



Crede Associates LLC

**Peter Thompson**

**Senior Project Manager / Senior Hydrogeologist**

**TRAINING / LICENSES**

- ▲ OSHA 40 Hour HAZWOPER, HAZWOPER 8 Hour Refresher
- ▲ Red Cross First Aid/CPR/AED
- ▲ USCG 50-ton Masters License (Captain, MMC)
- ▲ Transportation Worker Identification Credential (TWIC)
- ▲ Member, National Ground Water Association

**EDUCATION**

- ▲ Master of Science, Water Resources Engineering-Civil Engineering Department, University of New Hampshire, 1989
- ▲ Bachelor of Arts, Earth and Environmental Science, Wesleyan University, 1980

**HIGHLIGHTS OF EXPERIENCE**

Peter has over 37 years of experience in geology, hydrogeology and environmental consulting and with a diverse technical background developed over many years solving complex problems on a broad range of environmental sites. He has experience working on and managing large multi-disciplinary teams, working directly with clients in internal and regularly meetings, project management, project lead technical and project principal roles primary in CERCLA, State Regulatory Programs (Maine VRAP, Brownfields, VT, NY, NJ), Mining and Mine Reclamation, Emerging Contaminants, and Solid Waste Facility Design. In addition, he has over 25 years of expertise in fractured bedrock characterization and hydrogeology previously serving as a bedrock hydrogeology practice area leader.

**FEDERAL / SUPERFUND EXPERIENCE**

**Loring Air Force Base Installation Restoration Program RI/FS, PP ROD, HAZWRAP Programs, Limestone, Maine**

Served as senior project hydrogeologist for Operable Unit 12. Collaboratively developed a comprehensive fractured bedrock characterization approach relying on extensive borehole geophysical logging, straddle packer testing and sampling, and rock matrix testing protocols in bedrock DNAPL source areas. The RI developed a comprehensive structural analysis of faulting, folding and fracturing across entire base to support development of a base wide equivalent porous media groundwater flow model (MODFLOW), and plume specific fractured flow fate and transport models (FRAC 3DVS) implemented with code for matrix diffusion. Resulting RI / FS divided Loring into 10 flow fields within six groundwater management zones. The PP and ROD selected limited action at 6 groundwater plumes with a groundwater management zone alternative (natural attenuation with monitoring) at 12 plumes. TI waivers were instituted for two plumes (Quarry Site and Jet Engine Build-up Shop/ Entomology shop). No active remedy was required for groundwater.

**Eastland Woolen Mill Superfund Site, USEPA /USACE CERCLA RI/FS, Corinna, Maine**

Senior project hydrogeologist responsible for developing the RI/FS work plans and reports for OU1 – Groundwater and field operations leader for completion of the RI. Eastland Woolen Mill Superfund site is a 22-acre former textile mill that operated from 1909 to 1996 in Corinna, Maine. Disposal practices resulted in extensive contamination of soil and groundwater with chlorinated benzenes and DNAPL beneath and in the vicinity of the former Eastland Woolen Mill, in the sediments in the East Branch of the Sebasticook River (EBSR), and dissolved impacts numerous private drinking water wells. Work was conducted for USEPA in conjunction the USACE under several contract vehicles, with participation of multiple stakeholders. The EBSR was relocated to a new channel, Main street was re-routed, and a new bridge was constructed over the new river channel. After mill demolition and soil treatment by others, led post ROD RD characterization of fractured bedrock source area including bedrock sonic coring with extensive borehole geophysics (ATV, BIPS, HPFM, electric logs) and MERC testing to estimate

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contaminant mass contained in rock matrix, groundwater straddle packer sampling, groundwater flow and fate and transport modeling, a long term pumping test to evaluate overburden dewatering for chemical oxidation delivery to the bottom of the former soil excavation, a forced gradient partitioning inter-well tracer test (PITT) with a bromide tracer, IRT and ERT to map tracer movement between boreholes, and HPFM intra-well testing to map fracture hydraulic continuity and connections between boreholes. All data was input in a 3D visualization package (TecPlot360) for interpretation, data gap assessment and stakeholder presentations.

**21 M2 Grant Program – Use of ERT and IPT to Map Fractures Between Boreholes, Eastland Woolen Mill, Corinna, Maine**

Following the Eastland Woolen Mill Site fractured bedrock program, wrote a 21 M2 grant application that was awarded to continue work on ERT and IPT at the site. Tomography conducted during the monitoring of the PITT/bromide forced gradient tracer study clearly identified bedding plane fractures between boreholes that had been independently mapped using ATV, BIPs and HPFM testing. The purpose of the grant work was to confirm these results, under non-pumping and pumping conditions absent a conductive tracer. Results of the study were not conclusive.

**USACE Cold Regions Research & Engineering Lab (CRREL) Remedial Investigations and Studies, U.S. Army Corps of Engineers (USACE) - New England, Hanover, New Hampshire.**

Principal responsible for technical review on an on-going basis while at Wood who provided a broad range of environmental consulting and engineering HTRW services at this active US Army research facility where research, development, engineering, and testing of materials and equipment are conducted. Work is conducted under the Defense Environmental Restoration Program (DERP), which requires that the activities be performed in accordance with CERCLA and the National Contingency Plan (NCP). The primary contaminant of concern was TCE, which was historically used as a heat transfer fluid and in various experiments from the early 1960s up to 1987. Impacts include an extensive VI plume in underlying the research facility and which historically affected indoor air. Daily HAPSITE monitoring of indoor air has been ongoing for five years.

**Maine Department of Transportation Callahan Mine Superfund Site Remedial Investigation / Feasibility Study (RI/FS), Brooksville Maine.**

As senior hydrogeologist prepared detailed work plans and Remedial investigation (RI) reports at a former zinc and copper open-pit mine. The 150-acre site borders a tidal estuary and the 600+ foot diameter and 320-foot deep open pit now submerged beneath the estuary. RI characterized chemical contamination in marine surface water and sediments, macroinvertebrate communities, impacts to clams and aquatic receptors, flora, surface soils, waste rock piles, tailings, groundwater, and identified elevated concentrations of arsenic, cadmium, copper, lead, and zinc detected in site media and marine organisms. Peer reviewed feasibility study (FS) of alternatives for mine closure to cost-effectively control, reduce, or eliminate potential exposure risks. The remedy for the Site includes de-watering and capping the tailings impoundment, removing the ore-pad and AMD producing waste rock back to the former open pit for subaqueous disposal. Design work for the final remedy was completed in 2019.

**U.S. Army Corps of Engineers, New England District / USEPA Remedial Design Elizabeth Mine, Strafford, Vermont**

Senior hydrogeologist responsible for review and evaluation of groundwater management zones to restrict use of groundwater impacted by metals and acid mine drainage adjacent to former underground workings. Completed groundwater pumping and recovery analysis to demonstrate hydraulic influence of water levels in former mine workings on impacted groundwater migration.

