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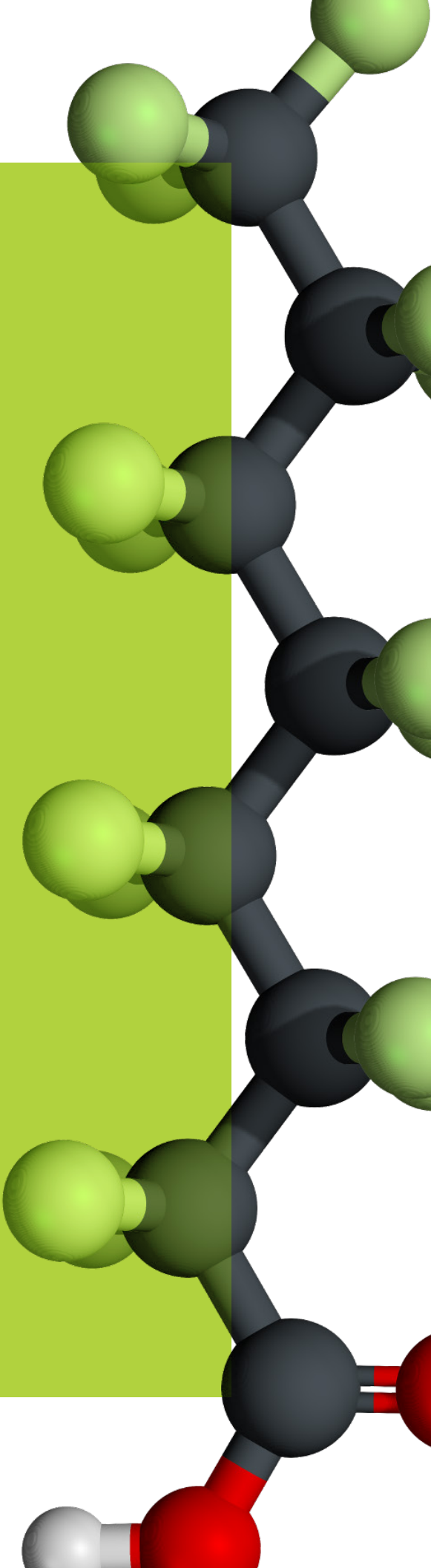
ENVIRONMENTAL

# INTEGRATED CAPABILITIES FOR PFAS CONTAMINATION



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# DISCOVER THE MONTROSE PFAS ADVANTAGE

Risk assessment and remediation. Sample collection and analysis. Validation, treatment and reporting. All with the technical expertise and real-world experience you need to take a new and better approach to dealing with per- and polyfluoroalkyl substances (PFAS). Our team of engineers, geologists, chemists, scientists, risk assessors, and field technicians are uniquely qualified to address the complexities surrounding per- and polyfluoroalkyl substances PFAS. In short, with fully integrated, turnkey solutions, Montrose Environmental Group has what it takes to deliver consistent, quality results on time and within budget.

## OUR TURNKEY PFAS APPROACH


## WE TAKE PFAS SERIOUSLY

The U.S. Environmental Protection Agency (EPA) considers PFAS compounds emerging contaminants, posing a real or potential threat to human health and the environment. These compounds — once used widely in a variety of applications, from clothing and carpeting to food packaging and heat-resistant foam — are deemed exceptionally toxic because of their ability to bioaccumulate and bio-magnify over time. The concentrations of PFAS can remain in the environment pervading soil, ground water, and air without breaking down quickly. Given their potentially high toxicity, it's incredibly important to accurately identify, quantify, treat, and remediate PFAS in all media, even at very low levels.

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# PFAS INVESTIGATION

## PFAS SITE CHARACTERIZATION

The unique chemical and physical properties of the complex mixtures found at target sites make PFAS contamination investigations especially challenging. Typical environmental investigations can focus on a few chemicals that pose the majority of impact and risk to human and ecological receptors. With PFAS contamination, investigators must cost-effectively understand the source area, fate and transport, extent of migration, and points of exposure to various receptors for an unknown complex mixture of compounds that can transform within the environment. Also, because the source area PFAS mixture signature will often change as the PFAS migrates over distance and from one matrix to another, this analysis requires a team of multi-discipline scientists and environmental professionals to develop a sound conceptual site model for risk-based interim and long-term remedial and treatment decisions.

## THE MONTROSE APPROACH

We start by developing preliminary conceptual site models at the beginning stages of any PFAS investigation. Site model development is based on readily available information, our experience, and an understanding of the properties of PFAS and precursor compounds. This enables us to effectively focus our resources on the investigation. Our PFAS experts have developed investigation and sampling protocols that generate accurate, representative results and help eliminate the potential for cross-contamination during sample collection. We also work closely with our clients to determine the most appropriate laboratory testing and reporting protocols for different matrices based on applicable state and federal regulations, potential receptor risks, and legal considerations. These protocols may include the third Unregulated Contaminant Monitoring Rule (UCMR3) list, perfluorooctanesulfonic acid/perfluorooctanoic acid (PFOS/PFOA) only, an expanded PFAS list, total oxidizable precursor (TOP) assay, or a combination of these.

We use our understanding of the many potential PFAS sources — landfills, land applied bio-solids, airborne emissions, and more — to forensically discern different potential sources, if any, and identify associated responsible parties during the performance of a remedial investigation. Our toxicity laboratories can also assist in understanding site-specific bioaccumulation and uptake in sediment, plant, and aquatic species. The data can be used for fish consumption advisories and long-term sources of environmental PFAS post-remediation. The Montrose Air Quality Group can also support remedial investigations of ambient air and/or point sources that may be contributing to observed soil contamination outside of known release areas and migration pathways.

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# PFAS AIR SERVICES

## SMART PFAS AIR SERVICES

Recent studies have shown that emissions of PFAS into the air can lead to elevated levels of PFAS in soil and water. Since wind direction and physical terrain affect the deposition of airborne PFAS, wet and dry deposition from the air to soil and water can lead to PFAS accumulation in areas downwind from primary sources like landfills, manufacturing plants, wastewater treatment facilities, and fire training facilities. That's why working with an experienced air sampling group is critical when determining potential off-site sources and deposition of PFAS.

Understanding that PFAS exists as particles as well as in gas phase doesn't lessen the challenge of sampling stack emissions and ambient air. It does, however, highlight the need for a coordination of smart sampling and proper laboratory analysis — avoiding sampling equipment components that contain materials that may add PFAS contamination during sampling. This, coupled with the low concentration levels being targeted, makes for a complex sampling and sample analysis combination.

Our Montrose Air Quality Services (MAQS) division specializes in stack and ambient air sampling, including skilled interaction with our specialized air quality laboratory. We understand how to get high-quality test results, and how to use those results to assess your situation.

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# PFAS ANALYSIS

## TRUSTED PFAS ANALYSIS

PFAS analyses at low detection limits requires sophisticated technology and deep expertise. The only US EPA-approved methods are 537 (for drinking water only) and 8327 (a screening method not suitable for definitive analysis). For all other matrices, we employ an isotope dilution approach — based on Table B-15 of the DoD ELAP QSM — that's widely accepted and often leads to results that exceed industry standards. These methods analyze for both legacy PFAS, such as PFOS/ PFOA, and newer PFAS such as GenX. Whenever possible, we use isotopically labeled internal standards (i.e., isotope dilution technology) to obtain the most accurate and precise results possible.

Utilizing isotope dilution improves the precision of results by approximately a factor of two over other approaches. Our team has an in-depth working knowledge of this technique, and pairs that knowledge with client- or program-specific criteria to provide the best analytical solution and generate the most reliable PFAS data available.

## ENTHALPY ULTRATRACE LAB COMPREHENSIVE SERVICES

- Dedicated Ultratrace laboratory to minimize background- and cross-contamination
- Extensive compound list
- Large sample capacity to ensure on-time delivery for all job sizes
- Senior project scientists available for test-plan development and sampling support
- Standard 10 business-day turnaround, with expedited options available
- NELAP Accreditation

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Learn more about our Ultratrace analytical capabilities at **enthalpy.com/ultratrace**

ACCREDITED IN ACCORDANCE WITH nelac

# PFAS ANALYSIS

*Typical RLs, subject to individual sample matrix and potential interferences*

| # | ANALYTE | SYNONYM | CAS NUMBER | NON POTABLE RL (REPORTING LIMIT) | SOLIDS RL (REPORTING LIMIT) |
|---|---|---|---|---|---|
| 1 | Perfluorobutane sulfonic acid | PFBS | 375-73-5 | 2 ng/L | 1 ng/g |
| 2 | Perfluorobutanoic acid | PFBA | 375-22-4 | 2 ng/L | 1 ng/g |
| 3 | Perfluorodecanoic acid | PFDA | 335-76-2 | 2 ng/L | 1 ng/g |
| 4 | Perfluorododecanoic acid | PFDoA | 307-55-1 | 2 ng/L | 1 ng/g |
| 5 | Perfluoroheptanoic acid | PFHpA | 375-85-9 | 2 ng/L | 1 ng/g |
| 6 | Perfluorohexanesulfonic acid | PFHxS | 355-46-4 | 2 ng/L | 1 ng/g |
| 7 | Perfluorohexanoic acid | PFHxA | 307-24-4 | 2 ng/L | 1 ng/g |
| 8 | Perfluorononanoic acid | PFNA | 375-95-1 | 2 ng/L | 1 ng/g |
| 9 | Perfluorooctanesulfonic acid | PFOS | 1763-23-1 | 2 ng/L | 1 ng/g |
| 10 | Perfluorooctanoic acid | PFOA | 335-67-1 | 2 ng/L | 1 ng/g |
| 11 | Perfluoropentanoic acid | PFPeA | 2706-90-3 | 2 ng/L | 1 ng/g |
| 12 | Perfluorotetradecanoic acid | PFTeDA | 376-06-7 | 2 ng/L | 1 ng/g |
| 13 | Perfluoroundecanoic acid | PFUnDA/PFUnA | 2058-94-8 | 2 ng/L | 1 ng/g |
| 14 | Perfluorooctane sulfonamide | PFOSA | 754-91-6 | 2 ng/L | 1 ng/g |
| 15 | Perfluorodecane sulfonic acid | PFDS | 335-77-3 | 2 ng/L | 1 ng/g |
| 16 | Perfluorotridecanoic acid | PFTrDA | 72629-94-8 | 2 ng/L | 1 ng/g |
| 17 | N-ethyl perfluorooctanesulfonamidoacetic acid | NEtFOSAA | 2991-50-6 | 2 ng/L | 1 ng/g |
| 18 | N-methyl perfluorooctanesulfonamidoacetic acid | NMeFOSAA | 2355-31-9 | 2 ng/L | 1 ng/g |
| 19 | 8:2 Fluorotelomer sulfonic acid | 8:2 FTS | 39108-34-4 | 2 ng/L | 1 ng/g |
| 20 | 4:2 Fluorotelomer sulfonic acid | 4:2 FTS | 757124-72-4 | 2 ng/L | 1 ng/g |
| 21 | 6:2 Fluorotelomer sulfonic acid | 6:2 FTS | 27619-97-2 | 2 ng/L | 1 ng/g |
| 22 | Perfluorononane sulfonic acid | PFNS | 68259-12-1 | 2 ng/L | 1 ng/g |
| 23 | Perfluoropentanesulfonic acid | PFPeS | 2706-91-4 | 2 ng/L | 1 ng/g |
| 24 | Perfluoroheptanesulfonic acid | PFHpS | 375-92-8 | 2 ng/L | 1 ng/g |
| 25 | Perfluoro-2-proxypropanoic acid | HP PO-DA PFPrOPrA/Gen X | 13252-13-6 | 70 ng/L | 1 ng/g |

## LEVEL 2 REPORT

- Cover Page
- Data certification
- Sample results: summary sheets only
- QC results: summary sheets only
- Narrative
- Qualifiers
- COC

## LEVEL 4 REPORT

- Cover Page
- Data Certification
- Summary of sample results including charts
- QC report
- Narrative
- Qualifiers
- Benchsheets
- COC
- Sample results with chromatograms
- QC results with chromatograms
- ICAL
- Sample pictures

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# PFAS WATER TREATMENT

## SOUND, ECONOMICAL WATER TREATMENT

Removing or destroying PFAS in water — whether in-situ or ex-situ — is complex. PFAS isn't just one constituent, but a number of individual compounds which, depending on the state, require different treatment protocols or approaches.

Montrose meets this challenge head-on with a multi-discipline emerging contaminants team. Our broad-based scientific and engineering expertise delivers smart, economical, risk-based decisions for water treatment of industrial wastewater, drinking water, and groundwater.

Treatments for PFAS-impacted water continue to emerge. Current adsorption technologies such as granular activated carbon (GAC) and ion exchange resins continue to dominate, in part because plant operators find them familiar and in part because of their ability to address most individual PFAS. For these treatment systems, our team provides detailed engineering designs (as well as engineering, capital, and cost estimates) for empty bed contact time, vessel underdrain design, vessel disinfection, initial backwash water management, change-out frequency estimation using rapid small-scale column test, and accelerated column test, as needed. At the same time, our engineers and scientists are also developing and implementing innovative bench-scale and pilot-scale treatment studies for innovative design systems that cost effectively remove individual targeted PFAS.

Montrose has also performed hundreds of in-situ programs to treat a wide variety of organic and inorganic contaminants in groundwater. This experience includes the injection of liquid-activated carbon to limit the mobility of PFOS/ PFOA, which are the most prevalent PFAS compounds.

# PFAS REMEDIATION

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## INFORMED PFAS REMEDIATION

When it comes to research and regulatory issues, the only certainty with PFAS-impacted media is a constantly changing and evolving environment. That's why we continually study the mobility, persistence, and bioaccumalative nature of PFAS — always with the aim of improving our understanding of the fate and transport of these emerging contaminants.

Mobility allows PFAS to readily leach from soils and sediment into groundwater and surface water. We've even encountered cases where PFAS has moved from groundwater to surface water, back to groundwater and/or transmitted via air emissions to areas miles from the source. As a result, current "dig and haul" remediation approaches for soil and "pump and treat" for groundwater now seem perilously unsophisticated. Given that in-situ remedies are predominantly unproven at full-scale, the alternatives are few.

With landfills rejecting PFAS-impacted waste streams until further regulatory standards and hazard classifications of PFAS are established, the pressure for informed, trustworthy remediation plans mounts.

Montrose remediation experts have the expertise to implement source reduction solutions and focused risk-reduction strategies that optimize resources. Our understanding of the regulatory climate and potential risks leads to data-informed business decisions that accomplish agreed-upon goals.

We're also actively researching and testing a variety of emerging remedial technologies for soil, sediments, groundwater and drinking water. Working with federal and state regulatory agencies, our PFAS lab, Enthalpy, has developed cutting-edge analytical testing protocols for all media, air, soil, water, sediment and ecological analyses.

# BEST MANAGEMENT PRACTICES

The ubiquitous presence of PFAS in our modern world has begun to raise many questions from local governments, wastewater treatment plant operators, fire companies, public water authorities and other organizations. It is fairly well known that, for example, aqueous film-forming foams (AFFF) used to extinguish high-hazard flammable liquid fires have been a source of environmental pollution for many years. The use of AFFF in these situations has undoubtedly saved lives and property, but the persistence and bioaccumulation of chemicals in the environment and bioaccummulate in the food-chain has resulted in the need to develop best-management practices for these and other scenarios.

That's why Montrose PFAS experts regularly consult with local fire marshals on the management of existing AFFF and using alternative Class B fluorine free foams (FFFs). Recommendations and implementations have included BMPs for AFFF containment and cleanup after a fire, as well as revising water department Emergency Response Plans. Montrose has also provided environmental consulting related to the characterization and testing of PFAS-contaminated waste materials for acceptance at wastewater treatment plants.

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# EMERGING CONTAMINANT SOLUTIONS CASE STUDIES

### Drinking Water System Evaluation, Remediation and Water Supply Protection - New York

*Due to the uncertainty of risks associated with ingesting water contaminated with PFAS, government agencies everywhere are working hard to identify and treat areas with high levels of contamination. A City in New York State had such a catastrophic event that required the expertise of Montrose Environmental to serve as the community technical advisor.*

*Situation* - New York State officials performed environmental testing at a local airport and an adjacent military base known for their historical use of AFFF. The suspected widespread contamination was evident in streams, wetlands, and lakes that served as the area's primary water supply. Furthermore, a public health monitoring assessment showed PFAS blood levels of marine life in the affected areas significantly higher than national levels. To resolve the immediate threat, officials issued a fish advisory for the surrounding region, and an alternative PFAS clean water source was provided for the City. A granulated activated carbon (GAS) system was installed by the State

*Call to Action* - As experts in PFAS contamination analysis, Montrose Environmental was sought out by the City.

- Evaluate the effectiveness of the GAC system
- Critically review investigation data on the crisis
- Provide immediate recommendations for remedial action

*A Better Way* - Montrose quickly deployed investigators, remediators, and chemists to support the resolution to the widespread problem.

- *Evaluate* - The ability of the GAC treatment system to treat these compounds and provide recommendations on the long-term operations and maintenance for the system.
- *Analyze* - Evaluated the bench-scale and investigation testing date. This enabled Montrose to pinpoint additional sources of contamination, and identify areas where storm water outfalls contained PFAS. Montrose's team reviewed numerous State Reports and Plans and developed recommendations for additional investigations and interim remedial measures, which were presented to multiple State agencies.
- *Remediate* - Montrose recommended infrastructure modifications to reduce and re-direct storm water flow, remove sediment from the nearby retention basin, and the implementation of additional interim PFAS treatment systems to mitigate local drinking water reservoirs.

# EMERGING CONTAMINANT SOLUTIONS CASE STUDIES

### Design, Permitting and Installation of Treatment System for Public Water Supply System - New Jersey

As a short-term solution, Montrose designed and permitted a GAC system to address detected PFOS/PFOA for a small potable water supply system serving a rehabilitation facility within a mile of an active military installation. The GAC system consists of two banks with 6-GAC units in each bank.

Prior to GAC system installation, the PFOS/PFOA were detected at 88 parts per trillion (ppt). The PFOS/PFOA effluent has been measured as non-detect since system installation. Montrose continues to work with this client to evaluate long-term, cost-effective solutions in response to the changing regulatory requirements for addressing PFOS/PFOA.

### Airport Investigation - New Jersey

Montrose has been contracted to perform an assessment for potential PFAS groundwater contamination that includes testing existing monitoring wells and direct-push sampling. A detailed sampling plan has been developed to achieve the data-quality objectives (DQOs) and minimize the potential for false positives due to cross-contamination.

### Alternative Treatment Methods Testing - Pennsylvania

Montrose conducted bench-scale testing of alternative treatment methods for a municipal public supply with PFAS-impacted groundwater migrating from a military facility. Montrose spearheaded this work, assembling a partnership of public and private entities to test a promising technology at a high-profile site. Lessons learned from this study have been used to screen treatment options for this site and others. Montrose has also been evaluating additional treatment media such as biochar.

### Assessment and Remediation of Drinking Water Supply at an Army Installation - California

Montrose has been contracted by the U.S. Army Corps of Engineers to assess and remediate a drinking-water supply fed by three wells. Analyses of water samples detected the presence of PFOA in one well at concentrations exceeding the EPA Health Advisory level and the California Notification Level. Montrose's scope of work includes a feasibility study to assess remedial technologies, a bench-scale study, and a pilot study to assess the effectiveness of the preferred treatment technology.


# MEET OUR EXPERTS

Montrose's Emerging Contaminants Team includes experts in the understanding of the chemistry, investigation, toxicity, water treatment, and remedial solutions for PFAS-impacted sites. The team has extensive experience with risk communication, working with third-party stakeholders, and the complex and changing regulatory environment of PFAS.

## FREDERICK J. SHOYER, III

NJ LSRP, N2 Operator
Investigation & Remediation Expert

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Mr. Shoyer, received his BS in Engineering from Michigan State University in 1982 and has spent the past 35+ years investigating and remediating organic and inorganic substances both in-situ and ex-situ. His experience focuses on a variety of treatment technologies including advanced oxidation for the remediation of emerging contaminants. Mr. Shyer's current focus has been with per and polyfluorinated alkyl substances (PFAS), 1,4-Dioxane, and 1,2,3-Trichlorpropane. He provides environmental technical assistance to a city in New York whose drinking water supply has been impacted by PFAS. Specific experience has included characterization of surface water supplies; GAC, anion exchange resins and advanced oxidation PFAS removal performance effectiveness; and fate and transport assessments of source releases. Mr. Shoyer has also performed extensive research on the various aqueous film forming foams (AFFFs), one major contributor of PFAS being released into the environment, and alternative fluorine free foams (FFFs). He has presented at various forums on PFAS and other emerging contaminants and is a Licensed Site Remediation Professional (LSRP) and N-2 Industrial Operator in the State of New Jersey.

## STEPHEN W. KIRSCHNER P.E.

Investigation & Remediation Expert

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Mr. Kirschner has 30+ years of experience in the investigation and remediation of various organic and inorganic compounds in soil, sediment, vapor, and groundwater. He has a BS in Engineering from Drexel University and currently chairs the Montrose Emerging Contaminants Team (MECT), which brings together Montrose's broad expertise in soil, air, water, groundwater and sediment testing and evaluation of emerging contaminants, and particularly per- and polyfluoroalkyl substances (PFAS). Mr. Kirschner is the technical lead for the investigation of a PFAS release that has impacted the drinking water supply of a city in New York. He is licensed in 11 states and has participated in PFAS training seminars and workshops by the National Ground Water Association, the American Bar Association, and various regulatory agencies. Mr. Kirschner also has extensive experience with public risk communication to third-party community groups.

## JOON H. MIN PH.D.

Water Treatment Expert

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Dr. Joon Min has 25+ years of experience in private, public, and academic fields of water industry. His expertise includes all aspects of water treatment for groundwater, drinking water, recycled water, and wastewater. He has been working with water treatment technology companies such as Siemens, Calgon, AqueoUS Vets, and other specialist technology companies on innovative treatment. Dr. Min has been involved in a number of emerging water and wastewater treatment projects focused on bench/pilot testing as well as designing, fabricating, installing, permitting, commissioning, and managing construction on advanced water treatment projects. He has worked with the US EPA on complex groundwater treatment model, and served as a national arsenic treatment committee member for Sandia National Lab and the EPA. Dr. Min's experience also includes working closely with state, federal, and private funding entities for turn-key, design build, finance, and operation projects. He has also worked with a number of drinking-water remediation projects using GAC, ion exchange resin, adsorption media, AOP, membrane, biofilter for TCE, PCE, 1,2,3 TCP, PFAS, DBCP, MTBE, NDMA, nitrate, perchlorate, arsenic, chromium, selenium, etc. He is an adjunct professor in Chemical and Environmental Engineering program at UC Riverside and attended UC Berkeley, UCLA and Caltech.

## KIRK KESSLER P.G.

Investigation Expert

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Mr. Kessler has consulted for industry for 35 years and is a subject matter expert on the transport and fate of chemicals in the environment. He has directed numerous large-scale, multi-faceted CERCLA and RCRA corrective action projects, consulted with government agencies, and served as a litigation expert witness on multiple cases. In addition, Mr. Kessler served on a Peer Consultation panel of experts, conducted pursuant to a Memorandum of Understanding (MOU) between the EPA and Companies (confidential) for a Perfluorooctanoic Acid (PFOA) Site-Related Environmental Assessment Program. The project centered around a Screening Level Exposure Assessment of current human exposure to PFOA associated with a site of documented PFOA release, with a quantitative assessment for any exposure pathway for which the data allowed quantitative assessment, and a qualitative or semi-quantitative description of exposure where the data did not allow quantitative assessment. The assessment evaluated sources of release associated with the site and pathways of migration of those releases. The Screening Level Exposure Assessment characterize the presence of PFOA in environmental media, including biota in-situ and ex-situ as a result of current or past manufacturing activities.

## BRYAN VINING PH.D.

Laboratory and Ultratrace Analysis & Chemistry Expert

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Dr. Vining received his Ph.D. from Florida State University in 1998 and has spent the past 20+ years investigating and analyzing organic and inorganic substances in a variety of matrices, both environmental and pharmaceutical. He has specialized in ultratrace (part per trillion and lower) analyses using isotope dilution for over a decade and has extensive expertise in the measurement of polychlorinated dioxins and furans. As an active participant on Montrose's Emerging Contaminants Team (MECT), Dr. Vining's current focus has been with the analysis of PFAS. Dr. Vining is currently working on developing the longest list of PFAS reported with an analytical standard to support the concentrations reported. His laboratory in Wilmington, NC has been working with Gen-X and related compounds, and he has an active collaboration with the University of North Carolina in Wilmington, focused on examining PFAS in air samples. He also partners with various stack testers to develop the sampling and analysis of PFAS in point-source sample emissions.

## KEVIN CROSBY

Stack Emissions & Air Quality Expert

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Mr. Crosby has spent his entire career in the air quality field and he has decades of experience testing emissions from sources at industrial facilities. He also has related experience in ambient air quality and meteorological monitoring. Mr. Crosby's has vast experience with the techniques used for testing of PFAS emissions and has worked closely with laboratories in development of these and related sampling and analytical methods. At Montrose, Mr. Crosby specializes in developing technical solutions for challenging or unusual emission testing programs. He has worked closely with industry research groups as well as the EPA and various state and local regulatory agencies to develop and improve test methods. Mr. Crosby holds a BS in Meteorology from San Jose State University.

## PETER ARTH

Toxicology Expert

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Mr. Arth has more than a decade of experience in environmental toxicology and consulting and oversees this practice for Montrose. Mr. Arth has successfully managed a variety of laboratory-based toxicological programs for commercial, industrial, governmental, and academic clients. Mr. Arth is also versed in all aspects of performing and interpreting toxicity tests under guidelines published by a variety of regulatory agencies. His technical focus and areas of expertise include novel study design, method development, toxicity investigation evaluations, data interpretation, risk assessments, sediment and water evaluations, and regulatory document review and interpretation. Mr. Arth has taught workshops and delivered presentations that focus on developing novel uses for bioassays as regulatory and risk-assessment tools. He has participated in method development efforts focused on adapting existing techniques to address contaminants of emerging concern as well as developing species-specific baseline data for emerging contaminants in an effort to assess their potential impact associated with ecological risk. In all programs, he places a strong emphasis on effective collaboration, developing clear goals and objectives and attaining them cost effectively, using sound experimental design, achieving exceptional data quality, and gaining client and regulatory approval.

## CONSTANTINE TSENTAS P.G.

Federal Services Expert

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Mr. Tsentas has more than 30 years of experience in environmental consulting and has managed more than 1,000 multi-disciplinary environmental projects throughout the United States. His areas of expertise include investigation and remediation of contaminated sites, hydrogeology, environmental regulatory negotiations, and litigation support; and comprehensive analysis of environmental risks and liabilities. He has extensive experience working in accordance with state and federal requirements, including the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), the Clean Water Act (CWA), and the National Environmental Policy Act (NEPA). Mr. Tsentas also has extensive experience providing environmental consulting services to federal government agencies (Army Corps of Engineers, Air Force, Navy, Environmental Protection Agency, National Park Service) and to major industrial and commercial clients nationwide. He is a Licensed Site Remediation Professional (LSRP) in New Jersey and a Licensed Professional Geologist in Pennsylvania, developing species-specific baseline data for emerging contaminants in an effort to assess their potential impact associated with ecological risk.

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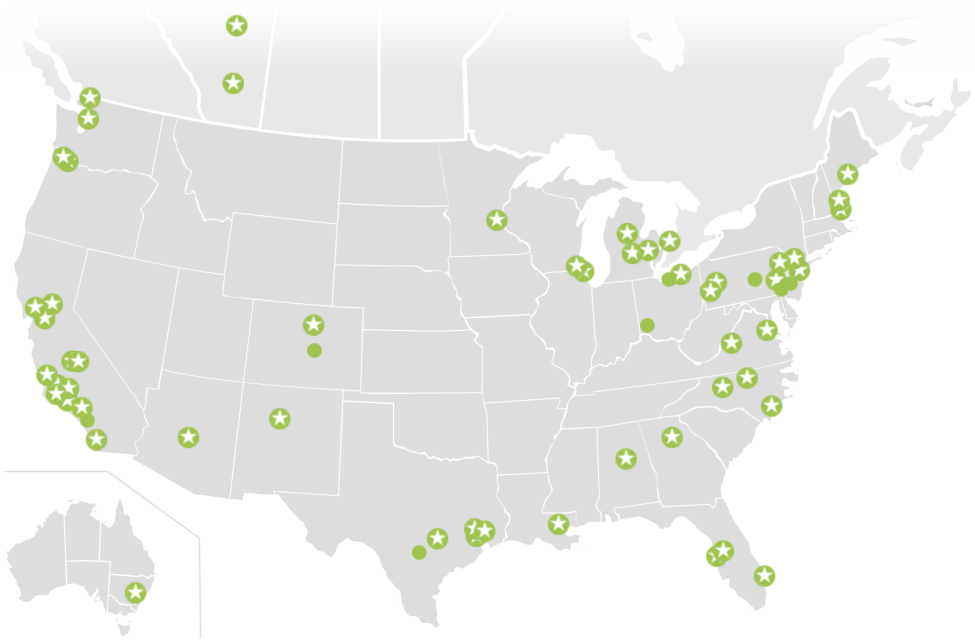
# WHO WE ARE

## 50+ OFFICES, 1,200+ EMPLOYEES, 5,000+ CLIENTS

Headquartered in Irvine, California, Montrose is a high-growth environmental services company with more than 50 locations and 1,200 employees in North America.



As one of the largest companies focused on environmental solutions, we support government and commercial organizations with a diverse range of services. Our expertise covers everything from comprehensive air measurement and laboratory services to regulatory compliance, permitting, engineering, and remediation.

While we have a broad range of capabilities, we understand each client's needs are unique. That's why we use our expertise to offer specialized services — everything from engineering, designing and building anaerobic digesters to landfill gas-to-energy development, tribal gaming environmental studies, preparing CEQA and NEPA documentation and more.

Our local presence, national scale, and collaborative nature ensures your project gets the personalized attention it deserves. If it's related to the environment, we've got a solution near you.