

# Curriculum Vitae

## Timothy R. Minnich

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### ***CAREER SUMMARY***

Meteorologist and atmospheric scientist with over 40 years experience in the design and management of a wide range of ambient air and meteorological investigations under CERCLA and the Clean Air Act. Technical expert on high-profile legal cases, with assignments involving forensic meteorology and reconstruction of inhalation scenarios in relation to community exposure to hazardous air pollutants (HAP). Accomplished in presenting conclusions and opinions derived from analysis of complex technical data in a well-reasoned and easily understood manner. Skilled technical writer and proven manager in a highly specialized arena. Principal and co-founder of Minnich and Scotto.

A nationally recognized expert in the application of optical remote sensing (ORS) for hazardous waste site remediation. Designed and managed more than 25 ORS field investigations and air dispersion model validation studies since the promulgation of U.S.EPA (EPA) Method TO-16 for open-path FTIR (Fourier-transform infrared) spectroscopy in 1988. For the Air & Waste Management Association (A&WMA), an instructor for two Method TO-16 courses and committee chairman for promoting the application of air dispersion principles and methods for interpretation of open-path measurement data. Extensively published on open-path applications, and author of a chapter on Method TO-16 in the textbook, "Sampling and Analysis of Airborne Pollutants."

### ***EDUCATION AND PROFESSIONAL DEVELOPMENT***

M.S. Meteorology, The Graduate School, Rutgers University, 1978

B.S. Meteorology, Cook College, Rutgers University, 1975 (high honors)

Air & Waste Management Association (since 1983)  
10-Hour OSHA Training Course - Construction Safety and Health, 2013  
Landmark Education, Curriculum for Living, 2006  
American Meteorological Society, 1998  
Qualified Environmental Professional, 1994  
EPA Air Pathway Analysis (APA) Workshop, 1989  
Completion of "The Effective Negotiating Course," 1988  
40-Hour OSHA Hazardous Waste Site Training, 1986  
Superfund Field Training Certification, 1984

### ***EXPERIENCE***

**Minnich and Scotto, Inc.** – Freehold, New Jersey  
Air Quality Consulting Firm

#### ***June 1996 - Present, Principal***

Expert witness and integral part of a team supporting a large law firm's suit against a Fortune 500 company in one of the nation's biggest toxic tort cases. Demonstrated the serious programmatic deficiencies in the defendant's extensive air monitoring strategy/results, a key component of their defense, which, when combined with various laboratory analysis issues, ultimately refuted their determination of insignificant community exposure. Provided critical evidence strengthening the medical experts' causative link between airborne contaminant levels and plaintiff injury through forensic meteorology analysis.

For the New Jersey Licensed Site Remediation Professionals Association (LSRPA), created a multi-instructor Continuing Education course, "Prevention of Adverse Community Exposure During

Hazardous Waste Site Clean-Ups: Responsible Party Legal Requirements.” A module taught included a primer on the relation between air pathway analyses (APAs), CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act of 1980; or Superfund), and the NCP (National Contingency Plan).

Designed and co-presented a half-day Continuing Education course for the 2018 A&WMA Annual Conference (Hartford, Connecticut), “Inverse Modeling to Calculate Air Pollutant Emission Rates from Ground-Level Sources.”

Managed an extensive investigation of community exposure arising from the offsite treatment and containment of highly-contaminated dredged sediments from Onondaga Lake in Syracuse, New York. The responsible party (Honeywell) was remediating the lake under the federal Superfund program in accordance with a Consent Decree entered into with New York State DEC. The remediation included pumping the lake-bottom sediments to a dedicated processing facility built in the nearby town of Camillus. All work was performed to support a high-profile lawsuit initiated against Honeywell on behalf of a local community group. Principal findings concerning the work performed by the RP’s consultants included use of flawed methods in the human health risk assessment and performance of an inadequate air monitoring program – which provided virtually no community benefit. In addition, our technical analyses demonstrated an exceedance of the facility major source threshold for HAP; unacceptable safe levels throughout the community for the duration of the remediation, based on annual and short-term AERMOD dispersion modeling results; and the need to replace the existing air monitoring program with a state-of-the-art ORS-based program – the only practical way to demonstrate, in real time, the causative relationship between Facility emissions and residential exposure.

For a large law firm, managed air-related tasks in support of a \$200+ million claim filed by a local community against a large pharmaceutical company in the Northeast. Working closely with a team of other environmental experts, air emissions were reconstructed – along with exposure to nearly 200 plaintiffs. Impacts from numerous compounds (toxic and radiological) emitted from more than a dozen processes were simulated over a period of operations spanning the past six decades.

Expert witness supporting dozens of homeowners in cases filed with the New York State Supreme Court against National Grid (formerly KeySpan). Assignments included assessment of benzene, naphthalene, and other harmful MGP compounds migrating upward through the vadose zone from contaminated ground-water plumes, which adversely impacting indoor air. Performed for the McCallion Law Firm, work on these cases was acknowledged by Ken McCallion in his recently published book, “Saving the World, One Case at a Time.”

Conducted community monitoring and performed a detailed reconstructive analysis of the effects of barometric pumping upon the underground migration of tetrachloroethene, benzene, and other contaminants emanating from an uncontrolled landfill in Tuckahoe, New York. Work was performed to support a legal action initiated by local residents in connection with hotel development on the Former Marbledale Road Quarry Superfund site.

For the New York City Department of Environmental Protection (NYCDEP), designed an extensive field investigation in support of litigation planned by the agency over a suspected cancer (leukemia) cluster in the Greenpoint section of Brooklyn, New York. Associated with the Newtown Creek Superfund site, this suspected cancer cluster was alleged to have been caused by past documented oil spills from several local refineries – totaling upwards of 20 million gallons – and the subsequent underground migration of benzene into the residences of this community.

Conceptualized the firm's emissions-calculation software, e-Calc, to assess GHG (greenhouse gas) and air toxic emissions, in real-time, from municipal and hazardous waste landfills. Developed initially to reduce the high degree of conservatism in application of LandGEM, use of this software can obviate the need for GHG reporting and Title V permits. It can also be used to assess gas-collection system feasibility (under the Landfill Gas Rule), as well as to determine the efficiency of such systems already in place.

Designed and managed a comprehensive R&D program under Emissions Reduction Alberta's (ERA's) "Methane Challenge" initiative (Alberta, Canada) to assess e-Calc's accuracy in measuring emission rates from oil-and-gas industry ground-level sources. From an initial field of more than 100 proposed projects, ours was one of only 12 chosen, and the only one awarded to a non-Canadian company.

Managed more than \$3 million of air consulting support for Hazen and Sawyer and Greeley and Hansen, two of NYCDEP's Prime Contractor design engineers, for several upgrades at two municipal wastewater treatment plants (WWTPs). As the air consultant of record, directed multiple air quality analyses associated with upgrades of the Bowery Bay and 26th Ward plants. For each facility, work involved characterizing emission rates of criteria pollutants, air toxics, and malodorous compounds from all process and building sources for subsequent use in dispersion modeling to assess compliance with air quality standards at offsite receptors. Significant exceedances of H<sub>2</sub>S were shown, thus requiring emission controls to be included in the upgrade.

Managed a two-year applied R&D project for the Gas Technology Institute (GTI), funded by member companies, to: (a) compare application of Method TO-16 with traditional point-monitoring during the cleanup of two active former manufactured gas plant (MGP) sites; (b) automate PICMET (e-Calc's predecessor) to ensure community protection, unambiguously and in real-time, during MGP site cleanups; and (c) prepare a Method TO-16 guidance document for member companies.

Procured a Title V air permit for the GMD Shipyard (Brooklyn Navy Yard), pursuant to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Shipbuilding and Ship Repair Industry.

Assembled university- and private-sector teams and served as lead author for numerous funding requests and grant applications to organizations such as: the Interstate Technology & Regulatory Council (ITRC); the New York State Energy Research and Development Authority (NYSERDA); EPA for its program, "Environmental Monitoring for Public Access and Community Tracking" (EMPACT) under President Clinton; the NYCDEP; and the Solid Waste Industry's Environmental Research and Education Foundation (EREF) to support municipal GHG monitoring.

**Carala Air Services** – Cranbury, New Jersey  
Air Quality Consulting Firm

***November 1995 - June 1996, Senior Vice President***

Directed efforts to grow a consulting market based on open-path FTIR spectroscopy. This included EPA support in the promulgation of Method TO-16 for this technology, as well as implementation of a joint venture with AIL Systems (FTIR manufacturer) for market development.

Supported AIL Systems in the design and implementation of an open-path FTIR system at the Nepera Chemicals facility in Harriman, New York, to meet a New York State Department of Environmental Conservation (NYSDEC) Administrative Consent Order.

**Minnich Associates** – Englishtown, New Jersey  
Air Quality Consultant

*September 1995 - November 1995, President*

Developed a comprehensive Business Plan for AIL Systems, a principal manufacturer of the open-path FTIR spectrometer.

Developed a commercial Business Plan for a Florida military manufacturer of a passive IR spectrometer system.

**ETG Services** – Cranbury, New Jersey  
Air Quality Consulting Firm

*July 1994 - September 1995, President*

Responsible for all aspects of operations for the 12-person firm, and for reporting to the parent company, Environmental Technology Group (Baltimore, Maryland) – a manufacturer of the open-path FTIR spectrometer.

Implemented corporate marketing strategy to target Department of Defense (DOD) installations for application of open-path FTIR services.

Directed an open-path, FTIR-based pilot-scale air monitoring program at the Exxon Bayway Refinery in Linden, New Jersey to support a permit-equivalency demonstration in accordance with applicable New Jersey Department of Environmental Protection (NJDEP) requirements.

**Blasland, Bouck & Lee** – Cranbury, New Jersey  
Environmental Engineering Firm

*January 1992 - July 1994, Vice President, Officer*

*August 1989 - January 1992, Associate*

Established the firm's air services division. Hired and managed a 12-person group of technical and administrative personnel; responsible for business development and proposal preparation.

Project director for more than \$1.5 million in open-path FTIR applied R&D contracts for EPA's National Environmental Response Team (ERT), including real-time community protection during remediation of more than 20 Superfund sites across the US. Work led directly to the development and promulgation of Method TO-16 (open-path FTIR spectroscopy).

Lead author for the development of EPA's draft Field Standard Operating Procedure (FSOP) for the use of open-path FTIR spectroscopy to support hazardous waste site cleanups.

Conceptualized and directed development of SPECTRAMET, an air dispersion model software package for predicting downwind pollutant concentrations in the field based on ORS measurements and onsite meteorological data, to support local evaluation decisions following transportation-related accidents. Customers included EPA – ERT, State of Kentucky, EG&G Idaho, Dow Chemical, Merck & Co., Foster Wheeler Environmental Corp., Fraunhofer Institut (Germany), and YPF (Argentina).

Managed a \$300,000 air quality engineering assessment for a municipal solid waste incinerator in Rutland, Vermont. Involved detailed engineering studies in support of Vermont's Hazardous Most Stringent Emission Rate (HMSER) regulation, as well as negotiations with the Vermont Agency of Natural Resources and participation in numerous Agency meetings.

Designed and managed a 3-year program to provide continuous open-path FTIR monitoring during site remediation activities at Lipari Landfill, Pitman, New Jersey, the former No. 1 site on the National Priorities List for cleanup (NPL). Two monitors were used simultaneously to ensure that community exposure from air toxic emissions arising from soil disturbance and temporary stockpiling activities did not exceed community health-based action levels established by the Agency for Toxic Substances and Disease Registry (ATSDR) and the NJDEP. This was the first time ORS monitoring was required as part of a U.S. Army Corps of Engineers (USACE) site cleanup.

For the U.S. Coast Guard, EPA, and Environment Canada, managed an R&D study to measure emissions of benzene and other volatile compounds arising from the evaporation of crude oil upon a salt water surface. Performed at a Coast Guard facility off the coast of Mobile, Alabama, this work led to development of an empirical model for quantifying evaporative emission rates as a function of wind speed across the water surface, and supported development of best-response options for at-sea oil spills.

For the pulp & paper industry's National Council for Air & Stream Improvement (NCASI), designed and managed an ORS air monitoring program to assess chloroform and methanol emission rates from operations typical of primary clarifiers and aeration basins at the Federal Paper Mill (Augusta Georgia). The area-source technique was used to refine the emissions module of the CHEMDAT-7 Model for regulatory application under CAA Section 112 concerning MACT (maximum available control technology) implementation.

For K.W. Brown, Inc., designed and managed a Method TO-16 monitoring project which successfully supported a land-ban no-migration petition request on behalf of Lyondell Bassell Industries (formerly Lyondell Chemical Co.) in Houston, Texas.

**NUS Corporation** – Edison, New Jersey  
EPA Field Investigation Team (FIT) Contractor, Region 2

*March 1986 - August 1989, Assistant Office Manager (Projects)*

*January 1984 - March 1986, Project Manager*

Supervised approximately 70 professionals and ultimately responsible for all pre-remedial investigatory work (preliminary assessments, site inspections) in EPA Region 2.

Project director for more than \$1 million in EPA work assignments leading to the development of standard ORS operating procedures for determining gaseous contaminant emission rates from complex sources.

Managed the highly publicized radiological soil and indoor air investigation in Montclair, Glen Ridge, and West Orange, New Jersey. More than 22,000 man-hours were spent by 30 field and support personnel involving: radon grab-sampling in over 500 homes; gamma radiation exposure assessment via downhole logging and soil characterization; and installation and quarterly monitoring of 16 groundwater wells. Soil volume estimates for removal were made based on a correlation model developed to estimate the relationship between radium-226 activities and corresponding depth-averaged gamma readings.

Designed and managed a 2-year intensive air quality investigation in a residential area downwind of the Lipari Landfill site, formerly No. 1 on the NPL. Considered to be the most extensive air quality investigation conducted anywhere in the U.S. under Superfund, EPA's TAGA-6000E (Trace Atmospheric Gas Analyzer) was used to conduct continuous road segment and backyard monitoring. Results were used in an air dispersion model to estimate residential air toxin exposure.

Designed and managed an RI/FS (remedial investigation / feasibility study) for the Chemical Insecticide Corporation Superfund site, which was characterized by widespread dioxin contamination and high levels of pesticides in the soil, and which included buried World War II munitions.

**Enviroplan, Inc.** – West Orange, New Jersey  
Air Quality Consulting Firm

*June 1982 - January 1984, Senior Marketing Manager*

*May 1980 - June 1982, Marketing Manager*

Responsible for proposal preparation and report writing.

Designed and directed development of the Enviroplan Chemical Emergency Mitigation System (EPCHEMS), a computer-based graphics system for hazardous chemical emergency spill response and contingency planning.

**Interstate Sanitation Commission** – New York, New York  
Tri-State Air and Water Pollution Control Agency

*April 1979 - May 1980, Section Head, Air Pollution Control*

*May 1978 - April 1979, Air Pollution Engineer*

Technical director, group manager, and principal investigator for the Agency's air program; coordinated 24-hour field response to odor complaints in the New York - New Jersey - Connecticut metropolitan area.

Principal investigator for a 2-year regional acid rain study in and around the New York metropolitan area; co-investigator in the 1978 EPA Northeast Summer Oxidant Study to develop a layered urban ozone model; co-investigator in a joint project with Rensselaer Polytechnic Institute to assess the diurnal nature and transport of ozone and reactive hydrocarbons at various heights in New York City.

**Rutgers University** – New Brunswick, New Jersey

*September 1977 - May 1978, Teaching Assistant*

Taught introductory air pollution meteorology.

**University of Michigan** – Ann Arbor, Michigan

*September 1975 - January 1977, Atmospheric Chemistry Researcher, Teaching Assistant*

Conducted atmospheric chemistry research and participated in 1976 Great Lakes Summer Research Project to test the photo-stationary state theory for tropospheric ozone. Teaching assistant for introductory meteorology laboratory.

### ***SELECTED PUBLICATIONS***

Using an AMS/EPA Regulatory Model (AERMOD) for Assessing Community Exposure During MGP Site Cleanups. Minnich, Timothy R., et al. Proceedings of MGP 2019 Specialty Conference, Atlantic City, NJ, June 2019.

Validation Testing of the Area-Source Technique Using EPA Method TO-16. Minnich, Timothy R., et al. Proceedings of EPA/A&WMA Specialty Conference, Air Quality Measurement Methods and Technology, Chapel Hill, NC, March 2016.

Innovative Air Monitoring for Mitigating Litigation and Minimizing Risk During MGP Site Remediations: Status of an ORS Methods-Development Initiative. Takach, Stephen F., Minnich, Timothy R., et al. Proceedings of Electric Power Research Institute MGP 2007 Symposium, Atlanta, GA, January 2007.

Status of ORS-Based Perimeter Air Monitoring Initiatives During Cleanup of Former MGP Sites. Takach, Stephen F., Minnich, Timothy R., et al. Proceedings of A&WMA 99th Annual Conference and Exhibition, New Orleans, LA, June 2006.

An ORS-Based, Mass-Balance Method for Estimating Air Emissions from AFO Area Sources. Minnich, Timothy R., et al. Proceedings of the A&WMA/WEF Animal Agricultural Specialty Conference, St. Louis, MO, September 2005.

ORS-Based Air Monitoring During an MGP Site Cleanup: A Case Study. Minnich, Timothy R., et al. Proceedings of A&WMA 98th Annual Conference and Exhibition, Minneapolis, MN, June 2005.

Cleanup of Former MGP Sites: Community Exposure, Responsible Party Liability, and Optical Remote Sensing. Minnich, Timothy R., et al. Proceedings of A&WMA 97th Annual Conference and Exhibition, Indianapolis, IN, June 2004.

Identification of Odor-Control Needs for a Municipal Wastewater Treatment Plant Upgrade: A New York City Success Story. Minnich, Timothy R., et al. Proceedings of WEF/A&WMA Odors and Air Emissions Specialty Conference, Bellevue, WA, April 2004.

Use of Open-Path FTIR Spectroscopy to Support Development of Refined Estimates of Hydrogen Sulfide Emissions from a New York City Municipal Wastewater Treatment Plant. Minnich, Timothy R., et al. Proceedings of A&WMA 95th Annual Conference and Exhibition, Baltimore, MD, June 2002.

Use of Open-Path FTIR Spectroscopy to Address Air Monitoring Needs During Site Remediations. Minnich, Timothy R., et al. pp. 79-92 of Remediation Journal (invited article), Summer 1999, John Wiley & Sons, Inc.

The Clean Air Act and Open-Path Spectroscopy. Minnich, Timothy R., et al. Environmental Testing & Analysis (invited article), Volume 5, Number 4, pp. 14-16, May 1996.

Use of Optical Remote Sensing and Flux Chamber Technologies for Determining Emission Rates from a Pulp Mill Wastewater Treatment Facility. Schmidt, Charles E., Barton, Douglas A., Hasegawa, Mark, Minnich, Timothy R., et al. Proceedings of A&WMA 87th Annual Conference and Exhibition, Cincinnati, OH, June 1994.

The Role of Open-Path FTIR Spectroscopy in the Development of a Successful Accidental Release Detection Program. Minnich, Timothy R., et al. Proceedings of A&WMA/CMA International Symposium on Optical Sensing for Environmental Monitoring, Atlanta, GA, October 1993.

Remote Sensing of VOCs: A Methodology for Evaluating Air Quality Impacts During Remediation of Hazardous Waste Sites. Minnich, Timothy R., et al. pp. 247-255 of Sampling and Analysis of Airborne Pollutants, Winegar and Keith, editors, Lewis Publishers, Boca Raton, FL, 1993.

Air Monitoring During Site Remediations Using Open-Path FTIR Spectroscopy. Minnich, Timothy R., et al. Proceedings of HMC/Superfund Conference and Exhibition, Washington, D.C., December 1992.

Air Monitoring at Superfund Sites Using Open-Path FTIR Spectroscopy. Minnich, Timothy R., et al. Proceedings of HazMat 92, Atlantic City, NJ, June 1992.

A Practical Methodology Using Open-Path FTIR Spectroscopy to Generate Gaseous Fugitive-Source Emission Factors at Industrial Facilities. Minnich, Timothy R., et al. Proceedings of A&WMA/ CMA Symposium on Optical Remote Sensing and Applications to Environmental and Industrial Safety Problems, Houston, TX, April 1992.

Assessment of Fenceline VOC Action Limits Using Open-Path FTIR Spectroscopy During Remedial Actions at the Lipari Landfill. Minnich, Timothy R., et al. Proceedings of A&WMA/CMA Symposium on Optical Remote Sensing and Applications to Environmental and Industrial Safety Problems, Houston, TX, April 1992.

Applications of Open-Path FTIR Techniques to Emissions Estimations and Dispersion Analysis. Simpson, Orman A., Czerniawski, Michael J., Pritchett, Thomas H., Minnich, Timothy R., et al. Proceedings of the Second Annual West Coast Regional Specialty Conference, Sacramento, CA, November 1991.

Measurement of Methane Emissions in the Plume of a Large Coal Strip Mine Using Long-Path Fourier-Transform Infrared Spectroscopy. Piccot, Stephen, Chadha, Ajay, Kirchgessner, David, Minnich, Timothy R., et al. Proceedings of A&WMA 84th Annual Conference and Exhibition, Vancouver, B.C., June 1991.

Perimeter Monitoring of Lipari Landfill Using Open-Path FTIR Spectroscopy: An Overview of Lessons Learned. Kricks, Robert J., Minnich, Timothy R., et al. Proceedings of A&WMA 84th Annual Conference and Exhibition, Vancouver, B.C., June 1991.

A Software Package for Assessing Downwind Air Quality Impacts in Real-Time Based on Open-Path FTIR Measurement Data. Minnich, Timothy R., et al. Proceedings of EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, Durham, NC, May 1991.

Determination of Site-Specific Vertical Dispersion Coefficients in Support of Air Monitoring at Lipari Landfill. Minnich, Timothy R., et al. Proceedings of EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, Durham, NC, May 1991.

Interpretation of PPM-Meter Data from Long-Path Optical Monitoring Systems Used at Superfund Hazardous Waste Sites. Pritchett, Thomas H., Minnich, Timothy R., et al. Proceedings of Second International Symposium on Field Screening Methods for Hazardous Wastes and Toxic Chemicals, Las Vegas, NV, February 1991.

A Detailed Methodology for Estimating Emission Rates from Superfund Sites. Leo, Margaret R., Minnich, Timothy R., et al. Proceedings of HMCRI Superfund 1990 Conference and Exhibition, Washington, D.C., November 1990.

Remote Sensing of VOCs: A Methodology for Evaluating Air Quality Impacts During Remediation of Hazardous Waste Sites. Minnich, Timothy R., et al. Proceedings of 200th Annual Symposium of the American Chemical Society, Washington D.C., August 1990.

Special Report: Air Monitoring - Optical Remote Sensing Ready to Tackle Superfund, RCRA Emissions Monitoring Tasks. Minnich, Timothy R., et al. HAZMAT WORLD, May 1990.

Remote Optical Sensing of VOCs: Application to Superfund Activities. Minnich, Timothy R., et al. Proceedings of EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, Raleigh, NC, May 1990.

Air Toxics Monitoring: A Comparison Between Remote Sensing and Point Monitoring Techniques. Bath, Raymond J., Minnich, Timothy R., et al. Proceedings of American Chemical Society National Meeting, Miami Beach, FL, September 1989.



Remote Sensing of Air Toxics for Pre-Remedial Hazardous Waste Site Investigations. Minnich, Timothy R., et al. Proceedings of A&WMA 82nd Annual Conference and Exhibition, Anaheim, CA, June 1989.

The Pre-Remedial Air Toxics Program: A Case Study Using Remote Sensing. Grupp, David, Rojek, Gary, Bath, Raymond J., Minnich, Timothy R., et al. Proceedings of EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, Raleigh, NC, May 1989.

Air Quality Modeling of Chemical Spills: Sensitivity Analyses of Thermophysical Property Parameters Used as Input to the Shell SPILLS Model. Pan, Scott C., Kricks, Robert J., Minnich, Timothy R. Proceedings of the APCA's 76th Annual Conference and Exhibition, Atlanta, GA, June 1983.

Air Quality Modeling of Chemical Spills: Determination of Thermophysical Properties of Chemicals Not Included in the Data Base of the Shell SPILLS Model. Kricks, Robert J., Pan, Scott C., Minnich, Timothy R. Proceedings of the APCA's 76th Annual Conference and Exhibition, Atlanta, GA, June 1983.

The Distribution and Transport of Sulfate "Species" in the New York Metropolitan Area During the 1977 Summer Aerosol Study. Liou, Paul J., Samson, Perry J., Tanner, Roger L., Leaderer, Brian P., Minnich, Timothy R., et al. Atmospheric Environment, 14, 1980, pp. 1391-1407.

Some Air Pollution Aspects of Incineration and Pyrolysis of Sewage Sludge. Mytelka, Alan I., Minnich, Timothy R. Proceedings of the APCA Mid Atlantic States Section Semi-Annual Technical Conference on Air Quality Impacts of Ocean Disposal Alternatives, Newark, NJ, April 1979.

Ozone, Carbon Monoxide, and Oxides of Nitrogen Correlation in Rural Michigan. Stedman, Donald H., Minnich, Timothy R. Proceedings of the 173rd American Chemical Society National Meeting, New Orleans, LA, June 1977.