

Craig Heindel, CPG
Senior Hydrogeologist



Mr. Heindel has forty-four years of experience as Hydrogeologist, Senior Hydrogeologist or Project Manager in projects regarding wastewater disposal, solid waste disposal, water supply, contaminant hydrogeology, hazardous materials site assessments, aquifer and well analysis, groundwater flow and drainage, wetland hydrology, surface water, stormwater drainage and runoff, soils and soil chemistry, and erosion and sediment control.

EDUCATION:

M.S., Geology, University of Vermont, 1980
B.A., Geology, Dartmouth College, 1971

EMPLOYMENT:

- Senior Hydrogeologist, Waite-Heindel Environmental Management (2012 to present)
- Principal and Senior Hydrogeologist, Heindel and Noyes, Inc. (formerly Wagner, Heindel & Noyes, Inc.; Nelson, Heindel & Noyes, Inc.; Environmental Associates, Inc.) (1980 to 2012)
- Guest Lecturer, University of Vermont; Glacial Geology, Hydrogeology (1984 to present)
- Hydrogeologist, Environmental Associates, Inc. (1976 - 80)
- Consultant, New England River Basins Commission (1977)
- Science and Mathematics High School Teacher, and Director of Outdoor Education Program, Darrow School, New Lebanon, New York (1974 to 1976)
- Field Geologist, Ethiopia, Smithsonian Astrophysical Observatory (1971, 1973)
- Field Geologist, Vermont and Quebec, Prospecting Geophysics, Ltd. (1972).

RELEVANT EXPERIENCE:

Lead scientist, project officer, and senior hydrogeologist on numerous projects each year, for clients in the private, industrial, commercial, and public sectors; for local, regional, state, and federal government agencies; as expert witness in state and federal courts, and town and state environmental hearings; on evaluations of the impacts on or from groundwater, surface water, soils, and public health from liquid and solid waste disposal, contaminant hydrogeology, hazardous and toxic wastes, erosion and sedimentation, and land use changes.

- Groundwater Coordinating Committee, VT Agency of Natural Resources; participant (2000 to present);
- Appointee, Wastewater Technical Advisory Committee, Vermont ANR (2000 to present);
- Appointee, Indirect Discharge Advisory Committee, Vermont ANR (2020 to present);
- Appointee, Vermont Legislature Study Committee: Alternative Wastewater Treatment; Environmental and Land Use Impacts (1999)
- On-Site Sewage Committee, Co-Chairman, Vermont ANR (1993 to 1998)
- Environmental Risk Reduction Committee, Chairman, Vermont ANR (1991-1992)
- Soil Evaluator for VT ANR DEC Site Technician Exam (wastewater designers; var. 1995 - present)
- Public Advisory Committee, Strategy for Vermont's Third Century, Vermont ANR (1990-1991)
- Advisory Panel, Vermont Water Resources Research Center, Univ. of Vermont (1989 to present)
- Public Advisory Committee, Vermont Water Well Regulations, Vermont ANR (1989 to 1996)
- Vermont Non-Point Source Pollution Task Force, Vermont ANR (1988)
- Technical Review Committee, Environmental Protection Rules, Vermont ANR (1987-88)
- Vermont Geological Society, Nominating Committee (1986)
- Vermont Geological Society, Public Affairs Committee (1987-88)
- Conservation Commission, Town of Ferrisburgh (1989 to present)

CERTIFICATIONS & AFFILIATIONS:

- Certified Professional Geologist (No.5148), American Institute of Professional Geologists
- Licensed Professional Geologist: State of New Hampshire (No. 452); State of New York (No. 516)
- OSHA 40-hour Hazardous Waste Site Workers, Basic Health and Safety Course (April 1990); 8-hour refreshers (1991 through present)
- Certified, Natural Shoreland Erosion Control, VT Agency of Natural Resources (2016)
- Railroad Safety Trainer; Canadian National Railroad, and FRA (2006 to June 2010)
- Confined Space Entry Training (2004)
- Association of Groundwater Scientists and Engineers (National Groundwater Association)
- Water Environment Federation
- American Geological Institute; Geological Society of America
- Vermont Geological Society
- Vermont Groundwater Association
- Vermont Rural Water Association
- New Hampshire Council of Professional Geologists

ADVANCED STUDY SINCE 2015:

- Conference; PFAS, NEWMOA (2022);
- Webinars (2) (2022): PFAS in Biosolids, PFAS at Farms [NEBRA];
- Conference; NEWEA, participant and presenter [large-scale WW drip dispersal] (2020);
- Webinars (5) (2019): PFAS (3), EREF, Forester Univ., EuroFins; 1,4-Dioxane (EuroFins); AQUATOX (USEPA);
- Conference; NE Section, GSA (2019)
- Onsite Wastewater Short Course; NEIWPC (2019)
- Conference, Vermont Water; VTANR, VT Tech. College (2018)
- Conference; Geological Society of America, Northeast Section (2018)
- Conference, Non-Point Source Pollution, NEIWPC (2018)
- Webinars (6) (2018): Microbiology (3), NGWA; Landfill Leachate, NEWIN; PFAS, WERF; Hydrogeology of Aquitards, Midwest GeoSciences
- Field Workshop, Soil Identification, VTDEC (2018)
- Conference, VT Development, White & Burke (2017)
- Workshop, Rivers & Roads Tier II, VTRANS (2017)
- Webinar, Flood Frequency, Forester Univ. (2017)
- Conference, Water Quality, Vermont Environmental Consortium (2016)
- Workshop, Roadway Fundamentals, VTRANS (2016)
- Workshop, Groundwater Planning, VT Rural Water Association (2016)
- Conference, Planning & Zoning, VT League of Cities & Towns (2016)
- Conference, VT Development, White & Burke (2016)
- Workshop, Groundwater Remediation, VTDEC & Arcadis (2016)
- Forum, Planning & Zoning; VLCT, APA (2016)
- Conference, Water Quality; VT Environmental Consortium (2016)
- Seminar / Fieldtrip; Soils & Glacial Geology in Addison County, VT, VT Geol. Society (2015)
- Fractured Bedrock Conference; National Groundwater Association (2015)
- Waste Management Seminar; NH Dept. Envir. Services (2015)
- Environmental Seminars; Municipal Day, VT ANR (2015)
- Water Quality Conference; Vermont Environmental Consortium (2015)
- Environmental Conference; Associated Industries of Vermont (2015)
- Webinars in 2015: Urban Hydrology, Hydrology & Hydraulics (5, Forester Univ.); Uranium in Residential Wells (National Groundwater Assoc.); Statistics for Environmental Data (2, Midwest Geosciences)

Advanced study listings prior to 2015 are available on request.

PUBLICATIONS (Public)

- *Pilot Test of Nutrient Removal by Large-Scale Drip Dispersal of Tertiary-Treated Effluent, Southern Vermont*; presentation at Onsite Wastewater Short Course, New England Interstate Wastewater Pollution Control Commission, Groton, CT (2019).
- *Denitrification and dilution along fracture flowpaths influence the recovery of a bedrock aquifer from nitrate contamination*; Kim, J.; Comstock, J.; Ryan, P.; Heindel, C.; Koenigsberger, S.; *Science of the Total Environment* 569-570 (2016) 450-468.
- *Environmental Considerations in Vermont Land Use Law*; presentation at Seminar on Vermont Land Use Law; National Business Institute, South Burlington, VT (2014).
- *Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites*; Vermont Agency of Environmental Conservation (1982); principal author
- *Road Salt Effects on Ground Water in the Williston and St. George Area, Vermont*; *Vermont Geology*, Vol. 2, pp. 14-19 (1982)
- *Estimating Recharge to Bedrock Ground Water in a Small Watershed in the Lake Champlain Drainage Basin*; *Vermont Geology*, Vol. 1, pp. 33-37 (1980)
- *The Glacial Geology, Hydrogeology, and Road Salt Effects on Ground Water in the Williston Area, Vermont*; M.S. Thesis, University of Vermont (1980)
- *An Analysis of the Transport of Coal and Oil to the Champlain Valley*; Lake Champlain Basin Study, New England River Basins Commission (1977).

[Heindel Resume, Oct. 2022] or PDF.