



HALLIWELL

BRENT DOUGLAS, P.E.

SENIOR FORENSIC ENGINEER,
CIVIL/GEOTECHNICAL ENGINEERING SERVICES
DALLAS/FT. WORTH, TX

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SPECIALTIES

- Commercial/Large Residential Property Evaluations
- Industrial/Agricultural Facility Evaluations
- Origin and Cause Assessments
- Geotechnical/Subsurface Investigations
- Geophysical Testing & Analysis
- Earthquake Damage Assessments
- Structural Integrity Assessments
- Civil/Site Works/Drainage Systems Evaluations
- Construction Defect Analysis
- Foundation Assessments
- Retaining Wall Failure Analysis
- Slope Stability Evaluations
- Pavement Failure Analysis
- Dam Failure Analysis
- Erosion Damage Analysis
- Sinkhole Formation and Analysis
- Horizontal Directional Drilling Evaluations
- Pipeline Failures
- Sediment Transport Analysis
- Shoring Failure Analysis
- CAT Damage Analysis
- Expert Witness Testimony & Litigation Support

BIOGRAPHY

Brent has more than 30 years of experience in the geotechnical, environmental, construction and forensic engineering fields. He conducts expert forensic investigations, site geotechnical and geophysical investigations, data evaluation and causation analysis for owners, developers, law firms, and insurance companies, including providing expert witness testimony. His geotechnical design experience includes subdivisions, multi-family housing, restaurants, medical buildings, retail centers, churches, retaining walls, warehouses, swimming pools, airport facilities, hotels, elevated tanks, roadways, and bridges.

Brent has managed various forensic and geotechnical investigation projects including investigations of foundations, retaining walls, swimming pools, pavement failures, warehouses, etc., as well as evaluating possible structural damage due to earthquakes and vehicular impacts, storm damage to boat docks and commercial roofs, miscellaneous property damage, and slope and retaining wall failures. He specializes in a wide range of geophysical investigation methods to enhance standard geotechnical investigation techniques, including ground penetrating radar, electrical resistivity tomography, electrical conductivity, and seismic imaging.

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QUALIFICATIONS

Bachelor of Science in Physical Science, Kansas State University

Bachelor of Science in Civil Engineering, University of Kansas

INDUSTRY CERTIFICATIONS, LICENSES AND MEMBERSHIPS

- Registered and Licensed Professional Engineer, TX, NC, OH, PA, CO, MD, KS, MO, OK
- HAZWOPER Trained
- GSSI Ground Penetrating Radar and RADAN Trained
- Haag Residential Roof Inspection Certified
- Society of American Military Engineers

PROFESSIONAL EXPERIENCE

- Halliwell, Senior Forensic Engineer, Civil/Geotechnical Engineering Services
- EFI Global, Senior Forensic Engineer
- Geotechnical Solutions, President
- Bryant Consultants, Inc., Senior Vice President
- EWL Geotechnical Studies, Inc., Principal/Co-Owner
- SECOR International, Inc. (Stantec), Principal Engineer
- Geraghty & Miller Inc. (ARCADIS), Staff Engineer

REPRESENTATIVE ASSIGNMENTS

Forensic Investigation, Repair Design, and Expert Testimony - Chemical Stabilization of Soil for 100,000 Sq. Ft. Warehouse Facility | Irving, TX

Project involved the tenant of the warehouse failing to meet the maintenance requirements set forth in the lease for the superstructure and the foundation, resulting in damages to both. Completed a geotechnical investigation, soil treatability study, design of a chemical injection/soil stabilization protocol, and removal/replacement of the concrete floor.

Expert Testimony, Geotechnical and Geophysical Investigations | Fort Worth, TX

Represented the plaintiff in a case involving a pipeline company completing pipeline excavations and utilizing burn pits for felled trees on the plaintiff's property in the locations of future houses. Included completing a combination of ground penetrating radar and electrical conductivity surveys to locate and excavate subsurface anomalies and show that the presence of partially burned decomposing tree trunks presented a danger to future house foundations in the residential development.

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Infinity Edge Swimming Pool - Geotechnical Investigations

Completed a geotechnical investigation, global slope stability analysis and provided foundation recommendations for an infinity edge swimming pool overlooking a private lake in Fort Worth, Texas. The design included chemical stabilization of expansive soils and a subsurface drain under the pool.

Salt Mine Water Intrusion and Subsidence - Forensic Engineering and Modeling of Salt Mine Failure

Claims were made that a nearby water well that was improperly installed, provided a pathway for groundwater to seep into the mine, resulting in subsidence of a portion of the mine 900 feet below ground surface. Through finite element analysis it was determined the subsidence was caused by the redesign of the natural supporting columns within the mine.

Litigated Retaining Wall Failure | Kansas City, MO

Forensic analysis and causation determination on the failure of a 30-foot tall retaining wall including geotechnical borings, laboratory analysis, and finite element analysis. Failure was determined to be caused by a flawed geotechnical design, as well as inadequate execution of the construction plans.

Geophysical Investigation on Mt. Ararat, Turkey

Participated in an expedition in search of Noah's Ark on Mt Ararat in Turkey. Completed ground penetrating radar surveys of the glacier on top of Mt. Ararat to identify anomalies in the ice. Numerous boreholes were completed, as well as a 25-foot-deep excavation to investigate GPR survey anomalies.

Geotechnical Design

Completed over a thousand geotechnical investigations and foundation design recommendations for various commercial and residential structures including hotels, multi-story office buildings, medical office buildings, day care centers, strip malls, schools, and multi-family housing complexes, as well as single family residences and residential subdivisions, roads, and bridges.

Forensics Projects

Investigated over 800 residential and commercial buildings for areas of damage or failure resulting from fires, tornadoes, floods, vehicle impact, earthquakes, plumbing leaks, hailstorms, and windstorms.

RECENT TESTIMONY

- The Ranch at Mary's Creek Ltd. v. Crosstex North Texas Gathering, L.P., et al; in the 43rd District Court of Parker County, TX
- Terry Button and Ossie Button, v. Chubb Lloyds Insurance Company of Texas and Cynthia D. Morgan in the U.S. District Court for the Eastern District of Texas, Sherman Division
- Gregory Hoffman and wife Pamela Hoffman, v. Laguna Homes, Inc. and Bonded Builders Home Warranty Association of Texas, Inc., D/B/A Bonded Builders Warranty Group in the 160th Judicial District, Dallas County, TX
- JoAnn Franke vs State Farm Lloyds, in the District Court of Brown County, TX, 35th Judicial District
- Thanestate Investment, Inc. v. Littelfuse I, LP in the in the 101st District Court of Dallas County, TX

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- Rural Healthcare of Oklahoma, Inc. vs. Haskell Hugo, Inc., in the District Court of Choctaw County, OK, 17th Judicial District
- Briarcliff Development Company v. The Judy Company Inc. et al; in the 7th District Court of Clay County, MO
- Rick Kasberg and Jacklyn Kasberg v. Cody Pools, Inc., 169th Judicial District Court of Bell County, TX

PUBLICATIONS

- Haque M.A., Ph.D., P.E., John T. Bryant, Ph.D., P.G., P.E., and Brent L. Douglas, P.E., “Forensic Analysis of Water Tank Settlement: A Case Study”, Abstract submitted to ASCE Forensic Eng.
- Bryant, J.T., Haque, M.A., Douglas, B., “Time-Dependent Geothermal Analysis – A Forensic Evaluation”, ASCE Forensic Engineering 2012, San Francisco, CA
- Soil Vapor Extraction, Design Test and Case Study, Brent Douglas, Arul Ayyaswami, Kevin Wolka, The Michigan Professional Engineer, July/August 1993, Vol. 45, No. 6