

United States                      Soil  
Department of                      Conservation                      160 East 7th Street  
Agriculture                      Service                      Chester, PA 19013-6092

**Subject:** Geologic site investigation                      **Date:** June 25, 1991  
                    using ground-penetrating radar;  
                    Millbrook, New Jersey June 17-19, 1991

**To:** Carlos F. Henning  
                    Acting State Conservationist  
                    USDA-Soil Conservation Service  
                    1370 Hamilton Street  
                    Somerset, New Jersey 08873

**Purpose:**

To conduct geologic site investigations using ground-penetrating radar (GPR) and electromagnetic induction (EM) techniques at the Upper and Lower Blue Mountain and the Long Pine dams in northwestern New Jersey. Sites are located within the Delaware Water Gap National Recreation Area.

**Participants:**

James A. Doolittle, Soil Specialist, SCS, Chester, PA  
David Lamm, Civil Engineer, SCS, Somerset, NJ  
Larry Lindgren, Civil Engineering Tech., SCS, Somerset, NJ  
Max Olynyk, State Geologist, SCS, Somerset, NJ  
John Peterson, Civil Engineering Tech., SCS, Annandale, NJ  
Linda Rivero, Design Engineer, SCS, Somerset, NJ  
Mike Watson, Engineering Specialist, SCS, Annandale, NJ

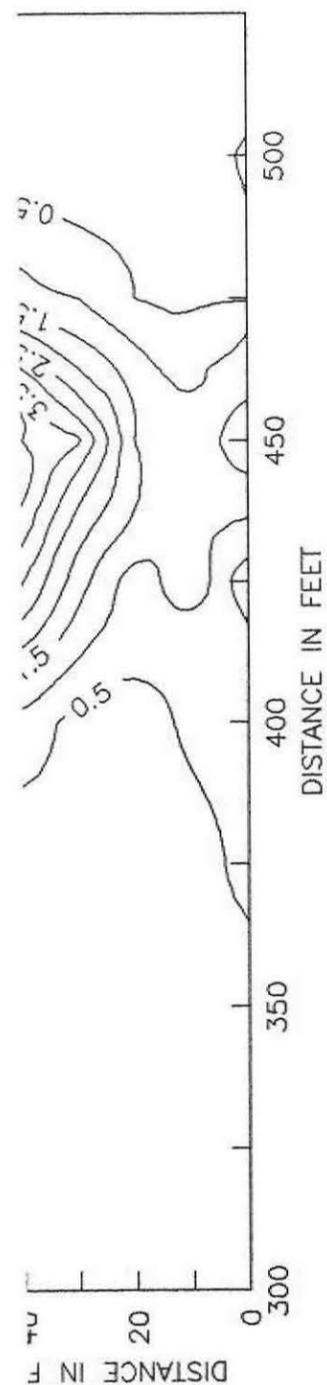
**Activities:**

Sites were visited on 17 June and preliminary plans of operation were developed. Electromagnetic induction and GPR surveys were completed at Upper and Lower Blue Mountain dams on 18 June. A GPR survey along the center line of Long Pine Dam was completed on 19 June. I returned to Chester, Pennsylvania, during the afternoon of 19 June.

**Equipment:**

The ground-penetrating radar unit used in this study is the Subsurface Interface Radar (SIR) System-8 manufactured by Geophysical Survey Systems, Inc.<sup>1</sup> Components of the SIR System-8 used in this study were the model 4800 control unit, ADTEK SR 8004H graphic recorder, power distribution unit, transmission cable (30 m), and the model 3110 (120 MHz) antenna. The system was powered by a 12-volt vehicular battery.

1. Use of trade names in this report is for identification purposes only and does not constitute endorsement.



EM31(H) MEASUREMENTS AT UPPER BLUE MOUNTAIN DAM

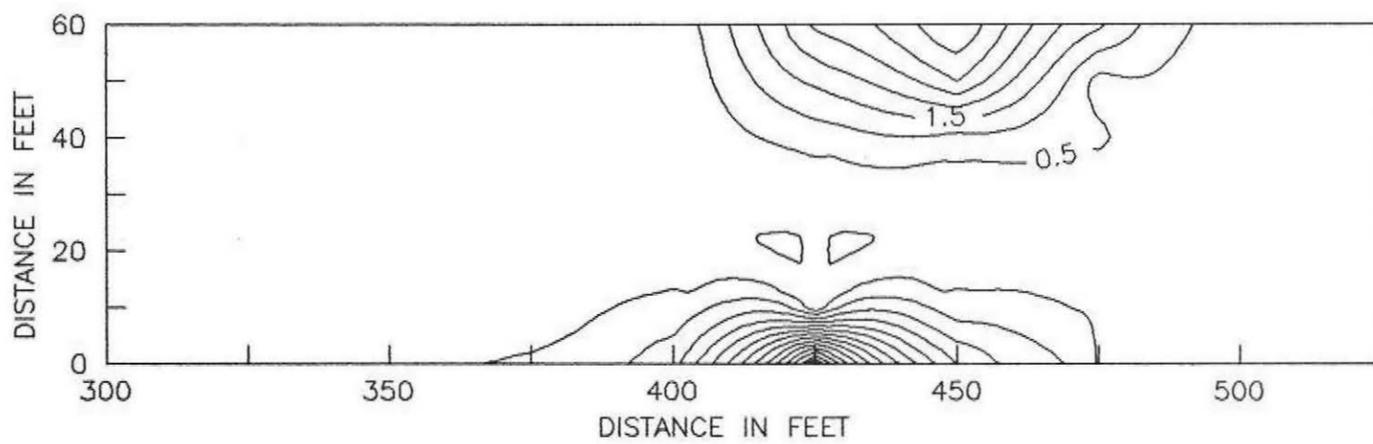


Figure 4

TOPOGRAPHY OF SPILLWAY AREA; LOWER BLUE MT.

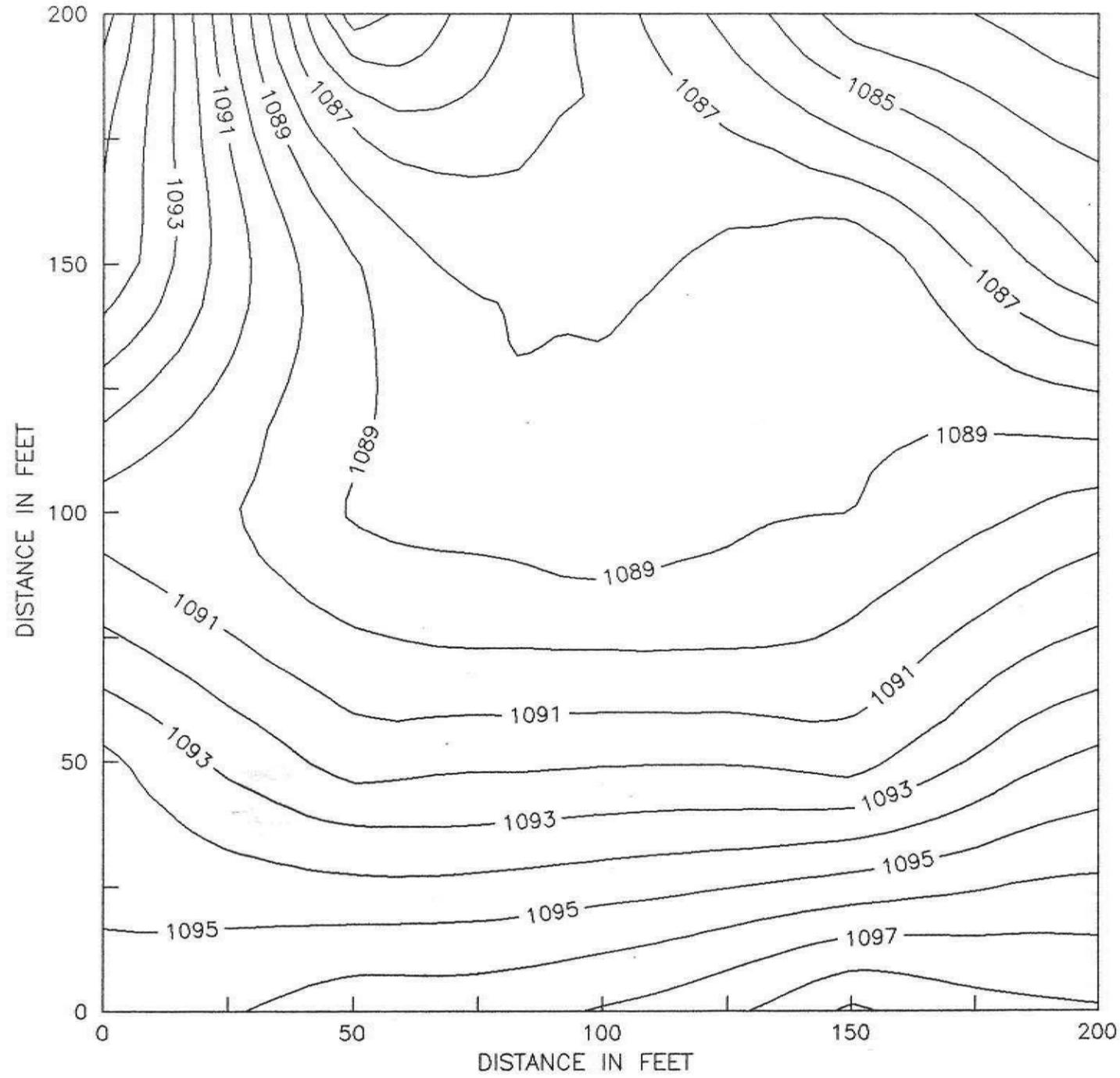


Figure 5

