Working in relatively urbanized States, these soil scientists are very familiar with human-altered or anthropogenic soils.

In the South Providence investigation, crime scene investigators wanted to use GPR to non-destructively reduce the search area and identify features beneath the concrete floor that could represent additional clandestine burials. In a matter of hours, the basement floor was systematically surveyed with GPR. Although no recorded reflection pattern appearing on radar profiles could be conclusively identified as a clandestine burial, the radar images did reveal the location of what appeared to be a refilled trench under a portion of the basement's concrete floor. In addition, an anomalous reflection was identified at a depth of about 50 centimeters along one side of this apparent refilled trench (see figure 2). These subsurface features immediately

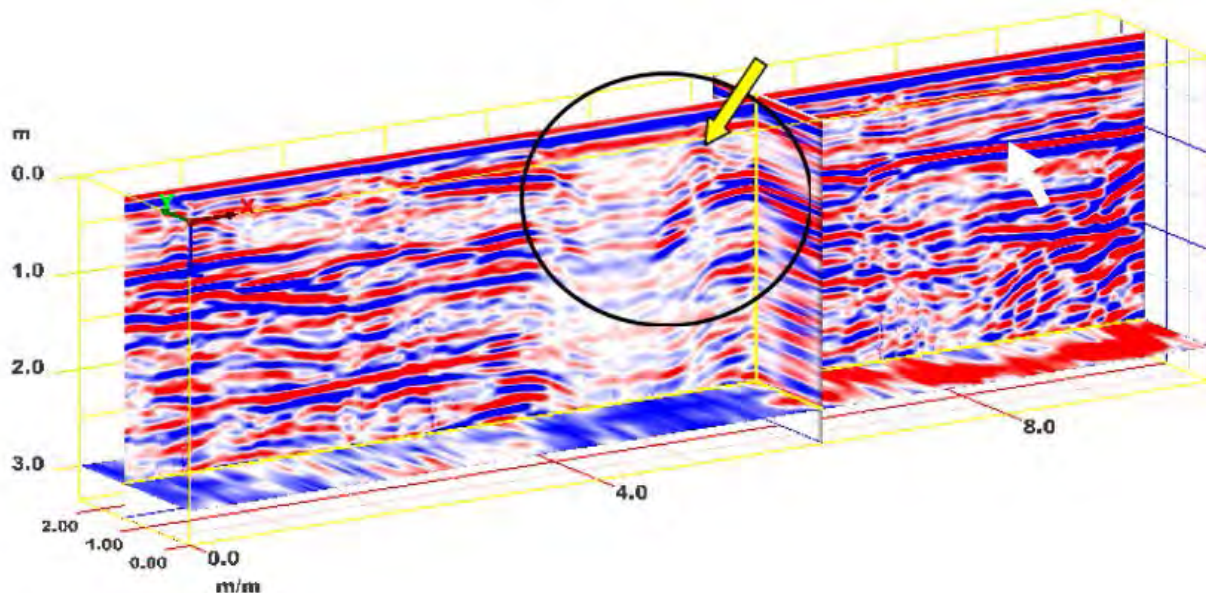


Figure 2.—In this three-dimensional fence diagram of the subsurface beneath a portion of the basement, an “area of interest” has been enclosed by a black circle. This suspected area coincides with an area of re-poured concrete. The yellow arrow indicates a subsurface anomaly, which was later identified as a concrete block that had been buried beneath the concrete floor. The white arrow indicates the top of the natural stratified fine sands and depth

attracted the interest of detectives and crime scene investigators. On further examination of the basement floor, it became evident that the concrete over these features identified and located by GPR was a newer mix. An excavation of this site, however, revealed that a buried concrete block had produced the anomaly and that there was no evidence relating to a criminal activity within the refilled trench.

In another cold-case, the Connecticut Office of State Archaeology and a local police department requested GPR assistance from NRCS to survey an alleged crime scene. This is the second time police had visited the site seeking evidence based on a witness's description of what happened in this neighborhood. The witness, as a child in the 1950s, described vividly a man carrying a child's body from the truck of his car and bringing it into his home where he was digging in the garage. In 1987, following the witness's testimony, the police excavated portions of the garage floor looking for the child's remains, but found only chicken bones.

This past summer, working with new evidence, the Manchester Police Department reopened this cold-case and revisited the site to collect evidence. The garage has long since disappeared, but police were interested in other areas of the backyard. Desiring a GPR investigation of the site, but not having their own GPR unit and operator, the Manchester Police Department contacted the State archaeologists, who then informed the Connecticut NRCS State Office of this request. Shortly after this request, Debbie Surabian, Jim Doolittle, the Connecticut State Archaeologist, and a team of detectives and crime scene investigators arrived at the suspected home site.

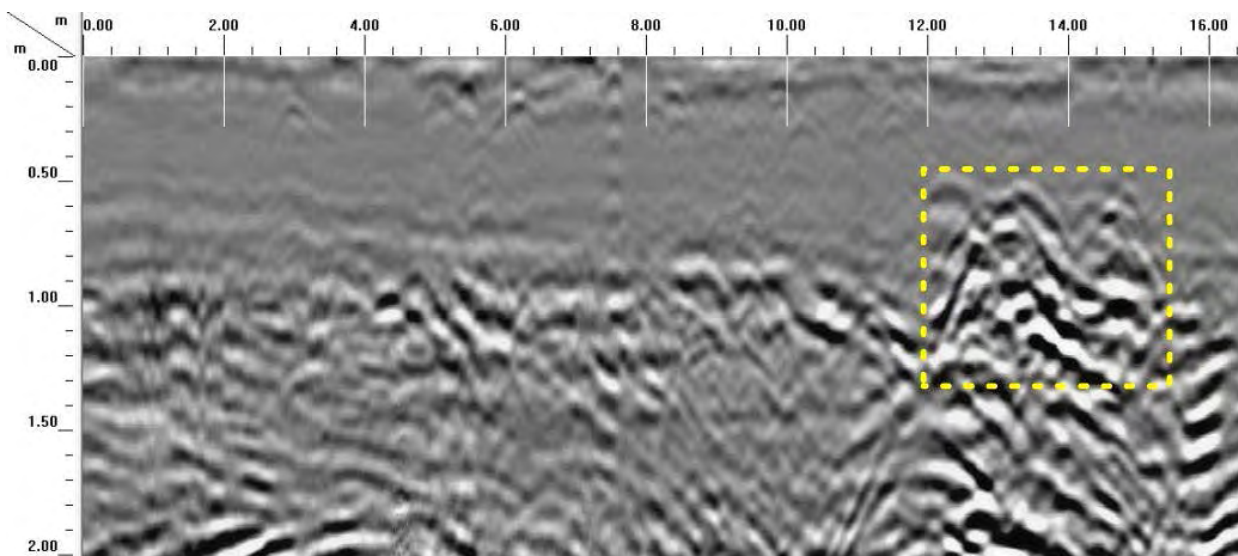


Figure 3.—At the Manchester site, because of the strong contrast with the surrounding soil matrix, depth, and location behind the house, this anomalous reflection pattern (enclosed by the segmented yellow-colored lines) caught the eye of the soil scientists and was recommended for ground-truth excavation.

As at the crime scene in South Providence, a detailed GPR survey was completed across all assessable areas of the backyard in a matter of a couple of hours. Although no recorded GPR reflection pattern could be conclusively identified as a burial, several locations having anomalous reflection patterns were identified and marked for the Manchester Police.²¹ Several months later, the sites identified by GPR as having anomalous subsurface features were excavated by the Connecticut State Archaeologist, a forensic anthropologist, and student volunteers from Quinnipiac University. At each of the identified locations, a larger area was excavated to discover not only what the GPR had detected but what it had not. At each of the locations identified by GPR, disturbed soils and discarded artifacts were uncovered. However, no evidence associated with the cold-case was found after 2 days of digging. The Manchester Police Department was satisfied that they, with the help of NRCS, the Connecticut State Archaeologist,



Figure 4.—Shortly after the GPR survey, a group of volunteers assisted the Connecticut State Archaeologist and the Manchester Police Department in excavating locations that had been identified by GPR as having anomalous and suspected subsurface features. (Courtesy of Detective Max Cohen, Manchester Police Department.)

and the group of student volunteers, had exercised due diligence and conducted a thorough search of the suspected site for the alleged clandestine grave.

While these GPR investigations did not deliver the imaginary results that are often portrayed on television and movies, GPR did provide powerful insight into the subsurface and invaluable assistance to forensics specialists. The search for clandestine burials is

often a labor-intensive, time-consuming, expensive task. Rather than excavating entire crime scenes, the use of GPR had quickly, noninvasively, and effectively reduced the search area to a few points of interest. In both of the aforementioned cold-cases, crime scene investigators and evidence recovery specialists were, with NRCS GPR assistance, satisfied that they had taken appropriate and reasonable actions to recover any physical evidence deposited at these scenes.

The contribution of NRCS soil scientists to forensic science is not always in the field. In September 2013, Maxine Levin (National Liaison to National Cooperative Soil Survey, NHQ) participated in the 7th International Conference of the Soils of Urban, Industrial, Traffic, Mining, and Military Areas (SUITMA 7) in Torun, Poland. During this conference, Maxine Levin gave a presentation by Debbie Surabian entitled "Soil Scientists in the World of Forensics." The presentation was well received, and several of the attendees requested copies to supplement their classwork curriculum on forensic soil science.

NRCS soil scientists have also been invited to lecture at the Henry C. Lee Institute of Forensic Science at the University of New Haven. This institute is considered a world leader in the arena of public safety and forensic science. The Institute's goal is to make the criminal justice system more effective through training, research, consulting, and education. At the week-long "Forensic Anthropology and Human Remains Workshop," NRCS soil scientists educate police detectives, graduate students, civilians working with cadaver dogs (also known as HRDs or Human Recovery Dogs), and forensic scientists on how soils and GPR can be used in locating and examining clandestine graves.

Soil and forensic archaeology partnerships are mutually beneficial for field projects and educational presentations. Working with archaeologists and forensic specialists, NRCS soil scientists and GPR operators have had rewarding experiences that enriched their practical knowledge, GPR methodology, and interpretive skills. Conversely, archaeologists, forensic specialists, and law enforcement personnel have become increasingly aware of the importance of soil and spatial soil variability in their crime scene investigations. ■

A Whale of a GPR Tale

By Debbie Surabian, state soil scientist for Connecticut and Rhode Island, USDA, Natural Resources Conservation Service.

Soil scientists look at a multitude of soil features, some of which are bizarre. Recently, at the University of Rhode Island (URI) Bay Campus in Narragansett, soil scientists used GPR to locate the burial site of two whales. In 1967, two whales, a sperm whale and a little piked whale, were found dead on Quonochontaug Beach in Charlestown, Rhode Island. The stranding of these two whales is mentioned in the book "The Mammals of Rhode Island" (J. Cronan and A. Brook, 1968, Rhode Island Division of Conservation). Shortly after being stranded, the whales, each about 15 feet long, were buried end to end along the beach at a depth of about 4 feet. The URI Graduate School of Oceanography is interested in conducting a paleontology dig to recover and reconstruct the dissociated bones of these skeletons and to learn more about the whales. The question is "Where on the beach are these bones located?"

To avoid haphazardly digging and to greatly reduce exploration time and needless ground disturbances, the graduate school chose to pinpoint the location of the bone concentration by conducting a systematic survey using GPR. Ground-penetrating radar has been used in vertebrate paleontology to locate the fossilized and partially fossilized bones of dinosaurs and mammoths, so why not whale bones?

After several GPR traverses across a confined portion of the beach, an interesting and anomalous radar reflection pattern was observed on one radar profile. Without too far a stretch of the imagination, the radar reflection pattern shows the outline of a buried whale. The geometry of this reflector suggests the shape and dimensions of the whale with its head facing south towards the outbuilding on the beach. The location of the anomaly also coincides with the suspected burial site of the sperm whale. The radar operators, expecting that radar reflections from a concentration of bones would have a jagged, more irregular appearance, were perplexed by the smooth outline of the reflector. The smooth outline suggests that the GPR may be responding to a layer of physiochemically altered soil materials, possibly the whale's spermaceti (a wax esters) or a blubber oil residue, which is dominantly wax. A paleontological dig will help confirm how much decomposition took place and what the radar record truly identified.

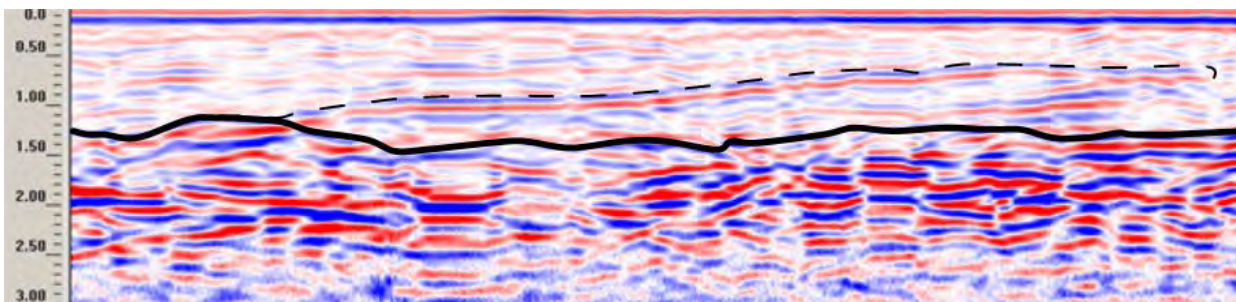


Figure 2.—On this radar profile, the dashed line indicates a reflector whose location and shape suggest the remains of a sperm whale. This moderate-amplitude reflector deepens towards the left from a depth of approximately 0.5 meter to 1.4 meters below the surface. The thick black line indicates an interface separating strongly contrasting stratigraphic layers.

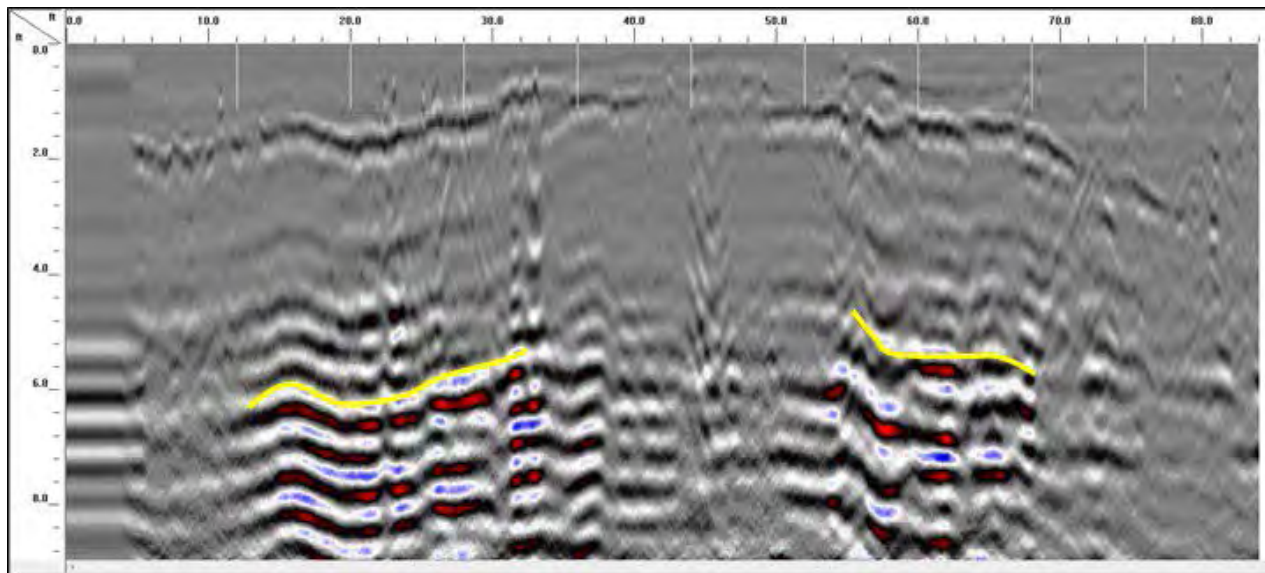
Assistance from USDA–NRCS to an Archaeological Study in New York City

By Edwin Muñiz, assistant state soil scientist, and Dr. Richard K. Shaw, state soil scientist, New Jersey.

The New Jersey NRCS soil staff conducted a geophysical investigation at Joseph Rodman Drake Park in Bronx, New York. Drake Park, named after the 19th century poet, is located in Hunts Point, which was once the site of Weckquaesgeek Indian Village. The park became the burial ground for the Hunt, Leggett, and Willett families, whose names are associated with the settlement and development of the Bronx. (More information is available at: <http://www.nycgovparks.org/parks/josephrodrandrakepark/history>). In addition, Philip Panaritis, project director for the federally funded Teaching American History project, provided information indicating the possible location of slave burial sites outside of the main family cemetery. The park is located on a small till knoll surrounded by anthropogenic material over tidal marsh. The purpose of the project was to collect data using geophysical analysis to locate any areas of interest. Data were collected using the ground-penetrating radar (GPR) in a grid pattern. After the data were post processed, it was possible to locate four areas of interest for potential further archaeological investigations. This investigation is one more example of the importance and the relevance of GPR technology and the value of technical soil services to our non-conventional customers. This opportunity opened the doors for outreach to the urban community in Hunts Point, providing an introduction to NRCS that led to other services with the local school and community garden and promoting healthier living in the city.



A small cemetery within Joseph Drake Park in Bronx, New York.



Vertical “anomalies” for potential archaeological studies.

Read more about GPR @ <https://www.soils.org/publications/sh/articles/54/6/sh2013-54-6-f>

**CONGRATULATIONS
PURDUE SOILS TEAM
Region 3 Collegiate Soils Contest
Oct. 9-12, 2013 – Stevens Point, WI**

1st Place Team



Individuals Placing

Tiffani Goodman	1st
Isaac Greeson	2nd
Arthur Franke	5th
Lori Nussbaum	8th

Other Team Participants

**Katie Fagan
Ariel Kucera
Betta McGaughey
Shams Rahman Rahmani
Maggie Shoue
Maddie Smith
Nathan Vandermark**

Coaches: **Cathy Egler
Gary Steinhardt**

**Thanks to All Who Support the
Agronomy Student Activities Fund**

PURDUE

UNIVERSITY

DEPARTMENT OF Youth Development and
Agriculture Education

Cooperative Extension Service, College of Agriculture

November 3, 2013

Bill Hostetler
Indiana Association of Professional Soil Classifiers
2094 E CR 450 N
Frankfort IN 46041

Dear Mr. Hostetler,

I want to thank you for agreeing to sponsor the state 4-H and FFA soil career development event. Indiana Association of Professional Soil Classifiers played a key role in helping deliver a quality educational event to 342 youth and their coaches. This could not have happened without you and your association and please know how much I appreciate your willingness to continue providing sponsorship and look forward to working with you in this capacity in future years. The chrome plated spade provided by your association was awarded to Kraig Bowers, coach of Fairfield FFA.

Thank you for your support of youth development!

Sincerely,



Tony Carrell
Extension Specialist
4-H Youth Development



4-H YOUTH DEVELOPMENT PROGRAM

Agricultural Administration Building, Room 214 • 615 W. State St. • West Lafayette, IN 47907-2053 •
(765) 494-8422 • FAX: (765) 496-1152 • fourh@four-h.purdue.edu • www.four-h.purdue.edu
Purdue University, Indiana Counties and U.S. Department of Agriculture Cooperating
An equal access/equal opportunity/affirmative action university



Miami County State Contest Practice Sites



Scot Haley tries to clear a few rungs on the promotion ladder by giving Gary Struben and Rick Neilson a ride to the next State Contest practice pit. Dave Lefforge patiently waits to bury the remains.



The Genny Mosher clan in training, Danial and Hannah.

2014 WINTER MEETING REGISTRATION FORM

For Thursday January – 23th

**Registration fee includes lunch.
Help us keep costs low by registering early.**

Send in your check today!

Registration Fee \$20.00 before January 10th.

LATE FEE after 01/10/2014 - \$25.00

If at all possible register before January 10th

Make checks to I.A.P.S.C. Inc.
Clip and mail to Paul McCarter
2753 E. Gallimore Road
Bloomfield, IN 47424-9750

Name(s): _____

Members please update the following, if needed:

Name: _____
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E-mail address: _____