

Crude Oil Fingerprinting Analysis

Petroleum Hydrocarbons
 Biomarkers for Geologists
 California. Court of Appeal (1st Appellate District). Records and Briefs
 A Practical Guide to the Application of Steranes and Triterpanes in Petroleum Geology
 Analysis of Petroleum Hydrocarbons in Environmental Media
 Handbook of Petroleum Product Analysis
 Handbook of Water Analysis, Third Edition
 Information Engineering of Emergency Treatment for Marine Oil Spill Accidents
 Exxon Valdez Oil Spill
 A Complete Guide
 The Basics of Oil Spill Cleanup, Third Edition
 Chemistry and Analysis of Hydrocarbons in the Environment
 The Biomarker Guide
 Oil Spill Science and Technology
 A Comparative Study of Environmental Fate, Effects, and Response
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 Fate and Effects in Alaskan Waters
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 The Fingerprint
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 Oil Spill Environmental Forensics
 Introduction to Environmental Forensics
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 Chromatography and Its Applications
 July 1975 - October 1976
 Standard Handbook Oil Spill Environmental Forensics
 Inputs, Fates, and Effects
 Hydrocarbon Contaminated Soils
 Oil in the Sea III
 A Study of Sediment
 High-Performance Thin-Layer Chromatography (HPTLC)
 Fingerprinting and Source Identification
 Chromatographic Analysis of the Environment, Third Edition
 Petrogenic Polycyclic Aromatic Hydrocarbons in the Aquatic Environment: Analysis, Synthesis, Toxicity and Environmental Impact
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Petroleum Hydrocarbons BoD – Books on Demand

Oil Spill Environmental Forensics Fingerprinting and Source Identification Elsevier

Biomarkers for Geologists CRC Press

An excellent introduction to the real world of environmental work, this book covers all phases of data collection, (planning, field sampling, laboratory analysis, and data quality assessment), and is a single source comprehensive reference for the resolution of the most common problems that environmental professionals face daily in their work. (Midwest).

California. Court of Appeal (1st Appellate District). Records and Briefs John Wiley & Sons

Offering state-of-the-art techniques for both attorneys and environmental scientists, Environmental Forensics: Principles and Applications discusses non-chemical methods such as corrosion modeling, inventory reconciliation, and aerial photography interpretation. The book also covers chemical fingerprinting used to identify the origin and age of a contaminant release- relevant techniques include the use of radioactive isotope analysis, degradation modeling based on half-lives, and fuel additives such as MTBE. Environmental Forensics provides case study examples of environmental trial exhibits. It covers misused techniques that can bias the scientific validity of a trial exhibit, such as scale exaggeration, use of statistical

manipulation, data contouring, and selective presentation. Detailed information is provided for identifying and interpreting those portions of environmental reports that are "target rich" sources of scientific biases. These include the identification of false positive, false negative and the intentional manipulation of environmental data that occurs primarily in the sample collection process.

[A Practical Guide to the Application of Steranes and Triterpanes in Petroleum Geology](#) Oil Spill Environmental Forensics Fingerprinting and Source Identification

Standard Handbook Oil Spill Environmental Forensics: Fingerprinting and Source Identification, Second Edition, provides users with the latest information on the tools and methods that have become popular over the past ten years. The book presents practitioners with the latest environmental forensics techniques and best practices for quickly identifying the sources of spills, how to form an effective response, and how to determine liability. This second edition represents a complete overhaul of the existing chapters, and includes 13 new chapters on methods and applications, such as emerging application of PAH isomers in oil spill forensics, development and application of computerized oil spill identification (COSI), and fingerprinting of oil in biological and passive sampling devices. Contains 13 new chapters on methods and applications, including emerging application of PAH isomers in oil spill forensics, the development and application of computerized oil spill identification (COSI), and the fingerprinting of oil in biological and passive sampling devices Presents the latest technology and methods in biodegradation of oil hydrocarbons and its implications for source identification, surface trajectory modeling of marine oil spills, and identification of hydrocarbons in biological samples for source determination Contains new case studies to illustrate key applications, methods, and techniques

Analysis of Petroleum Hydrocarbons in Environmental Media Royal Society of Chemistry

Extensively revised and updated, Handbook of Water Analysis, Third Edition provides current analytical techniques for detecting various compounds in water samples. Maintaining the detailed and accessible style of the previous editions, this third edition demonstrates water sampling and preservation methods by enumerating different ways to measure chemical and radiological characteristics. It gives step-by-step descriptions of separation, residue determination, and clean-up techniques. See What's New in the Second Edition: Includes five new chapters covering ammonia, nitrates, nitrites, and petroleum hydrocarbons, as well as organoleptical and algal analysis methodology Compares older methods still frequently used with recently developed protocols, and examines future trends Features a new section regarding organoleptical analysis of water acknowledging that ultimately the consumers of drinking water have the final vote over its quality with respect to odor, flavor, and color The book covers the physical, chemical, and other relevant properties of various substances found in water. It then describes the sampling, cleanup, extraction, and derivatization procedures, and concludes with detection methods. Illustrated with procedure flow charts and schematics, the text includes numerous tables categorizing methods according to type of component, origin of the water sample, parameters and procedures used, and application range. With contributions from international experts, the book guides you through the entire scientific investigation starting with a sampling strategy designed to capture the real-world situation as closely as possible, and ending with an adequate chemometrical and statistical treatment of the acquired data. By organizing data into more than 300 tables, graphs, and charts, and supplementing the text with equations and illustrations, the editors distill a wealth of knowledge into a single accessible reference.

Handbook of Petroleum Product Analysis CRC Press

Reflecting the rapid progress in cleanup technology since the previous edition, this revised and expanded third edition of The Basics of Oil Spill Cleanup covers current cleanup techniques, how oil spills are measured and detected, and the properties of the oil and its long-term fate in the environment. It also deals with why, how often, and where oil spills occur as well as the chemical composition and physical properties of various oil types. The chapters describe surface and remote sensing technologies used to detect and track oil slicks, and methods to contain oil on water (booms and ancillary equipment) and recover oil from the water surface (skimmers, sorbents, and manual recovery). The author discusses the use of pumps, in-situ burning, and chemical agents, such as dispersants, for oil removal. He also addresses oil-contaminated shorelines and the effects and behavior of oil on different ecosystems and the various organisms within them. Written for the general public as well as those directly involved with oil spill cleanup, this edition provides broad, up-to-date knowledge of the cleanup and control of spills.

Handbook of Water Analysis, Third Edition John Wiley & Sons

Oil Spill Science and Technology, Second Edition, delivers a multi-contributed view on the entire chain of oil-spill related topics from oil properties and behaviors, to remote sensing through the management side of contingency planning and communicating oil spill risk perceptions. Completely new case studies are included with special attention to the Deepwater Horizon event, covering the impacts of wetlands and sand beaches, a mass balance approach, and the process for removing petroleum chemicals still trapped near Alabama beaches. Other new information on lingering oil left behind from the Exxon Valdez spill, the emergency system used in the Prestige incident, and coverage on the Heibei Spirit spill in Korea are also included. This updated edition combines technology with case studies to identify the current state of knowledge surrounding oil spills that will encourage additional areas of research that are left to uncover in this critical sector of the oil and gas industry. Updated with new chapters on risk analysis and communication, contingency planning, restoration, and case studies Supported with technological advances evolved from the Deepwater Horizon/BP oil tragedy and events in the Arctic/Antarctic Multi-contributed from various industry experts to provide an extensive background in technical equipment and worldwide procedures used today

Information Engineering of Emergency Treatment for Marine Oil Spill Accidents CRC Press

Analyses data on the composition, structure and formation of various petroleum hydrocarbons: the alkanes, cycloalkanes and arenes. Attention is paid to biological markers, compounds that may have preserved the main structural features of the original biogenic molecules. Concepts of chemical classification of crude oils are reviewed with respect to the molecular mass distribution of biological markers, and the genesis and chemical evolution of petroleum hydrocarbons are discussed.

Exxon Valdez Oil Spill Springer Science & Business Media

A thorough introduction to environmental monitoring in the oil and gas industry Analytical Techniques in the Oil and Gas Industry for Environmental Monitoring examines the analytical side of the oil and gas industry as it also provides an overall introduction to the industry. You'll discover how oil and natural gas are sourced, refined, and processed. You can learn about what's produced from oil and natural gas, and why evaluating these sourced resources is important. The book discusses the conventional analyses for oil and natural gas feeds, along with their limitations. It offers detailed descriptions of advanced analytical techniques that are commercially available, plus explanations of gas and oil industry equipment and instrumentation. You'll find technique descriptions supplemented with a list of references as well as with real-life application examples. With this book as a reference, you can prepare to apply specific analytical methods in your organization's lab environment. Analytical Techniques can also serve as your comprehensive resource on key techniques in the characterization of oil and gas samples, within both refinery and environmental contexts. Understand of the scope of oil and gas industry techniques available Consider the benefits and limitations of each available process Prepare for applying analytical techniques in your lab See real examples and a list of references for each technique Read descriptions of off-line analytics, as well as on-line and process applications As a chemist, engineer, instructor, or student, this book will also expand your awareness of the role these techniques have in environmental monitoring and environmental impact assessments.

A Complete Guide CreateSpace

The idea of The Fingerprint Sourcebook originated during a meeting in April 2002. Individuals representing the fingerprint, academic, and scientific communities met in Chicago, Illinois, for a day and a half to discuss the state of fingerprint identification with a view toward the challenges raised by Daubert issues. The meeting was a joint project between the International Association for Identification (IAI) and West Virginia University (WVU). One recommendation that came out of that meeting was a suggestion to create a sourcebook for friction ridge examiners, that is, a single source of

researched information regarding the subject. This sourcebook would provide educational, training, and research information for the international scientific community.

The Basics of Oil Spill Cleanup, Third Edition Elsevier

Number of Exhibits: 2

Chemistry and Analysis of Hydrocarbons in the Environment Elsevier

The analysis of contaminated soils is a fairly new field that is growing at an incredible rate. To keep you abreast of the vast amount of new information being generated, this important volume presents leading-edge technology in analysis from some of the world's leading technical experts on the subject. The third volume in a series, this book covers the latest practices in remediation, modeling, sampling, and analysis, as well as regulatory considerations.

The Biomarker Guide Elsevier

The term "total petroleum hydrocarbons" (TPHs) is used for any mixture of several hundred hydrocarbons found in crude oil, and they represent the sum of volatile petroleum hydrocarbons and extractable petroleum hydrocarbons. The petrol-range organics include hydrocarbons from C6 to C10, while diesel-range organics are C10-C28 hydrocarbons. Environmental pollution by petroleum hydrocarbons is one of the major global concerns, particularly in oil-yielding countries. In fact, there are more than five million potentially contaminated areas worldwide that represent, in general, a lost economic opportunity and a threat to the health and well-being of humans and the environment. Petroleum-contaminated sites constitute almost one-third of the total sites polluted with chemicals around the globe. The land contamination caused by industrialization was recognized as early as the 1960s, but less than a tenth of potentially contaminated lands have been remediated due to the nature of the contamination, cost, technical impracticability, and insufficient land legislation and enforcement. This book is the first single source that provides comprehensive information on the different aspects of TPHs, such as sources and range of products, methods of analysis, fate and bioavailability, ecological implications including impact on human health, potential approaches for bioremediation such as risk-based remediation, and regulatory assessment procedures for TPH-contaminated sites. As such, it is a valuable resource for researchers, graduate students, technicians in the oil industry and remediation practitioners, as well as policy makers.

Oil Spill Science and Technology Academic Press

Chromatographic Analysis of the Environment, Third Edition is a detailed handbook on different chromatographic analysis techniques and chromatographic data for compounds found in air, water, soil, and sludge. Taking on a new perspective from previous editions, this third edition discusses the parameters of each environmental compartment in a consistent format that highlights preparation techniques, chromatographic separation methods, and detection methods. Most of the data are compiled in tables and figures to elucidate the text as needed. Separate chapters approach specific aspects of sampling methods especially designed for environmental purposes, quantification of environmental analytes in difficult matrices, and data handling. The second part of the book focuses on the analysis of hazardous chemicals in the environment, including volatile organic carbons (VOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and endocrine-disrupting chemicals (EDCs). In addition, the authors feature information on compounds such as phosphates, organic acids, halogenated VOCs, amines, and n-ntirosamines, isocyanates, phthalate esters, and humic substances. Presenting important theoretical and practical aspects from sample collection to laboratory analysis, Chromatographic Analysis of the Environment, Third Edition is a unique resource of chromatographic techniques, data, and references that are useful to all scientists involved in the analysis of environmental compounds.

A Comparative Study of Environmental Fate, Effects, and Response Amer Assn of Petroleum Geologists

International experts in the field of oil spill response, including representatives from 26 NATO countries, participated in a workshop in Canada to discuss their experience in the development and application of current and emerging technologies for oil spill response in the marine environment. These presentations which form the basis of chapters in this book provide a practical viewpoint of methods used to deal with oil spills under the variety of environmental conditions found in the marine environment. In particular, focus is given to the evaluation of oil spill countermeasures for use under arctic conditions in light of anticipated regional increases in marine traffic (e.g. Northwest Passage) and industrial activities (e.g. offshore oil and gas exploration) in the future. This book provides a timely international perspective on applied research and development, technology transfer, and "lessons learned" from field trials and actual case studies associated with recent spill events. Topics include Preparedness/Contingency Planning, (Eco-terrorism); Oil Spill Fate and Transport (Environmental Persistence, Remote Sensing, modelling, Biodegradation), Biological Effects (Environmental Effects Monitoring and Environmental Risk Assessment); and Operational Response (Containment/Recovery Treating Agents, Shoreline Cleanup, In-situ Burning, Emerging Response Strategies). This book provides a synopsis as to the methods currently employed to deals with spills and an insight on future technologies under development.

Translated from Polish Bentham Science Publishers

Oil Spill Environmental Forensics Case Studies includes 34 chapters that serve to present various aspects of environmental forensics in relation to "real-world oil spill case studies from around the globe. Authors representing academic, government, and private researcher groups from 14 countries bring a diverse and global perspective to this volume. Oil Spill Environmental Forensics Case Studies addresses releases of natural gas/methane, automotive gasoline and other petroleum fuels, lubricants, vegetable oils, paraffin waxes, bitumen, manufactured gas plant residues, urban runoff, and, of course, crude oil, the latter ranging from light Bakken shale oil to heavy Canadian oil sands oil. New challenges surrounding forensic investigations of stray gas in the shallow subsurface, volatiles in air, dissolved chemicals in water (including passive samplers), and biological tissues associated with oil spills are included, as are the effects and long-term oil weathering, long-term monitoring in urbanized and non-urbanized environments, fate and transport, forensic historical research, new analytical and chemical data processing and interpretation methods. Presents cases in each chapter on the application of specific oil spill environmental forensic techniques Features chapters written by international experts from both academia and industry Includes relevant concepts and theories elucidated for each theme

Fate and Effects in Alaskan Waters Springer Science & Business Media

An excellent introduction to the real world of environmental work, this title helps both college students and working professionals improve their understanding of the data collection process. It covers all phases of data collection (planning, field sampling, laboratory analysis, and data quality assessment), and is a single source comprehensive reference for the resolution of the most common problems that environmental professionals face daily in their work. Why This Title This title is written in a clear and logical manner that is accessible to environmental professionals of all disciplines. It contains hundreds of practical tips on planning, sampling, and interactions with analytical laboratories. Having this text as a desk reference will greatly improve skills in planning and sampling, and elevate understanding of chemical data to a new level. This topic is of importance to a wide range of environmental professionals from a variety of disciplines (see audience). Written by a practicing professional for practicing professionals, this handbook provides everything an environmental professional needs to know to competently collect environmental chemical data.

Total Petroleum Hydrocarbons Academic Press

'Environmental forensics' is a combination of analytical and environmental chemistry, which is useful in the court room context. It therefore involves field analytical studies and both data interpretation and modelling connected with the attribution of pollution events to their causes. Recent decades have seen a burgeoning of legislation designed to protect the environment and, as the costs of environmental damage and clean-up are considerable, not only are there prosecutions by regulatory agencies, but the courts are also used as a means of adjudication of civil damage claims relating to environmental causes or environmental degradation. As a result is the increasing number of prosecutions of companies who have breached regulations for environmental protection and in civil claims relating to harm caused by excessive pollutant releases to the environment. Such cases can become extremely protracted as expert witnesses provide their sometimes conflicting interpretations of environmental measurement data and their meaning. It is in this context that environmental forensics is developing as a specialism, leading to greater formalisation of investigative methods which should lead to more definitive findings and less scope for experts to disagree. Now a significant subject in its own right, at least one journal devoted to the field and a number of degree courses have sprung up. As a result of the topicality and rapid growth of the subject area, is the publication of this book - the 26th volume in the highly acclaimed Issues in Environmental Science and Technology Series. This volume contains authoritative articles by a number of the leading practitioners across the globe in the environmental forensics field and aims to cover some of the main techniques and areas to which environmental forensics are being applied. The content is comprehensive and describes a number of the key areas within environmental forensics - topics covered by the authors include: - Source identification issues - Microbial techniques - Metal contamination and methods of assigning liability - The use of isotopes to determine sources and their applications - Molecular biological methods -

Hydrocarbon fingerprinting techniques - Oil chemistry and key compound identification - The emerging role of environmental forensics in groundwater pollution Additionally, the volume considers specific pollutants and long-lived pollutants of groundwater such as halocarbons which have presented particular problems and which are described in some depth, as well as the way in which chemical degradation processes can lead to compositional changes which provide valuable information. The book provides a comprehensive overview of many of the key areas of environmental forensics written by some of the leading experts in the field. It will be both of specialist use to those seeking expert insights into the field and its capabilities as well as of more general interest to those involved in both environmental analytical science and environmental law.

Environmental Fate, Toxicity, and Remediation Springer Science & Business Media

The third edition of Introduction to Environmental Forensics is a state-of-the-art reference for the practicing environmental forensics consultant, regulator, student, academic, and scientist, with topics including compound-specific isotope analysis (CSIA), advanced multivariate statistical techniques, surrogate approaches for contaminant source identification and age dating, dendroecology, hydrofracking, releases from underground storage tanks and piping, and contaminant-transport modeling for forensic applications. Recognized international forensic scientists were selected to author chapters in their specific areas of expertise and case studies are included to illustrate the application of these methods in actual environmental forensic investigations. This edition provides updates on advances in various techniques and introduces several new topics. Provides a comprehensive review of all aspects of environmental forensics Coverage ranges from emerging statistical methods to state-of-the-art analytical techniques, such as gas chromatography-combustion-isotope ratio mass spectrometry and polytopic vector analysis Numerous examples and case studies are provided to illustrate the application of these forensic techniques in environmental investigations

Fingerprinting and Source Identification National Academies Press

Although a lot is known about the influence of Polycyclic Aromatic Hydrocarbons (PAHs) on the marine environment, there are still many unanswered questions. Petrogenic Polycyclic Aromatic Hydrocarbons in the Aquatic Environment is a monograph that sums up basic knowledge about this topic while highlighting current research practices useful in studying the aquatic environment. It starts with an introduction to effect of PAH in the marine environment. It then proceeds to provide information on techniques to monitor PAH levels and investigate the affected environment in order to control the subsequent negative effects. Chapters also detail the carcinogenic and endocrine effects of PAHs on fish as well as the degradation of PAHs by microorganisms. This monograph is a useful reference for environmental science students and professionals learning about the role of PAH in the marine environment.

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