Claire O'Donnell Scientist



Education and Credentials

M.S., Environmental Science, Trinity College Dublin, Dublin, Ireland, 2018

B.S., Geoscience, University of Utah, Salt Lake City, Utah, 2015

Continuing Education and Training

Hazardous Waste Operations and Emergency Response 40-Hour Certification (2019; refresher 2020)

Professional Profile

Ms. Claire O'Donnell is a scientist with an educational background in geochemistry and geology. Professionally, she is experienced in data analysis, field sampling, and regulatory oversight of CERCLA sites. She has analyzed and interpreted data using GIS, MatLab, and RStudio. Ms. O'Donnell has worked on numerous field sample collections involving a variety of media, including surface water, groundwater, sediment, benthic macroinvertebrates, and terrestrial plants.

Relevant Experience

Portland Harbor Superfund Site Allocation, Portland, Oregon— Conducted historical research focused on relevant properties within the Superfund site. Wrote offensive and defensive reports on properties.

Blackwell Zinc Site, Blackwell Oklahoma—Assisted with various aspects of a groundwater remediation project at a former zinc smelter site in Blackwell, Oklahoma.

Former Wood Treatment Facility, Columbus, Mississippi—Assisted with the technical memoranda and annual monitoring report for a former wood treatment and storage facility in Columbus, Mississippi, which is contaminated with creosote and pentachlorophenol. Provided technical expertise in ArcGIS.

LeapFrog Geo Geologic Modeling, Various Locations—Used the LeapFrog Geo modeling software to generate lithological and numeric models for sites in California and Oregon. Models include numeric interpolation of various analytes in order to inform defensive positions and further investigations.

Monitoring and Compliance, Colorado—Managed and provided technical expertise, oversight, and quality control on environmental permitting and compliance projects. Conducted field inspections, monitoring, environmental sampling, and field survey work.

Ogden Swift Building Removal, Ogden, Utah—Representative for the Utah Department of Environmental Quality on the Ogden Swift Building EPA Response. Communicated with EPA stakeholders and

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coordinated with Ogden City officials. Sampled surface water and the combined waste stream to determine if discharge was viable.

Technical Report Writing, Utah—Supported multiple projects in Utah to determine CERCLA viability. Completed preliminary assessments and site investigations for various sites ranging from dry cleaners to landfills.

XRF Sampling, Utah—Strategically took *in situ* field measurements and verified results to help delineate the extent of contamination from a lead smelter.

Groundwater Sampling, Colorado, Utah, and Wyoming—Collected groundwater samples using bailers and peristaltic pumps. Processed, packed, and shipped samples for laboratory analysis. Assisted in post-fieldwork data processing and analysis.

Experimental Study of Calcite and Its Ability to Uptake La, Nd, and Dy—Examined the ability of calcite to uptake lanthanum, neodymium, and dysprosium from solution. Results were determined using SEM, XRD, LA-ICP-MS, and white light interferometry.

River Investigation, Ireland—Collected surface water, benthic macroinvertebrate, and sediment samples in a source-to-sink investigation. Measured flow rates, temperature, pH, redox potential, dissolved oxygen and conductivity *in situ*. Analyzed samples for dissolved reactive phosphorus, organic nitrogen, total suspended solids, total dissolved solids, and evaluated the status of the river.

Publications

Szucs, A.M., A. Stavropoulou, C. O'Donnell, and J.D. Rodriguez-Blanco. 2021. Reaction pathways toward the formation of bastnäsite: Replacement of calcite by rare earth carbonates. *Cryst. Growth Des.* 21(1):512–527.

O'Donnell, C., and J.D. Rodriguez-Blanco. 2018. Experimental study of calcite and its ability to uptake La, Nd, and Dy. Thesis. Trinity College Dublin, Dublin, Ireland

O'Donnell, C., and M.G. Davis. 2015. Projections of heat storage in the continents. Thesis. University of Utah, Salt lake City, UT.

Presentations/Posters

O'Donnell, C., and M.G. Davis. 2016. Projections of heat storage in the continents. Undergraduate Virtual Poster Showcase, AGU Showcase, Washington, DC.

