

**Subject:** Ground-penetrating radar

**Date:** 12 August 1999

**To:** Tyrone Goddard  
State Soil Scientist  
USDA-NRCS,  
The Galleries of Syracuse  
441 S. Salina Street, Suite 354  
Syracuse, NY 13202-2450

**Purpose:**  
The purpose of this visit was to transfer a Subsurface Interface Radar (SIR) System-8 unit to your staff. In addition, training was provided on the operation and use of this unit.

**Participants:**  
Kalid Alamarie, Geologist, NYC Soil and Water Conservation District, Manhattan, NY  
Alexandra Christ, Summer Volunteer, University of Mainz, Frankfurt, Germany  
Jim Doolittle, Research Soil Scientist, USDA-NRCS, Radnor, PA  
Luis Hernandez, NYC-Soil Survey Project Leader, USDA-NRCS, Staten Island, NY  
Paul Mankiewicz, NYC Soil and Water Conservation District, Manhattan, NY  
Stefan Seifried Soil Survey Party Leader, USDA-NRCS, Walton, NY  
Ed Stein, Resource Soil Scientist, USDA-NRCS, Cooperstown, NY  
Robert Tunstead, Soil Scientist, USDA-NRCS, Staten Island, NY

**Activities:**  
All field activities were completed during the period of 10 to 11 August 12, 1999.

**Summary:**  
I am very pleased to report the establishment of a radar unit in New York. Four soil scientists have received training on the operation and use of this ground-penetrating radar unit. The system was field tested on five sites located on Staten Island. Each participant was given the opportunity to operate the system and conduct a radar survey. Substantial progress was made. I am also pleased to report to the National Soil Survey Division Staff that soil staffs in Florida, Massachusetts, and New York have and are now using radar units for soil surveys and technical soil services.

The following equipment has been transferred from the National Soil Survey Center (NSSC) to the New York Soil Survey Staff:

1. One 4800 control unit (serial number 029P).
2. One ADTEK graphic recorder (serial number 111).
3. One model 07/03 power distribution unit (serial number 067).
4. One model 20 remote marker.
5. One control unit/power unit cable.

6. One control unit/graphic recorder cable.
7. One graphic recorder/power unit cable.
8. Two 30-meter control cables.
9. Two 8-meter control cables.

In addition to the above listed components, a model 3105 (300 mHz, serial number 082) antenna with a model 767A transmitter (serial number 082) and a model 766 DA receiver (serial number 085) has been loaned by the NSSC to New York. The equipment was released into the custody of Luis Hernandez.

The transferred SIR System-8 radar system is in fine condition, is operable, and will provide your soil scientist with results comparable to newer units. However, the unit that has been transferred to your staff has become outdated and obsolete. At the end of this calendar year, their manufacturer, Geophysical Survey System, Inc. (GSSI) will no longer support the SIR System-8 radar unit. At that time, the manufacturer will no longer provide repair services or parts for this older radar unit nor supply graphic paper or stylus belts for its printer. In an era of rapidly advancing technologies, such decisions by manufacturers are not uncommon. A consulting firm, Subsurface Detection Investigation, Inc. (SDII) has agreed to provide repair services, and parts and paper (as long as they last). The company is located in Largo, Florida. Your contact for these services at SDII is Jerry Pagiot (813-544-5020)

The NSSC has transferred four expendable graphic recorder PB66 kits (stylus and paper) to your staff on Staten Island. Consumption of these supplies will be initially high as soil scientists experiment and become comfortable with the operation of the radar unit. If possible, additional graphic paper and stylus belts for the printer should be purchased from GSSI before supplies run out. The government price for a PB66 kit (includes 6 rolls of graphic paper and stylus belts) is \$450. Your contact at Geophysical Survey Systems, Inc., is Dan Delea. His address is:

Dan Delea  
 Product Manager/Geophysical Applications  
 Geophysical Survey Systems, Inc.  
 P.O. Box 97  
 13 Klien Drive  
 North Salem, NH 03073-0097  
 Phone: (603)-893-1109  
 FAX: (603)-689-3964

I will be pleased to provide continued geophysical assistance to New York and these four radar operators. Please call me if I can provide additional information or assistance.

With kind regards,

James A. Doolittle  
 Research Soil Scientist

cc:

- J. Culver, Acting Director, USDA-NRCS, National Soil Survey Center, Federal Building, Room 152, 100 Centennial Mall North, Lincoln, NE 68508-3866
- L. Hernandez, Soil Survey Project leader, The Greenbelt Park, High Rock Park Center, 200 Nevada Ave., Staten Island, NY 10306
- H. Smith, Director of Soils Survey Division, USDA-NRCS, Room 4250 South Building, 14<sup>th</sup> & Independence Ave. SW, Washington, DC 20250