

Rachelle Thorne

Staff Geologist



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Profile

Ms. Thorne is an experienced multi-disciplinary scientist, researcher, and hydrogeologist. She has extensive experience using hydrogeologic principles to conduct site assessment activities and is experienced in using GIS software to manage large data sets and to conduct spatial analyses. She has performed isotopic analysis to evaluate potential fate and transport mechanisms of environmental contaminants and has implemented field sampling programs and hydrogeological field investigations. She is proficient at developing and administering training to diverse audiences that demonstrates appropriate field monitoring and data management techniques.

Skills and Experience

Designed surface and groundwater studies using site reconnaissance and ArcGIS.

Compiled and analyzed site background information in reports presenting the hydrology, geology, and soils relative to the fate and transport of environmental contaminants.

Developed and implemented project Quality Assurance/Quality Control and Sampling and Analysis Plans.

Experienced in design, management, and manipulation of complex scientific datasets.

Used ArcGIS for managing data and creating maps incorporating geologic and hydrogeologic information of sampling locations.

Performed spatial data analysis and created presentation-quality visuals in ArcGIS.

Designed training programs, led training events, and demonstrated sampling techniques.

Operated and calibrated various instruments to measure temperature, pH, electrical conductivity, oxidation-reduction potential, dissolved oxygen, and alkalinity.

Collected stream flow data, water level measurements, stream classification, water chemistry measurements, aquatic habitat and population assessments, soil characterization, stream surveying, wetland determination, surface- and groundwater sampling, inclinometer readings, pressure transducers, air monitors, and $^{13}\text{C}_{\text{DIC}}$.

Proficient in Microsoft Office and ArcGIS; familiar with R, Corel Draw, PHREEQC, GW Chart, Modflow/GWVistas, HEC-RAS, HEC-HMS, Rivermorph, MathCad, AQTESOLV, and Surfer.

Education

M.S., Geology. Emphasis in Hydrogeology. West Virginia University, Morgantown, WV, 2013.

B.S., Plant and Soil Sciences, Major in Environmental Protection. West Virginia University, Morgantown, WV, 2010.

B.A., Recreation Administration, Major in Therapeutic Recreation. Humboldt State University, Arcata, CA, 2005.

Publications

Thorne, R. 2014. Isotopic composition of dissolved inorganic carbon in underground mine discharges of the Northern Appalachian Basin. MS Thesis, West Virginia University.

Skousen, J., Thorne, R., and Pena-Yewtukhiw, E. 2010. Survival and growth of chestnut hybrid seeds and seedlings on mountaintop surface mines in West Virginia. p. 1144-1160. In: Proceedings, 2010 National Meeting of the American Society of Mining and Reclamation, Pittsburgh, PA, June 5-11, 2010. ASMR, Lexington, KY.