Wednesday, September 8, 2020

Virtual Meeting via Zoom
7:00–9:00 p.m.
HGS Members $10 Non-Members $30 Students $5
https://www.hgs.org/civicrm/event/info?id=2230
Registered Attendees: A confirmation email will be sent upon registration with meeting links.
Event contact: Matthew Cowan – mrcowan1@hal-pc.org

Rusty Branch
Gehrig, Inc.

Utilizing Applied Geophysics for Rapid Assessment of Subsurface Characteristics and Identification of Areas of Geologic Concern for Engineering Projects

Applied geophysics includes a suite of subsurface exploration methods that complement conventional geotechnical and geological approaches. These methods allow geoscientists and engineers to rapidly assess subsurface conditions and identify areas of geologic concern that can impact project success while simultaneously compressing the timeline for both design and construction.

Integration of geophysical exploration into the pre-design process is becoming common as many geoscientists and engineers have realized its value for site characterization. These methods are especially well-suited to linear projects such as water and wastewater conveyance, transportation and in some cases, electrical transmission. However, the methods are also useful for rapid subsurface characterization of earthen dams and development sites in karst-prone areas. Frequently used methods include seismic, geo-electrical, microgravity, radar, magnetics, and electromagnetics. This presentation provides an introduction to applied geophysics through the review of case studies where geophysics complimented engineering projects. ■

Biographical Sketch

Rusty Branch is a multidisciplinary scientist and has been a member of the Gehrig, Inc. team since March of 2016. He has more than a decade of experience in the field of applied geophysics, including UAV-based geophysics. He has served on boards and committees for several professional organizations on the local, state, and national levels. He is a past chair of the AEG Texas Chapter and the Texas Section of the ASCE Geo-Institute. Rusty has authored/co-authored peer-reviewed publications in the fields of geology, vertebrate paleontology, and botany. His 20+ years of professional experience covers geoscience, bioscience, vertebrate paleontology, information systems, and geographic information systems.

Education

BS Earth Science/Geology from Tarleton State University
MS Biology with post-master's work in terrestrial ecology from Baylor University
MBA from U.T. Arlington