

NHDOT SPR2 PROGRAM RESEARCH PROGRESS REPORT

INSTRUCTIONS:

Project # SPR 42372G	Report Period Year 2023 <input checked="" type="checkbox"/> Q1 (Jan-Mar) <input type="checkbox"/> Q2 (Apr-Jun) <input type="checkbox"/> Q3 (Jul-Sep) <input type="checkbox"/> Q4 (Oct-Dec)	
Project Title: Advancing Subsurface Investigations Beyond the Borehole		
Project Investigator: James Degnan Phone: (603) 226-7826 E-mail: jrdegnan@usgs.gov		
Project Start Date: June 30, 2021	Project End Date: September 30, 2023	Project schedule status: <input type="checkbox"/> On schedule <input type="checkbox"/> Ahead of schedule <input checked="" type="checkbox"/> Behind schedule

Brief Project Description:

Geotechnical site characterization sometimes fails to fully characterize the below-ground bedrock surface and hydrologic conditions using conventional borings. By combining passive Horizontal-to-Vertical Spectral Ratio (HVSR) seismic and multi-frequency electromagnetic induction geophysical methods and boring data analysis, a more thorough and accurate representation of geotechnical subsurface conditions can be produced. This effort will contribute to the overall goal of improving efficiency of the Department by reducing the disruption work plans, forced revision of designs, and cost increases from schedule delays, claims, or change orders.

Progress this Quarter (include meetings, installations, equipment purchases, significant progress, etc.):

The second data release, with GPR and EM data, has been through colleague review and is currently out for bureau approval. Data is currently available to NHDOT and NHGS on the cooperator sharepoint site. An abstract for the 72nd Highway Geology Symposium (HGS) has been written, put through reviews and is out for bureau submission. NHDOT and the USGS agreed that a manuscript and presentation for the HGS and the USGS data releases will serve as the project reports.

Items needed from NHDOT (i.e., Concurrence, Sub-contract, Assignments, Samples, Testing, etc...):

No further items needed.

Anticipated research next three(3) months:

Data processing, interpretation, and report writing is planned.

Circumstances affecting project:

We anticipate getting the project on schedule.

Tasks (from Work Plan) add lines to table as needed	Planned % Complete	Actual % Complete
Task 1. Compile and assess literature and sites	100	95
Task 2 Collect geophysical data	100	100
Task 3 Conduct analysis	100	70

Barriers or constraints to implementing research results:

None