Leonard D. Ancuta, Ph.D., G.I.T.

Senior Hydrogeologist/Geochemist

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Dr. Ancuta is a geochemist and hydrogeologist with over 10 years of experience, specializing in groundwater modeling, fate and transport modeling, remedial investigation and design, and risk-based corrective action. He has applied his expertise to develop cost-effective remedial solutions at coal ash landfills, industrial landfills, manufacturing plants, and Superfund sites, and to manage remedy implementation projects at RCRA and CERCLA sites nationwide. In addition, Dr. Ancuta has provided expert witness testimony related to contaminant fate and transport in groundwater. Through chemical fingerprinting of contaminant source signatures, he has provided source identification and cost allocation support for sites with numerous potentially responsible parties. Dr. Ancuta received his Ph.D. in earth and environmental sciences from Lehigh University, and focused his dissertation on the geochemistry and geochronology of intraplate volcanic areas.

Areas of Expertise

• Site Characterization
• Remedial Strategy & Design
• Geochemistry
• Hydrology
• Contaminant Fate & Transport Modeling
• Source Identification
• Cost Allocation

Education

• Ph.D., Earth and Environmental Sciences, Lehigh University
• B.S., Geology, Union College

Selected Projects

Source Identification: Evaluated past mining and smelting operations at former lead-zinc mine and smelter. Determined sources of lead exposure and emissions to the surrounding community over historical time periods and spanning several different operators.

Remediation Cost Allocation Analysis: Evaluated past remedial liabilities for a portfolio of sites impacted with chromium and other constituents of concern to calculate a total liability cost estimate.

Contaminant Fate and Transport Modeling: Provided updated risk-based remedial strategies and designs for several sites with existing remedies. Conducted groundwater, transport, and geochemical modeling to design and implement remedies, including bioremediation injection wells and enhanced pump and treat systems.

Remedial Design: Produced a remedial design for a site occupied by a former secondary lead smelter. The remedial design included producing a groundwater model to explore the effects of a proposed funnel and gate groundwater remediation system, which utilized slurry walls, caps, and permeable reactive barriers to passively remediate the site with low operation and maintenance costs.

Coal Combustion Residual Assessment: Provided risk-based remedial strategies and designs under the new CCR rule for several sites with coal combustion residual impoundments. Conducted groundwater, transport, and geochemical modeling to evaluate remedies, including excavation, pump and treat, and monitored natural attenuation.

Groundwater Modeling: Produced a groundwater model for a deep fractured bedrock aquifer impacted by chlorinated solvents. The groundwater model was used to improve hydraulic control of the groundwater plume, with updated pumping rates at existing wells and the implementation of new wells.

Selected Publications

Ancuta, LD; Zeitler, PK; Idleman, BD; Jordan, BT. 2018. "Whole-rock 40Ar/39Ar geochronology, geochemistry, and stratigraphy of intraplate Cenozoic volcanic rocks, central Mongolia." *Geol. Soc. Am. Bull.* 130(7-8):1397-1408. doi.org/10.1130/B31788.1.

Zeitler, PK; Enkelmann, E; Thomas, JB; Watson, BW; **Ancuta, LD;** Idleman, BD. 2017. "Solubility and trapping of helium in apatite." *Geochim. Cosmochim. Acta.* 209. 10.1016/j.gca.2017.03.041.

Sahagian, D; Proussevitch, A; **Ancuta, LD;** Idleman, BD; Zeitler, PK. 2016. "Uplift of Central Mongolia recorded in vesicular basalts." *J. Geol.* 124(4):435-445. doi:10.1086/686272.

Smith, SG; Wegmann, KW; **Ancuta, LD;** Gosse, JC; Hopkins, CE. 2016. "Paleotopography and erosion rates in the central Hangay Dome, Mongolia: Landscape evolution since the mid-Miocene." *J. Asian Earth Sci.* 125:37-57. doi: 10.1016/j.jseaes.2016.05.013.