Mark Schroeder, E.I.T.
Assistant Engineer

Education and Credentials

M.S., Environmental Engineering, University of Colorado Boulder, Boulder, Colorado, 2018

B.S., Environmental Engineering, Oregon State University, Corvallis, Oregon, 2015

Engineer in Training, Oregon (License No. 91664EI)

Continuing Education and Training

Hazardous Waste Operations and Emergency Response 40-Hour Certification (2018)

First Aid and CPR/AED certified (2018)

Wilderness First Responder 40-Hour Certification (2015)

Professional Affiliations

Member of American Chemical Society; Environmental Science and Technology

Professional Profile

Mr. Mark Schroeder is an assistant consultant who is broadly trained in environmental engineering and has focused experience in studying the fate and transport of contaminants in groundwater. As part of his graduate work, Mr. Schroeder quantified the occurrences of BTEX in groundwater in areas of oil and gas development and the extent to which hydraulic fracturing is responsible for the occurrences. His educational background is complemented by two engineering internships, one in the consulting industry and one with a municipal wastewater treatment facility, where he collected and analyzed data to characterize wastewater processes. At Integral, Mr. Schroeder is active in field data collection and provides support on projects requiring development of remediation strategies.

Relevant Experience

Benzene, Toluene, Ethylbenzene, and Xylenes Occurrence in Relation to Oil and Gas Development in the Denver-Julesburg Basin, Boulder, Colorado—Quantified BTEX compounds using publicly available data compiled from the Colorado Oil and Gas Conservation Commission. For each occurrence of a BTEX compound, a half-mile radius was searched for oil and gas wells with records of failures. A 3.4 percent occurrence rate of BTEX was found among 1,585 sampled water wells. This study extensively used ESRI ArcGIS Pro and Python scripting for data reduction and analysis.

Eastern Boulder County Well Water Study, Boulder, Colorado—Assisted with baseline profile of groundwater quality for Boulder County in response to the end of the oil and gas moratorium and new development in eastern Boulder County. Collected groundwater samples using low-flow technique and prepared samples for third-party laboratories.

Methane Occurrences in Western Colorado, Boulder, Colorado—Conducted data analysis of methane occurrences in collaboration with University of Pennsylvania researchers to statistically distinguish between thermogenic- and microbial-originating methane using a novel "sliding window technique." Drafted ArcGIS maps and assisted the group as needed with data analysis tasks.

285 Century Place
Suite 190
Louisville, CO 80027

720.465.3366
mschroeder@integral-corp.com

Deactivation of Integrated Water Treatment System, Hanford, Washington—Completed internship focusing on writing the procedures and background of a water treatment system that had reached a mandated limit on removing nuclear material.

Process Engineering Internship, Portland, Oregon—Completed internship characterizing various wastewater processes and designing experiments for process simulations. The work involved data collection and analysis of secondary and tertiary processes for orthophosphate removal from wastewater before discharge into the Tualatin River.

Publications

Schroeder, M.T. 2018. Benzene, toluene, ethylbenzene, and xylenes occurrence in relation to oil and gas development in the Denver-Julesburg Basin of Colorado. Thesis, University of Colorado at Boulder, Boulder, CO. 120 pp.