



NANCY C. ROTHMAN, Ph.D.

*CEO/Principal Scientist
Sr. Environmental Chemist*

Professional Affiliations

- NJDEP Science Advisory Board
- Licensed Site Professional Association, Massachusetts, Associate Member (LSPA)
- Licensed Site Remediation Professional Association (LSRP)
- Interstate Technology & Regulatory Council (ITRC)
- Society of Environmental Toxicology and Chemistry (SETAC)

Areas of Expertise

- Setting Data Quality Objectives (DQOs)
- Organic Chemistry
- Method Development
- Emerging Contaminants
- Quality Assurance Project Plans
- Technical Chemistry Review
- Field & Lab corrective action
- Data Validation
- Data Usability Assessments
- Quality Assurance Management
- Laboratory Audits
- Consultant for Regulatory Agencies
- Litigation Support & Expert Testimony

Presentations / Training

- *Limitations of PFAS Data*; AEHS International Conference, 2017
- *Preservation & Holding Times for Contaminant Chemistry*; Gulf of Mexico Oil Spill Conference, 2014
- *Data Quality Assessment for Investigation & Remediation*; NJDEP LSRP Training, 2014
- *PCBs in Schools – NYC School Case Study*; AEHS International Conference, 2011
- *Sediment Data Quality for Use in Ecological Risk Assessment*; SETAC Conference, 2007

Nancy Rothman, Ph.D. is CEO and a Principal Scientist of New Environmental Horizons, Inc. (NEH). She is a recognized expert in organic environmental chemistry. Dr. Rothman has over 30 years of experience in the development of methods, analysis, and data evaluation for volatile (VOC) and semivolatile organic compounds (SVOC), including dioxins/furans and polychlorinated biphenyls (PCBs), with a specialty in emerging contaminants including Per- and Polyfluoroalkyl Substances (PFASs). She applies her depth of experience to evaluate usability of current and historical data and in the development and review of project-specific Work Plans, QAPPs, and method development for environmental investigations in support of NOAA NRDA, USEPA Superfund, US Army Corps of Engineers, and state-led programs. Dr. Rothman has successfully provided expert testimony and litigation support for complex environmental data issues involving analyses of polynuclear aromatic hydrocarbons (PAHs), VOCs, and PCBs.

Dr. Rothman is an appointed member of the New Jersey Department of Environmental Protection (NJDEP) Science Advisory Board offering technical expertise and guidance to the Office of Science on existing and emerging issues. She is also a member of the NJDEP Site Remediation Program Analytical Methods Technical Guidance Group, responsible for redesigning and developing QA/QC guidance for NJDEP. Dr. Rothman currently serves on two ITRC teams where she shares her expertise and assists in developing guidance for Total Petroleum Hydrocarbons (TPH) and PFAS.

CREDENTIALS

Education/Training

- Ph.D., Physical-Organic Chemistry, Brandeis University
- M.A., Physical-Organic Chemistry, Brandeis University
- B.S., Chemistry, Union College

REPRESENTATIVE EXPERIENCE

Emerging Contaminants

Dr. Rothman currently serves on two Interstate Technology & Regulatory Council (ITRC) teams: “TPH Risk Evaluation at Petroleum-Contaminated Sites” and “Key Information Needed to Develop Strategies to Address Environmental Releases of Per- and Polyfluoroalkyl Substances (PFASs)”.

She assists in writing and reviewing ITRC guidance documents and fact sheets, working cooperatively with other scientists from the public and private sectors. Dr. Rothman has also developed project-specific Quality Assurance Project Plans (QAPPs) for other emerging contaminants including Endocrine Disruptors, Pharmaceuticals and Personal Care Products in sediments and water in support of environmental investigations.

Project-specific Data Quality Objectives (DQOs), Method Development, Technical Review

Dr. Rothman was the *Assistant Technical Work Group Leader for Chemistry and Sampling* for the **NOAA - Natural Resource Damage Assessment (NRDA) of the Deepwater Horizon Oil Spill**. She was responsible for coordinating sample collection and analysis activities for NOAA-NRDA for greater than 70,000 samples of sediment, water, soil, oil, and tissue. Dr. Rothman reviewed project-specific Work Plans, developed project DQOs and method-specific QA/QC acceptance criteria, assisted in method development, and performed technical review of NRDA reports.

Preparation of Project-specific QAPPs

Dr. Rothman has developed numerous project-specific QAPPs for large, complex sites including New Bedford Harbor, MA where the main contaminant of concern (COCs) are PCBs; Newtown Creek Superfund Site, NYC where the main COCs being investigated are PAHs, NAPL, and Metals; and for a large residential neighborhood in MA where vapor intrusion of VOCs from a contaminated groundwater plume was identified as a human health risk. She has experience with many regulatory programs, including USEPA (Regions 1, 2, and 3), NYSDEC, NYCDEP, NOAA-NRDA, US Army Corps (USACE), and state programs (CT, MA, ME, NH, NJ, NY, RI). This experience includes the more detailed format in the Uniform Federal Policy (UFP) for QAPPs, currently required by many of the USEPA Regions and the USACE.

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Presentations / Training – cont'd

- *Out of the Frying Pan, into the Drinking Water: Health Hazards and Community Responses to Water Contaminated with PFCs*; Collaborative on Health and the Environment (CHE) Webinar, 2016
- *Analytical Rules and Technical Guidance*; NJDEP Training, 2014
- *Soil Vapor Intrusion Data – Planning and QA/QC Evaluation for Risk Assessment*; AEHS International Conference, 2007
- *Interpretation of Uncertainty in Dioxin/Furan Data for the Risk Assessor and Environmental Decision-Maker*; SETAC Conference, 2006
- *Demystifying Dioxin Data for the Environmental Decision-Maker*; AEHS International Conference, 2005
- *Evaluation of Data Quality for MCP Submittals*; MassDEP LSP Training, 2004
- *Planning the Collection and Analysis of Environmental Data to Support Risk Assessment*; National Environmental Monitoring Conference (NEMC), 2003
- *Quality of Environmental Measurements*; MassDEP LSP Training, 2001
- *Freeze-Drying of Sediments to Achieve Risk-Based Detection Levels for Polycyclic Aromatic Hydrocarbons (PAHs) and Metals*; AEHS International Conference, 2000
- *Effective Tools for Explaining Environmental Chemistry*; Boston Bar Association, 2000

Data Validation and Usability Assessment

Dr. Rothman has performed data validation and data usability assessments for thousands of environmental samples in a variety of media including waters, soils, sediments, biological tissues, and air. In addition to the standard organic analytical techniques, Dr. Rothman's expertise in data review extends to specialty analyses including LC/MS/MS, GC/MS/SIM, and high resolution / isotope dilution GC/MS methods.

Litigation Support and Expert Testimony

Dr. Rothman has been successful in using her expertise in litigation support and expert testimony as demonstrated by the following projects:

- **NYS - State of New York, Office of the Attorney General – Hudson River, NY.** Dr. Rothman provided litigation support and reviewed hundreds of results from historical Hudson River fish tissue data for PCBs generated on samples collected by NY State from 1969 through 1987. She authored "Privileged and Confidential Attorney Work Product" memoranda with technical opinions on historical data certainty (bias) and usability.
- **Reliance Insurance Company – Raybestos Products Company, Crawfordsville, IN.** Dr. Rothman was an Expert Witness, reviewed Work Plans, depositions, and reports on cleanup activities performed at and by the Raybestos company and ultimately provided an expert opinion on the source and timing of PCB and lead contamination of property adjacent to the facility.
- **State of Illinois - Donaldson, et al. vs. Central Illinois Public Service (CIPS), Taylorville, IL.** Dr. Rothman was an Expert Witness and reviewed case documentation focusing on the release and analysis of PAHs as a result of an Immediate Removal Action (IRA) of coal tar from a site owned by CIPS. She produced an expert opinion on activities at the site during the IRA and testified on remediation QA/QC practices and usability of analytical data for determining whether environmental conditions lead to development of cancer in the plaintiffs. Dr. Rothman's testimony helped win the case for the plaintiffs.

Analytical Laboratory Audits

As a former Laboratory Director of **Enseco-Erco Laboratory, Cambridge, MA and Enseco-East Laboratory, Somerset, NJ**, Dr. Rothman has in-depth knowledge of environmental analytical laboratory operations. Dr. Rothman directed two environment testing laboratories each with over 100 employees. She was responsible for operations, sales, customer service, information technology, business reporting, and QA/QC. Dr. Rothman also performed lab audits in support of the NOAA-NRDA for the Deep Water Horizon Oil Spill.

Alliance with Regulatory Agencies

Dr. Rothman has worked cooperatively with regulatory agencies to develop analytical guidance and to promote science-based policy. Select examples include the following:

- **2010-Present: NJDEP – Site Remediation Program Analytical Methods Technical Guidance Group, Trenton, NJ.** *Developed State Guidance / Training.* Assisting in redesigning and developing guidance for QAPP development, specified QA/QC requirements for Analytical Methods to produce Data of Known Quality, and developed Data Usability assessment guidance for NJDEP. Performed training on use of new guidance to NJDEP and License Site Remediation Professionals (LSRPs).
- **2006-2007: MassDEP Data Audit Project:** Dr. Rothman performed in-depth reviews of analytical data packages for EPH, VPH, APH, and TO-15 analyses from laboratories selected by MassDEP as part of a Data Audit project to ensure compliance with the methods and CAM. Dr. Rothman assisted in the generation of the final report to MassDEP summarizing the results of the data audits and recommendations for improvement.